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Evaluation of the Community Plant Health Regime

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Final Report

Submitted by:

Food Chain Evaluation Consortium (FCEC)

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Acronyms

AH:	Animal Health
AHS:	Animal Health Strategy
AIPH:	International Association of Horticultural Producers
ALPP:	Area of Low Pest Prevalence
APHIS:	Animal and Plant Health Inspection Service (US)
ASEAN:	Association of Southeast Asian Nations
BIPs:	Border Inspection Posts
BSE:	Bovine spongiform encephalopathy
BTSF:	Better Training for Safer Food (Programme)
CA(s):	Competent Authority(ies)
CAC:	Conformitas Agraria Communitatis
CAHP:	Community Animal Health Policy
CAP:	Common Agricultural Policy
CAPS:	Cooperative Agricultural Pest Survey
CBD:	Convention on Biodiversity
CEA:	Comité Européen des Assurances
CEPF:	Confederation of European Forest Owners
CETA:	Comprehensive Economic and Trade Agreement
CFIA:	Canadian Food Inspection Agency
CIRCA:	Communication & Information Resource Centre Administrator
CLECAT:	European Association for forwarding, transport, logistics and custom services
CN:	Combined Nomenclature
COCERAL:	Comité du Commerce des céréales, aliments du bétail, oléagineux, huile d'olive, huile et graisses et agrofournitures
COPHs:	Chief Officers Plant Health
CPHR:	Community Plant Health Regime
CPPC:	Controlled Private Pallet Pooling Companies
CRL(s):	Community Reference Laboratory (ies)
CRS:	Cost-Responsibility Sharing
CRSS:	Cost and Responsibility Sharing Scheme
DG SANCO:	Directorate General of the European Commission for Health and Consumers
EAGF:	European Agricultural Guarantee Fund

EC:	European Commission
ECPA:	European Crop Protection Association
EEB:	European Environmental Bureau
EISA:	European Initiative for Sustainable Development in Agriculture
EFNA:	European Forest Nursery Association
EFSA:	European Food Safety Authority
ELO:	European Landowners' Organization
EP:	European Parliament
EPP (s):	Emergency Plant Pests
EPPRD:	Emergency Plant Pest Response Deed
EQ:	Evaluation Question (ToR)
EPPO:	European and Mediterranean Plant Protection Organization
ESA:	European Seed Association
ESC:	European Shippers' Council
ESCO:	EFSA Scientific Cooperation working group
EU:	European Union
EU-RLs:	European Union Reference Laboratory (ies)
EUSTAFOR:	European State Forest Association
FAO:	Food and Agriculture Organisation
FCEC:	Food Chain Evaluation Consortium
FEFPEB:	Fédération Européenne des Fabricants des Palettes et Emballages en Bois
Fern:	Forests and the European Research Network
FMD:	Foot and Mouth Disease
FoE:	Friends of the Earth
FP:	Framework Program
FSS:	Farm Saved Seed
FVO:	Food and Veterinary Office
GAEC:	Good Agricultural and Environmental Conditions
GAP(s):	Good Agricultural Practices
GLOBALGAP:	The Global Partnership for Good Agricultural Practice
GMO:	Genetically Modified Organism
HO/s:	Harmful Organism/s
IAS:	Invasive Alien Species

ICPM:	International Commission on Phytosanitary Measures
IFOAM:	International Federation of Organic Agriculture Movements
IMS:	Information Management System
IOBC:	International Organisation for Biological Control
IPM:	Integrated Pest Management
IPPC:	International Plant Protection Convention
IRU:	International Road Transport Union
IS:	Invasive Species
ISPM:	International standards for phytosanitary measures
ISTA:	International Seed Testing Association
IT:	Information Technology
MoU:	Memoranda of understanding
MS:	Member States
NAO:	National Audit Office
NAPIS:	National Agricultural Pest Information System
NAPPO:	North American Plant Protection Organisation
NMS:	New Member States
NPPO(s):	National Plant Protection Organisation(s)
NRL(s):	National Reference Laboratory(ies)
OIBC:	International Organisation for Biological Control
OIE:	World Organisation for Animal Health
PAN:	Pesticide Action Network
PCs:	Phytosanitary Certificate
PCA:	Partnership and Cooperation Agreement
PCR:	Polymerase Chain Reaction
PepMV:	Pepino Mosaic Virus
PFA:	Pest Free Area
PH:	Plant Health
PLH:	Scientific Panel on Plant Health
PM:	Propagating Material
PO/s:	Producer Organisation/s
PoD:	Point of Destination
PoE:	Point of Entry

POSEIDOM:	Programme d'options spécifiques à l'éloignement et à l'insularité des départements français
POSEIMA:	Programme d'options spécifiques à l'éloignement et à l'insularité de Madère et des Açores
PP/s:	Plant Passports
PPPs:	Plant Protection Products
PRA/s:	Pest Risk Analysis
***PSTVd*:**	Potato spindle tuber viroid
PWN:	Pine Wood Nematode
PZ/s:	Protected Zone/s
RAPEX:	Rapid Alert System for non-food Products
RASFF:	Rapid Alert System for Food and Feed
R&D:	Research & Development
RNQP/s:	Regulated Non Quarantine Pest/s
RQP/s:	Regulated Quarantine Pest/s
SCF:	Standing Forestry Committee
SCFCAH:	Standing Committee on the Food Chain and Animal Health
SCPH:	Standing Committee on Plant Health
SG:	Steering Group
SMR:	Statutory Management Requirements
S&PM:	Seed and Plant Propagating Material
TARIC:	Tarif Intégré de la Communauté
TCs:	Third Countries
TFEU:	Treaty on the Functioning of the European Union
ToR:	Terms of Reference
TRACES:	Trade Control and Expert System
USDA:	United States Department of Agriculture
WG:	Working Group
WPM:	Wood Packaging Material
WTO-SPS:	World Trade Organization - (Agreement on the Application of) Sanitary and Phytosanitary Measures
WWF:	World Wildlife Fund
ZP:	Zona Protecta

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Key messages of the Evaluation

- Over the period covered by this evaluation (from the launch of the single market on 1 January 1993 until now), the Community Plant Health Regime (CPHR) has contributed significantly to prevent the introduction and control the spread of pests affecting plant health in the European Union.
- Despite this positive conclusion overall, the objectives of the CPHR, as defined in the EU legal basis (Directive 2000/29/EC and legislation on emergency and control measures), are considered to have been only partially met. A number of shortcomings and weaknesses have been identified, and these point to the need for improvements to the system.
- Over the period under review, and particularly in more recent years, plant health risks have increased while the EU has expanded. New and increased risks are due both to globalisation (including the expansion of trade) and climate change. These challenges call for a review of the current system.
- Options for the future have been developed and a preliminary analysis of these options was undertaken in the course of the evaluation. As a result, key recommendations are made, based on a preliminary analysis of the balance between advantages/disadvantages and anticipated impacts.
- At the core of the recommendations is the need to modernise the system through: more focus on prevention; better risk targeting (prioritisation); and, more solidarity (moving from an MS based to EU approach for more joint action to tackle risks of EU significance).
- In this context, it is recommended to:
  - Include in the scope of the future EU PH regime Invasive Alien Species (IAS) plants with wider/environmental impacts (on habitats and ecosystems) and/or economic impacts on a wider range of stakeholders (*Recommendation 1*).
  - Explicitly include natural spread in the regime, and – where deemed necessary on a case by case basis – cover by the solidarity regime (*Recommendation 2*).
  - Adopt a zero tolerance regime (i.e. including Regulated Non Quarantine Pests with zero tolerance), and further explore potential synergies with S&PM regime (*Recommendation 3*).
  - Take complementary measures on imports, in particular: for emerging risks, e.g. on new trade in plants for planting/propagating material (PM): commodity pathway analysis; strengthen measures for plants for planting/PM via official post entry inspections for latent harmful organisms (HOs) and, on the basis of commodity pathway analysis, proceed to import bans where necessary (*Recommendation 4*).
  - Introduce mandatory general epidemio-surveillance at EC level for priority HOs, after exploring further the process and criteria to be used for the identification and selection of HOs, and scope and method of surveillance; develop common principles and guidelines for harmonized surveillance/reporting; and, introduce co-financing to improve surveillance (*Recommendation 5*).
  - Step up emergency action, via: horizon scanning; compulsory development of contingency plans according to a harmonized framework; and speeding up the process for adoption and adaptation of both emergency and control/eradication measures (*Recommendation 6*).
  - Improve the Plant Passport (PP) system, in particular by revising the scope of application and harmonising the PP document (*Recommendation 7*).
  - Tighten the system of Protected Zones (PZ), in the short term by improving the status quo, and longer term by further examining the implications of applying the IPPC Pest Free Area (PFA) concept (ISPM 4) more widely (*Recommendation 8*).

- Improve incentives throughout the system by extending the current scope of solidarity to: cover the loss of destroyed material for producers/growers; enable co-financing of new measures e.g. surveillance, contingency planning. Carry out further analysis on the possibility of introducing cost-responsibility sharing schemes, in line with the ongoing development of this concept in the animal health field. (*Recommendation 9*).
- Improve support activities in terms of R&D and scientific advice: promote more sufficient and stable EU and MS resources for funding and coordinating research (e.g. structural budget within the CPHR in addition to the FP7); continue EUPHRESCO; identify the appropriate structures to address the economic impact of Pest Risk Assessment (e.g. PRATIQUE follow up; SANCO/EFSA and EPPO cooperation) (*Recommendation 10*). Enhance diagnostic capacity by completing the establishment of National Reference Laboratories in MS and establishing EU-Reference Laboratories for a limited number of priority HOs (*Recommendation 11*). Continue and strengthen training activity for inspectors and extend the training to experts in the diagnostics field (*Recommendation 12*).
- Improve organisational aspects: establish an EU/MS Emergency Team for Plant Health (within DG SANCO supported by an extended network of MS experts), as is practiced for animal health (*Recommendation 13*); developed and implement, both at EU and MS level, public awareness campaigns to improve awareness of plant health issues (*Recommendation 14*).
- This evaluation of the CPHR performance to date, and in particular of the financial framework (solidarity regime) has extensively highlighted the mismatch between currently available resources and targeted objectives and this underpins many of the identified shortcomings and weaknesses. The analysis of options for the future has in all cases pointed to the need to increase resources and/or prioritise to meet the objectives set out in these options. The Commission will have to reflect on the best options to follow. The evaluation results have also confirmed the conclusions of the solidarity regime evaluation, according to which, a financial instrument is needed to ensure better preparedness in case of emergency.
- In this context, the evaluation recommends that the merits of developing a specific financial instrument in this sector, possibly in the form of a Plant Health Fund (drawing a parallel from the Animal Health Fund), is examined further (*Recommendation 15*).

Executive Summary

S.1. Background and scope of the evaluation

This evaluation[1] of the Community Plant Health Regime (CPHR)[2] was launched by DG SANCO with the support of the Council[3]. It covers the period from 1993 to date, i.e. since the introduction of the internal market. The basic structure of the current CPHR was established in 1977 (Council Directive 77/93/EEC); since the 2000 codification, the basic legal framework is Council Directive 2000/29/EC[4].

Since its inception in 1977, various major changes and developments justify a comprehensive evaluation of the regime. Apart from the introduction of the internal market concept in 1993 and its implications in terms of reassessing the balance between intra-Community free trade and prevention of the introduction/spread of Harmful Organisms (HOs), other major developments include: the successive EC enlargements, in particular the addition of 12 new Member States (MS) in 2004 and 2007; the establishment of the WTO - SPS Agreement and the EC accession to the International Plant Protection Convention (IPPC), and the resulting implications for EU policy in terms of aligning with international standards on phytosanitary measures and adjusting to the globalisation and rise in trade; global warming (climate change); changed expectations from society, the changing balance of interests involved in the agricultural system as a whole; decreasing resources for public services; the increasing role of Pest Risk Analysis (PRA) as a foundation for phytosanitary measures and the availability of scientific expertise to develop PRA; the establishment and role of EFSA; and, the evolution of related Community regimes, in particular in the field of seed and plant propagating material (S&PM), and of conceptually parallel EU policy regimes, in particular the new EU Strategy for Animal Health (AHS).

The evaluation had two objectives: a) to analyse the results of the CPHR to date, as compared to the acknowledged objectives that were set out by the Community when it was introduced; and b) to clarify which aspects of the current regime need to be improved and to suggest potential options for improvement. The aim is to feed into the design of future policy in this field and the development by the Commission services of an EU plant health strategy.

The analysis covered all EU 27 MS. MS data, information and views were gathered through a general survey of Competent Authorities (CAs) and relevant stakeholders in the 27 MS, supplemented by in depth interviews with a wide range of stakeholders and experts at EU and international level, field visits in 12 MS and the review of 5 third country plant health policies. For the economic analysis (administrative and other operational costs), a purpose built cost model was developed (on the basis of the EC Standard Cost Model) with data collected via a specific cost survey covering the EU-27 (CAs and stakeholders).

S.2. Evaluation of the performance of the CPHR to date

Although the CPHR's scope and objectives, as they have developed in the period 1993 to date, are considered to continue to be both relevant and appropriate, the general view nonetheless is that the

[1] This evaluation was carried out by the Food Chain Evaluation Consortium (FCEC) under the leadership of Agra CEAS Consulting with the additional technical expertise of Professor John Mumford (Imperial College), and participation of two other FCEC partners Arcadia International and Van Dijk Management Consultants.
[2] The evaluation refers to the Community Plant Health regime (CPHR), for the historical analysis of the policy since its establishment in 1977.
[3] ECOFIN Council Conclusions of 21 November 2008.
[4] The evaluation covered the entire CPHR policy area. This includes the entire Community plant health *acquis*, its implementation in the Community and the relevant infrastructural and budgetary support. The evaluation also addressed the relationship of the CPHR to related Community regimes.

regime has only partly achieved these objectives and that it has only partly been effective in preventing the entry, establishment and spread of HOs in the EU.

Several of the CPHR measures and provisions are assessed to have only partly been useful or effective and this is attributed to certain key underlying factors. Implementation by MS is incomplete or not harmonised, and these gaps are often due to variability in knowledge, training, interests and perspectives, traditions, administrative structures and capacities as well as resources between MS in the EU-27, but also a lack of clarity in the provisions of the legal base as such (e.g. on Invasive Alien Species - IAS and natural spread). Furthermore, there are significant and growing constraints in the availability of staff and resources devoted to plant health in general (EC, MS, research bodies and diagnostic facilities etc.). Public awareness of plant health issues is generally limited, and consequently political support to finance and enact the policy remains relatively weak, thus reducing the focus on prevention or on drastic measures at the start of the outbreaks. There is lack of incentives and disincentives (including in the form of sanctions/penalties), in the current system, or – where these exist - inadequate enforcement. Thus, for example, a lack of incentives to report and notify findings in a timely manner constitutes a key reason for delays in notifications, which has ramifications on the speed, and thus the effectiveness and efficiency, of action to address outbreaks. In emergency situations, the limited support and lengthy decision-making process results in measures being taken too slowly, too late. In this context, it is argued that a dedicated financial instrument, e.g. in the form of a 'plant health fund' would contribute to enabling decision-makers to speed up the process.

In addition, the assessment of the financial framework of the CPHR, which has expanded and updated on the independent evaluation of the Solidarity Fund carried out in 2008[5], has concluded that a key deficiency of the current system is that it only acts *a posteriori* and does not cover any measures or activities taken on a preventive basis, before or as soon as, outbreaks or new findings occur. This results in a loss of efficiency, as investment on prevention in the longer term ensures greater cost effectiveness than measures to address outbreaks, particularly measures taken at more advanced stages of an outbreak when the targeted HO is established and may be fairly widely spread. Generally speaking, the later action is taken, the more costly and less cost-effective it will be.

The above highlights that the current CPHR does not sufficiently address prevention. Emergency measures are generally adopted too late, and there is no formal framework or support to deal with emergency situations. Contingency plans have not been systematically put in place (either at MS, or at EU level). Furthermore, beyond compulsory surveillance, the efforts for more general surveillance made by MS are relatively limited (with significant variation between MS) and are not systematic or coordinated. The current degree of emphasis of the CPHR on prevention and early response, including the solidarity regime as such, is therefore judged to be largely inadequate.

The evaluation has also addressed the question of the deadweight effects of the CPHR ('What if no Community financing was in place'). The analysis of the CPHR costs and benefits during the period from 1993 to date demonstrates that: a) the budget devoted to the CPHR to date remains relatively limited; and b) on a case by case basis, the CPHR has had clear benefits (as discussed in particular in the context of 5 HOs: *Anoplophora (chinensis* and *glabripennis)*, *Ceratocystis (fagacearum* and *fimbriata)*, *Erwinia amylovora*, *Grapevine flavescence dorée* and *Phytophthora ramorum*). In conclusion, through the measures adopted in all these cases, the CPHR has contributed either to the avoidance of the introduction of potentially injurious HOs or to slow down their spread, resulting in significant overall benefits. Notwithstanding its successes, the CPHR can nonetheless be improved to maximise the effectiveness and efficiency of the measures taken.

The problems identified are compounded by the changing context within which the policy operates, in particular the growing challenges of globalisation and climate change. Moving forward, it is noted that

[5] This evaluation was carried out by the Food Chain Evaluation Consortium (FCEC) under the leadership of Van Dijk Management Consultants.

these new challenges and new risks arising from them as evidenced by increases in solidarity budget spending in recent years, will require the adjustment of the regime for the future.

S.3. Key findings of the evaluation per thematic area

The results and main findings of the evaluation per thematic area can be reported as follows:

1. Scope of the CPHR

Natural spread

The extent to which the current CPHR scope includes natural spread was examined with regard to the following two aspects:

Inclusion of natural spread in CPHR scope: the current legislation is not explicit on 'natural spread' (as opposed to man-assisted spread), leading to considerable confusion and divergence in interpretation amongst MS and stakeholders. From the review of the CPHR legislation, natural spread is covered by Directive 2000/29 Article 16 which requires measures to deal with spread. Article 23 however explicitly excludes natural spread from eligibility for solidarity funding, and past experience has shown the shortcomings of this approach in terms of effectively targeting pests at the start of an outbreak (e.g. *Diabrotica virgifera*). Technically, the strong interaction between the natural spread and movement of plants, and the fact that natural spread is an inherent characteristic of any pest, make the distinction of causal effects on plant health questionable; ISPM 2 includes consideration of natural spread where the pest risk is considered unacceptable and the phytosanitary measures are feasible. Therefore, there is need for clarification of the CPHR rules on natural spread. The potential longer term effects of climate change in terms of altering patterns of natural spread of HOs in the EU also need to be taken into account. In view of these conclusions, options for the explicit inclusion of natural spread in the CPHR were developed and explored.

Suitability of CPHR intervention logic for forestry, public green and natural habitats: the appropriateness of the CPHR to address the control of HOs in these sectors is an issue which goes beyond the clarification of the provisions on natural spread as such. Principally, the CPHR should continue to provide protection against non-EU HOs in these sectors as is currently already the case, and as is the practice in the plant health legislation of third countries. Deciding on the best course of action in case of outbreaks of regulated non-EU HOs in EU forests, public green or natural habitats (e.g. PWN and Anoplophora), however, requires consideration on a case by case basis of whether the potential impact (economic, environmental and social) of the pest in these sectors continues to warrant drastic measures under quarantine regulation (= CPHR) when initial eradication fails. Such decisions may ultimately be political (Commission action vs MS subsidiarity) and need to involve close coordination between plant health and environment protection policy makers.

Invasive Alien Species (IAS)

There is currently a lack of common understanding, leading to considerable confusion, on both the definition of Invasive Alien Species (IAS) and the extent to which IAS are covered by the scope of the Directive. The defining characteristic of IAS, according to the CBD definition, is their wider environmental impact on ecosystems. Historically, this has been considered as an indirect impact for the purposes of Directive 2000/29, but in recent years there has been a *de facto* shift in implementation, due to major pest incursions with significant indirect, non-commercial or purely environmental impacts. In practice, many regulated pests are IAS which are already listed in the Directive (recent examples include *Anoplophora spp*., *Phytophthora Ramorum*). There have also been international developments in considering IAS at the level of IPPC and EPPO, and a more general EU strategy on Invasive Species (IS), following the CBD definition, has been developed. There are

therefore extensive calls for clarification of the CPHR on this issue. The potential effects of climate change in terms of altering patterns of alien species invasion in the EU also need to be taken into account. Consequently, options for the future regarding the inclusion of IAS in the CPHR were explored.

2. Approach followed for the classification of HOs

The current classification of HOs in Directive 2000/29/EC (several Annexes with lists for which a range of measures are foreseen, 250 HOs in total) is based on the historical approach taken by EU MS and therefore reflects MS and EU historic priorities on risks. Although the number of HOs listed as such is not an issue for effective management at MS CA level in terms of imports from third countries, there is need for revision of the lists (reviewing the approach to Annexes I and II in particular). There is also a need to consider prioritisation of HOs that are of EU-wide concern (e.g. in the context of pathway analysis for import inspections, or for intra-EU surveillance measures); especially as concerns HOs occurring on EU territory. If greater prioritisation is needed, then this could be based on criteria to be developed, and the general survey has already pointed in the direction these could take. The scope for prioritisation is explored further in relation to options for the future to ensure better prevention and to maximise the cost-effectiveness of current measures and resources (in particular for import inspections and for intra-EU surveillance).

Additions to the lists of the Directive, on the basis of PRAs, are constrained by current data availability and methodologies and this delays the process for listing new HOs. Longer term, the EU FP7 funded project PRATIQUE is expected to support the development of generic methodologies with a view to improving PRA availability on a systematic basis and more proactively (before risks emerge). In the meantime, the use of expanded fast-track risk analysis to speed up the adoption of measures (particularly in emergency situations), as well as improving cooperation between all bodies currently involved in PRAs (EFSA, EPPO, MS CAs, stakeholders where possible) should be considered.

More generally, major limitations of the current approach are found to be the lack of horizon scanning and the lack of efficiency in dealing with emerging risks. Approaches to overcome these issues are explored further under the options for the future (prevention at import and emergency action, respectively).

The approach followed for the positioning of Regulated Non Quarantine Pests (RNQPs) was also examined. The question is raised because in the EU, two sets of legislation currently cover the range of regulated pests: the Plant Health Directive 2000/29/EC and the Marketing Directives for Seeds and Plant Propagating Material (S&PM). In conclusion, the results of the evaluation indicate that the major issue of concern is the current overlap between the two sets of legislation rather than inconsistencies, and that a mechanism should be in place to allow careful consideration for transfer of eligible RNQPs between the two sets of Directives. Consequently, options for the appropriate positioning of RNQPs were explored.

3. Implementation of surveillance provisions

Surveillance is currently compulsory only in the case of emergency, control measures and Protected Zones (PZs); the degree of application is variable by HOs (systematically undertaken only for potato diseases). Procedures for surveys (including protocols and reporting formats) are generally not harmonised at EU level (with the notable exception of PWN), leading to varying implementation. In the great majority of cases notification of findings is not done in conformity with legal requirements. This has hindered the possibility for early action against HOs, and delayed communication of information to CAs and stakeholders. There is therefore agreement on the need to introduce a quicker

system for notification of findings and outbreaks (possibly to be developed within current EUROPHYT database).

Other (general) surveillance is carried out by some MS for certain HOs, according to MS priorities and following different procedures and reporting standards. This affects the extent to which comprehensive information on the spread of HOs on the EU territory is available, thus leading to less effective and efficient eradication measures.

The involvement of POs is generally limited, despite the importance of stakeholder involvement in early action.

There is general agreement about the importance and need of more and intensified surveillance, and support for introduction of compulsory general surveillance at EU level for priority HOs, although views on the process and criteria to be used for the identification and selection of HOs to be subject to such surveillance, as well as the scope and method of surveillance, are divergent. The introduction of surveillance on a compulsory basis is associated with general support for introduction of EU co-financing for this measure. Consequently, options for improving surveillance were explored.

4. Implementation of import regime

Overall, the current system of plant health procedures and requirements as applied during the last 15 years for commercial imports of plants and plants products have been largely effective in preventing the introduction of major HO threats into the EU. Nonetheless, the system has some shortcomings as demonstrated by the fact that it not been effective in all cases. A number of weaknesses were identified as follows:

- Effectiveness of plant health border controls is highly variable between MS, and import inspections are focused on regional/national plant health issues rather than pests of EU-wide relevance. Improving the uniformity of import inspections could be addressed by: EU training (e.g. BTSF); networking between inspectors; development of general guidelines;
- Significant delays in notifications of interception at import (EUROPHYT): up to 90 days in certain cases. This, combined with limited processing of notifications in current system to provide targeted information, leads to limitations in use as a risk analysis tool, as evidenced by limited use for risk based inspections at MS level;
- Identification of high risk pathways (in particular plants for planting including ornamentals) indicates scope for a pathway approach on imports in some cases;
- For some specific plants on which latent diseases can be present (particularly plants for planting), the need for more extensive post entry inspections has been identified;
- Current implementation of derogations is considered to present a potential phytosanitary risk, in particular those regarding small quantities not used for commercial purposes, and regarding transit consignments;
- Widespread concern for lack of traceability from Point of Destination (PoD) back to Point of Entry (PoE) as this could in theory pose a problem, due to the complexity of trade patterns (including consignments in transit);
- Use of reduced frequency checks is very mixed between MS and remains rather limited (18 MS have not applied this possibility), although for the 8 MS that apply this system it is considered to have been effective. The limited use of reduced frequency is not necessarily a weakness as such, but suggests that some MS may not be prioritising inspection according to risk possibly leading to weaker focus on risk areas;

- There is scope to improve and strengthen EU emergency measures, with a view to reducing delays and enhancing effectiveness and efficiency;
- Third countries have difficulties understanding EU requirements through the reading of legislation and perceived lack of uniform interpretation between MS inspection services;
- Cooperation between plant health and customs authorities needs to be enhanced, *inter alia* to target consistency of nomenclature and to promote IT system interoperability;
- Lack of sufficient traveller awareness of the phytosanitary risks or private imports poses significant risk in the absence of any measures on passenger transport and divergent policies and practices of MS in this area (passenger transport controls, passengers' personal luggage allowance);
- Underlying the above shortcomings, there is a lack of sufficient staff resources and training for authorities at all levels, to ensure full and satisfactory implementation, particularly within the current economic context.

Moving forward, in the context of the significant expansion in trade volumes and change in trade patterns (new products and sources of supply), the EU is faced both with increasing and emerging risks of introduction of HOs. These trends, which have already been witnessed in the last decade, are occurring in the context of reduced administrative and financial resources at MS level for inspections. In conclusion, therefore, better risk targeting and maximising the effectiveness and efficiency of current resources, as well as improving the availability of staff and resources, are critical success factors and should be the basis for future improvements to address the challenges ahead. Consequently, options for the future import regime were developed and explored.

5. Implementation of intra-EU movement regime (plant passport system)

Overall, while the regime has succeeded in achieving the free circulation of plants and plants products within the EU, there are significant concerns on its effectiveness in terms of addressing plant health problems as such. Perceived inadequacies, related mainly to the implementation of rules, have demonstrated a certain conflict between the two objectives in practice. In particular:

- The producer registration system is generally perceived to work reasonably well. The concerns are mainly related to the issuing of plant passports and the credibility of plant passport documents *per se*;
- Although nearly all MS have implemented the option to delegate the issuing of PPs to registered private operators under official NPPO supervision, the majority of MS CAS has nonetheless expressed concerns on the functioning and reliability of the system. This appears to be partly linked to the resources available to carry out the appropriate level of inspections and controls and to ensure correct implementation. On the other hand, for stakeholders, the delegation of responsibilities to issue PPs to private operators has been a major step forward in terms of facilitating trade and introducing flexibility in the current system.
- Lack of uniformity in the application of the PP system is a particularly significant concern. This is associated with the lack of a standardised format for the plant passport document and divergent practices on the information contained in the document and its attachment to products. Plant passports are difficult to read when too often plant passports information is being mixed with trade information. There is an urgent need for rules/guidelines, including possibly a harmonised plant passport format;
- Although the PP document was not intended by the legislation to be a traceability tool, it can offer certain elements of traceability. However, full traceability cannot be ensured by the PP document alone, as it is often used jointly with trade documents, and there is considerable difficulty combining the plant passport and the physical plant or plant products, particularly with smaller plants such as

ornamentals. The plant passport only provides information on the previous stage in the supply chain and difficulties are being observed when there is a need to further trace back and/or trace forward;

- Six MS have not implemented exemptions for "*small producers serving the local market*" and for "*products destined for final consumption*" due mainly to potential phytosanitary risk, but in those MS that have implemented the exemptions the risk is considered minor relative to the potential burden on these sectors.

In conclusion, by and large, the implementation of the current PP system does not sufficiently take into account risk analysis nor does it provide a sufficient guarantee that products are safe to move within the EU. In many cases, the shortcomings identified in the implementation of the current system have undermined the trust of both MS CAs and stakeholders on some of the provisions, and this is a critical success factor for restoring overall credibility in the system.

The above findings confirm that the situation remains as challenging as highlighted in the FVO Report of 2005 on this subject. These concerns are particularly acute in the case of protected zones (PZs) and call for a significant review of both systems. Consequently, options for improving the intra-Community movement regime were explored.

6. Implementation of the Protected Zones (PZ) system

Overall, while the concept of Protected Zones (PZs) is generally considered to be useful and effective in slowing down the spread of certain HOs, continued persistent variability in implementation at MS level has led to loss of credibility, hence undermining the usefulness of the system as a plant health measure. Despite significant progress in providing technical justification for the current PZs at EU level, the general perception is that PZs were not designated only on technical grounds but that significant commercial/political considerations are also present The evaluation has found that these concerns are largely linked to an on-going debate on the cost and benefit distribution of the current implementation of the PZ system. Moreover, the distribution of costs and benefits is generally assessed from the perspective of individual MS or regions, largely ignoring the cost-benefit distribution of the current system of PZs for the EU as a whole.

Many of the problems of PZs are due to MS failure to apply the agreed measures and not to flaws in the concept *per se*. There is evidence of MS failure to carry out surveillance and report the results; and, of certain failures in the implementation of the PZ plant passport system ('ZP' marking) which is considered to create additional administrative and financial burden for traders.

The consensus view is therefore that controls should be strengthened and legislation fully enforced (e.g. surveillance and reporting obligations) to restore the credibility of the PZ concept. In this context, options to pursue further the IPPC PFA concept, which is the approach followed internationally, could also be explored (the two concepts could potentially be applied in parallel). It is noted, however, that the credibility issue (vis à vis third countries) is not unique to the EU PZ system; in the WTO SPS and IPPC context, these are common and relatively frequently occurring problems with the application of the PFA concept. Alternative regionalisation concepts could also be considered, e.g. *Diabrotica virgifera* may be a good example of the need for a concept using definitions of demarcated infested zones and pest-free zones. However this approach should be restricted to limited cases and not be widely applied, to avoid excessive complexity in the implementation of plant health measures. Consequently, options for the future of the PZ system were explored.

Ultimately, a critical success factor for the application of any regionalisation concept will be to ensure a fair balance between the distribution of costs and benefits at MS level and for the EU as a whole. This will need to be determined on a case-by-case basis, considering infested and non-infested MS, and the consequences of potential infestation for the EU as a whole, taking into account liability aspects, incentives, feasibility and proportionality.

7. Implementation of control and emergency measures

Overall, the control and emergency measures have been partly successful in preventing the entry, establishment and spread of HOs in the EU. The effectiveness of the measures taken tends to be specific to the HO being targeted and can vary between regions, and therefore has to be considered on a case by case basis.

Additionally a distinction has to be made between emergency and control measures: while emergency measures are largely considered to have been ineffective on the basis that they are generally adopted too late (despite the fact that the legislative process as such – comitology - is relatively less cumbersome than for a Council Control Directive), control measures are generally considered to have been largely effective (despite the fact that the legislative process in this case – Council approval and since Lisbon Treaty (Dec. 1, 2009) co-decision Council and Parliament - is by definition longer and less flexible).

Control measures for ring rot and brown rot in potatoes are considered to have been most effective. Critical success factors can be summarised as follows:

- Adoption and implementation of very strict measures swiftly after the outbreak, with strict provisions in the infested fields and refined methods for analysis procedures, and movement restrictions (these apply for 4 years);
- Application of common procedures through control Directives with detailed obligations restricting free interpretation;
- A commercial crop and therefore producers/growers and industry are concerned and economically motivated to act;
- Potato sector is of high commercial/trade value and is highly integrated.

Early prevention is considered to remain the most effective and efficient approach for plant health management. Consequently, recommendations for improving emergency response were provided. Options to improve the system include speeding the adoption and adaptation of emergency measures (based on the evaluation of pest situation through PRAs developed step by step), and strengthening emergency approach for outbreak measures *inter alia* via creation of emergency team (SANCO/MS) to coordinate EU response to emergencies (as in animal health sector).

8. Support activities

Research and development and scientific advice

The number of HOs arriving and spreading within the EU is expected to increase in the coming years mainly due to globalisation trends and climate change. Against these trends, it is recognised that the R&D expertise in plant health is declining in the majority of the most important disciplines required for this sector (taxonomy, entomology, diagnosis, etc.), leading to the need to further coordinate R&D activities at EU level. In this context, the use of existing EU R&D programmes (ERA-networking, networks of excellence, etc) is crucial, but currently not perceived to be sufficient.

DG RTD supports the coordination of plant health research activities commissioned under national MS budgets (which roughly account for 90% of all such budgets available in the EU), through the ERA-net EUPHRESCO. The establishment of this network is perceived to be a significant step forward in the direction of establishing a coordinated EU R&D approach and there is wide support for its continuation in future.

EFSA can contribute to the harmonisation of the framework for PRA and the identification and evaluation of risk management options. However, the role of EFSA does not encompass the economic (cost/benefit) analysis required in full PRAs according to ISPM 11 and 21 and WTO-SPS. It is therefore important to find an appropriate platform to carry out this type of analysis, which at present is provided on an ad hoc and exceptional basis through impact assessments. In this context, the outputs of the EU FP7-funded project PRATIQUE are expected to provide generic economic and modelling techniques to support the development of decision support tools for pest management. Finally there is a concern that the PRA process *per se* is becoming increasingly complex and this can inhibit timely decision-making to the detriment of effective and efficient plant health management.

Moving forward, the need to create a more permanent platform to ensure the continuity of the coordination and support of research and development in this field has been identified.

Diagnostic capacity

Overall, in the majority of MS the existing capacity is considered to allow only partially the rapid and reliable diagnosis of all regulated HOs, and this is mostly due to the relatively limited and decreasing financial and human resources. Gaps for the detection (in terms of methods and reference materials) are indicated by several MS, particularly with regards to rare or new HOs, as well as increasing difficulties to find experienced experts in specific fields as expertise is generally eroding especially in classical subjects (as also noted under previous section). Resources for diagnostics are in many cases limited even with regard to HOs for which detection is possible and in terms of activities that the laboratories would technically be able to carry out.

The divergence in diagnostic capacity across the EU is largely due to the inherent characteristic of research on plant health which explains the difficulties of attracting financial support in this field: plant science is not a high priority compared to other scientific fields such as nanotechnology, engineering etc., and commercial interest remains limited. In those MS where plant health is important for trade and production, the diagnostic sector is more developed, with significant resources devoted to research, a clear structure and organisation in place, and there is additional funding by industry. However, only a minority of MS are in this situation.

There is lack of cooperation and networking among MS, although this is considered crucial for overcoming current deficiencies. The contribution of EU Projects, particularly EUPHRESCO, is generally recognised for having a positive impact on networking between research bodies and laboratory experts, but this needs to be further strengthened. Experts stress the fact that coordination among activities at MS level remains the main weakness for research and diagnostics at EU level.

A particularly weak aspect is the development of diagnostic methods, for which funding is not always available. There are several EU funded projects to improve diagnostic methods/protocols and update with latest technology in this field (including DIAGPRO (Diagnostic Protocols), QAMP (whole genomic DNA amplification methods), QBOL (DNA bar coding) and Q-DETECT). At EU level, binding protocols for diagnostic methods do not exist (with the exception of some HOs for potato diseases under control measures), but for a range of HOs, the EPPO and IPPC have issued standards for diagnostic methods and procedures (some 97 protocols to date). Many laboratories are currently in the process of preparing for accreditation, and EPPO is working to share the experience gained between laboratories.

Moving forward, the need to establish reference laboratories (NRLs and EU-RLs) was identified, in order to provide guidance on diagnostic methods and training, as well as to provide maintenance of reference collections.

Training

The evaluation highlighted the reduced availability of training and significant variability among MS in the level and quality of resources for training activities. Coupled with the lack of communication and cooperation among inspectors of different MS, this contributes to the limited harmonisation of inspection practices and the variability in the effectiveness of import inspections among MS. Some EU-funded training in the field of plant health to EU NPPO services was provided in 2008 and 2009 under the BTSF (Better Training for Safer Food) program. Moving forward, it is recommended that this training is strengthened and continued, and that it is provided both for inspectors and diagnosticians.

9. Organisational aspects

Distribution of responsibilities

The NPPO is the Single Authority and the Responsible Official Body within the meaning of Article 1.A of Directive 2000/29 in the majority of MS; the current legal framework is considered to be adequate.

As foreseen in the legal framework, delegation of certain tasks is possible under the authority and supervision of the responsible official bodies. This is currently done by approximately half of the MS and mainly concerns the conducting of official checks, control and inspections and the conducting of official laboratory analysis; these tasks are delegated mainly to public bodies. Although the majority of MS CAs consider that the public resources devoted in their country to the duties and tasks derived from the CPHR are insufficient, in the context of the present evaluation the majority view has been that there is limited need or opportunity for further delegation of tasks to other bodies or legal persons. However, in view of the recent amendment of Dir. 2000/29 with regard to delegation of laboratory testing, it is recommended that further study is undertaken on this issue. This would be particularly relevant in view of the resource constraints extensively reported and identified throughout this evaluation, and the need for increased collaboration and responsibility sharing among CAs and stakeholders. Delegation should be carefully examined considering the different capacities existing in the MS, to ensure a high degree of quality, independence and impartiality. The evaluation highlights the general lack of incentives as regards the timely reporting of outbreaks and the effective implementation of control measures, and the limited current availability of mechanisms that would act as incentives, both for private operators and CAs (e.g. compensation schemes, solidarity regime). Options to improve these aspects were explored.

FVO activities

The role and functions of the FVO are considered highly useful and important for monitoring and contributing to harmonising the implementation of the CPHR in the MS and for the improvement of compliance with EU import requirements from Third Countries (TCs). It is however noted that the follow-up of missions is as important as the missions, and therefore measures to ensure implementations of recommendations should be in place. The main constraint to the work of the FVO is the limited availability of resources; an increase in FVO resources would enable some of the suggestions made for future improvement (e.g. missions to TCs, as these are considered to be highly useful).

EUROPHYT

EUROPHYT has proved to be a useful tool for the exchange of information among MS on interceptions of HOs. However, this mainly applies to imports, as there is no legal obligation in place

for systematic reporting of findings in plant material from other MS. It is recommended therefore that the use of EUROPHYT for compulsory notification should be extended from trade with third countries to intra-Community movements.

Another set of improvements is suggested in order to make the system more user-friendly (e.g. improved search engines), to increase readability and usability of data for inspection targeting (e.g. data elaboration) and to increase the usefulness for signalling upcoming threats (e.g. modification of information required).

Communication and consultation

The current communication activities around the CPHR are generally perceived to be limited, and confined mainly at public authority level (between COM and MS authorities). There are significant calls for more transparency in the decision-making process (based upon risk analysis) and the communication of actions to stakeholders.

The current level of consultation in CPHR decision-making is generally perceived by stakeholders to be relatively limited, with traders seen as more represented via their organisations than producers/growers (in part due to less divergence of interests within the representative organisations). It is generally acknowledged that the CPHR has to seek a fine balance between conflicting interests (i.e. trade interests versus production interests, divergent interests across MS depending on production and trade interests). Furthermore, it is stressed that the interests of stakeholders may not fully correspond to plant health protection objectives. Plant health encompasses significant public good components and, in this context, plant health authorities consider that the interests of stakeholders should be taken into account insofar they are in line with plant health objectives, which are considered the overriding priority for policy making in this field. On the other hand, stakeholders call for a proportionate and balanced approach in deciding on plant health measures, based on appropriate PRA. More generally, the need for raising public awareness on plant health was also identified.

10. Costs and benefits of the CPHR

The impacts of plant diseases can be as devastating as animal diseases. Based on existing studies, past cases of HOs introduced and established in the EU, as well as estimates of potential impacts, the costs associated with plant diseases can be substantial, and ultimately the scale of the impact can potentially reach those recorded in the case of animal diseases. For example, in the case of *Bursaphelenchus xylophilus* (PWN) the control costs of the disease in PT have reached some 40 million € in the period 1999-2008 (including solidarity funding); the potential economic impact of failure to act could reach some 5 billion €/year from the potential destruction of some 10-13 million ha of susceptible coniferous trees (50-90% mortality rate). Other cases not specific to the EU, but that have occurred elsewhere, are an example of the potential scale of impact that could be reached. Ultimately, in value terms, in the EU, the share of production and exports of plants and plant products in the total value of agricultural production and exports is comparable to that of animals and animal products.

The actual and potential scale of impacts also highlights the extent of the benefits where the CPHR has effectively contributed both to avoiding the introduction of potentially injurious HOs and to slowing down their spread. A case study of 5 HOs (*Anoplophora (chinensis and glabripennis*), *Ceratocystis (fagacearum and fimbriata), Erwinia Amylovora, Grapevine Flavescence dorée* and *Phytophthora ramorum*[6]) demonstrates substantial benefits.

[6] HOs selected out of a total 203 combinations (MS x HO) for which the benefits of the CPHR were widely attributed by respondents to the specific cost survey, although not necessarily representing absolute success cases across the EU-27.

The overall benefits of avoiding or delaying the introduction and spread of any HO in the EU include not only the avoidance or reduction of agricultural losses and gain in competitiveness for which the private sector is the main beneficiary, but extend to the avoidance or reduction of damage to ecosystems, biodiversity and rural communities from which the wider society benefits. **The strong public good components of the CPHR are therefore highlighted.**

The CPHR is considered to have been partly successful in preventing the introduction and spread of HOs, with success highly dependent on the targeted HO. The main lesson drawn from the cases of failure or partial failure (e.g. PWN; *Rhynchophorus ferrugineus* - red plam weevil; *Tuta Absoluta*) is the need to act quickly and decisively in case of introduction. Currently, the evaluation of the situation before taking measures is, sometimes, too slow or not decisive enough in responding to phytosanitary emergencies. A critical factor, in this context, for determining the success or failure of phytosanitary measures taken in any sector will be the availability of incentives for action at all levels.

CPHR provisions have provided the most effective protection as regards the HOs covered by the EU Control Directives (e.g. potatoes) for a range of reasons, mainly relating to the focus of the measures in a specific sector and the availability of incentives. By contrast the least effective protection appears to be provided in sectors where there is currently lack of clarity in measures and which are highly complex with a broader spectrum of affected stakeholders and potentially conflicting interests; this includes both some commercial production sectors and public / private green space.

The evaluation has confirmed the results of the earlier (2008) evaluation of the solidarity regime, in that the incentives provided by the regime remain relatively limited in a number of areas (intervention ex-post; exclusion of production losses; difficulty of assigning responsibility, particularly in cases of natural spread; lack of disincentives; non effective enforcement of penalties); in all these areas there is considerable room for improvement of the solidarity regime. A major gap is considered to be the exclusion of coverage of costs and losses incurred by private operators. However, there is a lack of data on the extent and scale of these costs, for which further cooperation with stakeholders is needed, as this is a crucial element for examining any revisions to the current system.

Costs and responsibility sharing schemes are generally considered to be the appropriate tool to provide incentives for government and private operator enforcement and compliance. The choice of tools (government contributions; private sector based) needs to be pursued on a case by case basis, where feasible. The generalised application of private sector schemes is constrained by industry specificities and structures and where the plant health threat has an environmental, public good component. In such cases, there are strong arguments for government supported compensation schemes.

The total administrative and other operational costs of the CPHR were estimated on the basis of a purpose-built cost model (applying the methodology of the EC Standard Cost Model), with data provided by MS through the specific cost survey. In total, based on the data provided for 24 MS[7], the total costs associated with the 13 CPHR obligations selected for the analysis amount to €148,799,204 on average per year, of which €57,191,859 are administrative costs and €91,607,345 are compliance costs. The total average annual costs for the 24 MS CAs amount to €59,218,314 (net of fees), of which 8.5% are administrative costs). These costs cover the three most important obligations of the CPHR, which are: import inspections. inspections at the place of production; and, the compulsory annual surveys of HOs regulated under the emergency measures and the Control Directives. The total amount recovered by the 24 MS CAs through fees charged to the private operators pursuant to Article 13d(1) of Directive 2000/29/EC is estimated at €36,914,993. In addition to the above costs, based on data provided by 18 MS CAs, the costs of eradication and control measures amounted to €132,139,696 in total during 1993-2008. The total administrative costs for private operators (same 24 MS) amount to €51,445,518 on average per year, with the obligation to keep records representing 80.42% of the total.

[7] Of the 25 MS that responded to the specific cost survey, the analysis was only possible for 24 MS, as in the case of 1 MS the response was incomplete.

Finally, the total cost on average per year for the European Commission is estimated at €1,881,066, of which 38.3% is the administrative cost.

The evaluation has highlighted a number of areas where opportunities for cost reduction exist, including the quicker adoption measures, the swifter adaptation of measures taken to the evolving situation, and the provision of incentives through responsibility sharing and the solidarity funding. More generally, enhancing prevention and the prioritisation of measures present opportunities for improving the cost effectiveness of the current system. These aspects have been built into the options that have been developed for the future (e.g. prevention: options on imports and on intra-EU surveillance; incentives).

S.4. Conclusions and options for the future

This evaluation of the various measures implemented under the CPHR indicates that, in the last 15 years, the policy has only partially been effective in preventing the entry and establishment, or where this has already occurred, in containing the spread of major pest incursions of significant potential economic, social and environmental impact in the EU.

The analysis of the regime's costs and benefits since 1993 demonstrates that the budget devoted to the CPHR to date remains relatively limited and, on a case by case basis, the CPHR has had clear benefits (e.g. *Anoplophora*, *Ceratocystis*, *Erwinia amylovora*, *Grapevine flavescence dorée* and *Phytophthora ramorum*, as well as potato brown and ring rot). Through the measures imposed in these cases, the CPHR has contributed either to avoiding the introduction of potentially injurious HOs or to slow down their spread, resulting in significant overall benefits and cost prevention.

Despite success in some cases, the regime overall has not been fully effective in meeting its objectives and, in its current form, was found to have both some stronger and some weaker aspects. A number of areas were identified where improvements are needed.

The identified weaknesses and shortcomings are partly due to the fact that the regime has been in place for a long period and the world has changed. The current regime is the product of a series of ad hoc, rather than strategic or systemic, adjustments to the various developments in the context the regime has operated in (notably: the introduction of the Single Market in 1993; successive EU enlargements in 1995, 2004 and 2007; EU international and bilateral relations). This is the first time that an opportunity exists to develop this policy area on the basis of a more complete and coherent strategy. A larger EU of 27 MS has meant that there is a more diverse range of climatic and pest situations to address than ever before, and trade is now truly global with new origins and products being continuously introduced, often with very short timescales. Evidence of failure of the current regime to respond to new challenges is the fact that it has not prevented some major new pests from entering the EU (e.g. *Anoplophora* sp., *Rhynchophorus ferrugineus*, PWN), in many cases largely due to the fact that new pathways that pose plant health risks have been discovered too late.

Several measures were assessed to have only partly been useful or effective. This is mostly attributed to a number of underlying factors including: implementation gaps and the lack of a harmonised approach between MS; significant constraints in the availability of staff and resources devoted to plant health at all levels (EU, MS, research bodies and diagnostic facilities etc.); the lack of clarity in certain legislative provisions (including on IAS and natural spread); lack of risk-based prioritisation of HOs and lack of targeted, risk-based prioritisation in the use of scarce resources; limited visibility and public awareness and thus political support to finance and enact the policy; lack of incentives and disincentives (including in the form of sanctions/penalties) or – where these exist – lack of enforcement; and, the limited support and lengthy decision-making process in emergency situations, which results in measures being taken too slowly and too late. These factors often lead to poor implementation. It is noted that the extensive identification of shortcomings in MS enforcement was due to a combination of the above factors, in particular insufficient resources/capacity, lack of clarity

in some provisions of the legal base, but also the fact that infringement provisions are not effectively pursued against MS.

Overall, the current level of emphasis of the CPHR on prevention and early response was found to be largely inadequate. This lack of a pro-active approach manifest itself at various levels: the CPHR financial framework (Solidarity Fund) only acts *a posteriori* and does not cover any measures or activities taken on a preventive basis, before or as soon as, outbreaks or new findings occur; emergency measures are generally adopted too late, and there is no formal framework or support to deal with emergency situations; contingency plans are not systematically put in place (either at MS, or at EU level); efforts to undertake more general surveillance (beyond compulsory surveillance) are relatively limited (with significant variation between MS) and are neither systematic or coordinated. In conclusion, therefore, the current policy has clearly shown some limitations.

Moving forward, the more general conclusion that can be drawn from the analysis of future challenges points to the evolving nature of risks, particularly in the context of climate change and increasing trade, and their potential far reaching impact on both commercial agriculture and forestry but also on the society as a whole (ecosystems, biodiversity and rural communities). It is generally acknowledged that globalisation is the overriding challenge, with climate change adding to the complexity and range of potential impacts. These challenges are not unique to EU plant health policy, but exert a wider impact on countries around the world. At the same time, MS CAs (National Plant Protection Organizations - NPPOs) are increasingly confronted with recurrent obstacles at different levels, including the lack of resources and insufficient knowledge on emerging pests.

In view of the relative success of the regime so far, the majority of MS CAs and stakeholders believe that the CPHR scope and objectives, as reflected in the development of the intervention logic in the period 1993 to date, are still being met and are still appropriate. At the same time, the majority of MS CAs and stakeholders considered the current CPHR to be only partly suitable to mitigate risks introduced by new challenges, in particular by climate change. On balance, the general view would be that the plant health regime needs to respond to the new challenges, by building on those stronger aspects of the regime that have been proven to work well and addressing the weaker areas: evolution rather than revolution is needed. A key feature of the new intervention logic developed by the FCEC on this basis is that it proposes an ***adaptation to the current regime rather than a complete change***.

The identified weaknesses and shortcomings, as well as future needs and challenges (opportunities and threats), point in the direction of potential options for improvement and these have been developed and assessed on the basis of the wide consultation carried out by the FCEC.

At a conceptual level, the various options aim to respond to the need for:

- ***More prevention;***
- ***Better risk targeting (prioritisation);***
- ***More solidarity: moving from MS to EU approach for more joint action to tackle risks of EU significance.***

S.5. Recommendations

The preliminary analysis of the options has highlighted those that represent the best balance of advantages/disadvantages against anticipated impacts. It is noted that options are complementary (can be pursued in parallel) and, in all cases, the assumption is made that the improvements suggested in relation to the status-quo (option i) will be taken on board. The options are supplemented by a number of additional recommendations on possible improvements to the regime. As a result of this process, this evaluation provides a total of 15 recommendations, as follows:

Recommendation 1: IAS
Based on an analysis of the scope of the IPPC and the consensus view as it emerged in the process of the evaluation and the FCEC analysis, the explicit inclusion of IAS plants with wider/environmental impacts (habitats and ecosystems) and/or economic impacts on wider range of stakeholders **(option iii)** is recommended.

Recommendation 2: Natural spread
The evaluation results, confirmed by the outcome of the conference of February, indicate that in the context of increased demand for better prevention and timely action against outbreaks, but also to improve the consistency of the current approach, natural spread needs to be explicitly included in the regime (option ii), and covered by the solidarity regime (option iii), in order to maximise the relevance, effectiveness and efficiency of this approach (costs and benefits of the approach to be established on a case by case basis). On this basis, **option ii** is generally recommended, with consideration of **option iii** recommended in certain specific cases.

Recommendation 3: RNQPs
From the analysis of the options, the adoption of a zero tolerance approach to the regime covering both quarantine and non quarantine pests for which tolerance is zero (PH: RQPs + RNQPs; tolerance = 0) **(option ii)** is the most recommended. It is noted that this includes the improvements suggested in the status-quo (option i).

It is also recommended that the potential benefits of synergies between the CPHR and S&PM are further explored.

Recommendation 4: Prevention strategies at import
Based on the consensus view as it emerged in the process of the evaluation and the FCEC analysis, it is recommended that complementary measures, are taken. These measures include: for emerging risks, particularly new trade in plants for planting/ propagating material (PM), commodity pathway analysis **(option iii);** for plants for planting/PM, official post entry inspections for latent HOs (**option iv(a)**); and, for plants for planting/PM, on the basis of commodity pathway analysis, the introduction of import bans where necessary (**option iv(c)**).It is noted that this includes the improvements suggested in the status-quo (option i).

Depending on severity of non-compliance or infractions (both at the level of individual traders and at the level of the CAs involved), sanctions could be introduced in the system. This issue is more broadly considered under the options regarding incentives.

Recommendation 5: Intra-EU surveillance
The evaluation results, confirmed by the February conference, identified significant support for general epidemio-surveillance for priority HOs, although the process and criteria to be used for the identification and selection of HOs to be subject to such surveillance, as well as the scope and method of the surveillance, remain to be discussed.

Considering the views of MS CAs, stakeholders and experts, and taking into account the Council conclusions of 2009, the following options are recommended: the development of common principles and guidelines for harmonized surveillance and reporting (**option ii**); the introduction of mandatory general surveillance at EC level for priority HOs (**option iii**)**;** and, the introduction of co-financing for surveillance (**option iv**). It is noted that this includes the improvements suggested in the status-quo (option i).

Recommendation 6: Emergency action
Based on the analysis of the options for emergency action, the following options are recommended: horizon scanning (**options ii**); the compulsory development of contingency plans according to a harmonized framework (**option iii**); and, speeding up the process for adoption and adaptation of both emergency and control/eradication measures (**option v**). It is noted that these options are complementary (i.e. can be adopted in parallel), and that, in all cases, they include the improvements suggested in the status-quo (option i).

Recommendation 7: Plant Passport (PP) system
From the analysis of options for the future of the PP system, revising the scope of application (**option ii**) and harmonising the PP document (option **iii**) are the most recommended options. It is noted that these options are complementary (i.e. can both be adopted), and that, in both cases, they include the improvements suggested in the status-quo (options i).

Recommendation 8: Tightening the system of Protected Zones (PZ)
The analysis of options for tightening the PZ system suggests that improving the status quo (**option i**)) is the most recommended starting point, on the basis that it represents the best balance of advantages/disadvantages against anticipated impacts while being the most acceptable. Longer term, there is also a need to further examine the implications of applying more widely the PFA concept (ISPM 4).

Recommendation 9: Incentives
On the basis of the evaluation results, confirmed by the February conference, and the results of the evaluation of the solidarity regime, the most recommended options for incentivising the current system are to extend the current scope of solidarity to: cover the loss of destroyed material for producers/growers (**option i(a)**); and, co-finance certain measures which contribute to better prevention e.g. surveillance, contingency planning (**option i(c)**).
It is also recommended to carry out further analysis of the possibility to introduce cost-responsibility sharing schemes, in line with the ongoing development of this concept in the animal health field.

Recommendation 10: Research and development and scientific advice
The definition of a structural role for EUPHRESCO-like coordination of national research funding is recommended, with the establishment of a specific budget for this purpose.
The evaluation highlighted a strong need for sufficient and stable EU and MS resources for funding research projects; for short term research needs, a structural budget within the CPHR could be established in addition to the FP7.
It is recommended that discussions and cooperation between SANCO/EFSA and EPPO continue with a view to identifying complementarities to cover the economic impact of the EU PRAs, complementing the EFSA role.

Recommendation 11: Diagnostics
To enhance the diagnostic capacity in this sector in the EU, it is recommended to complete the establishment of NRLs in MS and to establish EU-RLs for a limited number of HOs. Longer term, EU-RLs could be established for each of the disciplines (nematology, entomology, acarology, mycology, bacteriology, virology), and subset of disciplines, so that they should be able to detect all the 250 HOs.

Recommendation 12: Training
It is recommended to continue and strengthen training activity in the plant health sector for inspectors and to intensify efforts by extending the training also to experts in the diagnostics field.

Recommendation 13: EU/MS emergency team
The establishment of an EU/MS Emergency Team (within DG SANCO and supported by extended network of MS experts) for Plant Health is recommended, in line with the existing emergency preparedness approach in the animal health field.

Recommendation 14: Communication and transparency
The need for an increased public and political awareness was a clear outcome of the evaluation. It is therefore recommended that both at EU and MS level public awareness campaigns are developed and implemented.

Recommendation 15: Financial Framework
The evaluation of the CPHR performance to date, and in particular of the financial framework (solidarity regime) has extensively highlighted the mismatch of currently available resources to objectives, which underpins many of the identified shortcomings and weaknesses. The above analysis of options for the future has in all cases pointed to the need to increase resources and/or prioritise to meet the objectives set out in the options. The Commission will have to reflect on the best option to follow.

The evaluation results have also confirmed the conclusions of the solidarity regime evaluation, according to which, a financial instrument is needed for better preparedness in case of emergency.
In this context, the evaluation recommends that the merits of developing a specific financial instrument in this sector, possibly in the form of a ***Plant Health Fund*** drawing a parallel from the Animal Health Fund, need to be examined further.

The contribution of the various options and recommendations towards the various identified needs and objectives is depicted in Table 6-1. The priority assigned to each option and need for further assessments are also highlighted. The overarching objective in all cases is to improve prevention.

1 Introduction

Note: Since the entry into force of the Treaty on the Functioning of the European Union (TFEU, or Treaty of Lisbon) on 1 December 2009, all reference to 'Community' has been replaced by 'European Union' ('EU'). This Report follows the old reference to 'European Community' regarding the historical period to December 2009, and the new reference to 'EU' regarding the period from that date[8].

1.1 Background to the evaluation

This evaluation of the Community Plant Health Regime (CPHR)[9] has been launched by DG SANCO with the support of the Council[10].

The current regime is the product of the past 3 decades of legislation. The basic structure of the current CPHR was established in 1977 with Council Directive 77/93/EEC[11]. This Directive considered that systematic eradication of harmful organisms (HOs) within MS would have only a limited effect if protective measures against their introduction were not applied at the same time and that national plant health provisions needed to be harmonized. To this end, a framework was created governing import into the European Community (EC) and intra-Community trade, building on the framework already provided in 1952 by the International Plant Protection Convention (IPPC). With the introduction of the Community internal market in 1993, the concept of plant passports was introduced so as to allow free movement of plants and plant products between and within MS. Since the 2000 codification, the basic legal framework has been known as Council Directive 2000/29/EC[12].

Since its inception, various major changes and developments have taken place which justify a comprehensive evaluation of the regime. These developments, which are explored further in the relevant sections of this Report, can be briefly summarised as follows:

- The introduction of the internal market concept in 1993, and its implications in terms of reassessing the balance between intra-Community free trade and prevention of the introduction/spread of HOs;
- The successive enlargements of the European Community, in particular the addition of 12 new MS in 2004 and 2008 with transitional arrangements applying in some cases;

[8] On 1 December 2009, when the Treaty of Lisbon entered into force, the European Community was replaced by the European Union which succeeds it and takes over all its rights and obligations. The Treaty on European Union keeps the same name and the Treaty establishing the European Community becomes the Treaty on the Functioning of the European Union.

[9] The evaluation refers to the Community Plant Health regime (CPHR), in reference to the historical analysis of the policy since its establishment in 1977.

[10] ECOFIN Council Conclusions of 21 November 2008.

[11] Before 1977, plant health was largely a national responsibility. The only exception were some control measures for potato diseases adopted in 1969 to harmonise the control of quarantine diseases in potato (Council Directives 69/464/EEC and 69/465/EEC).

[12] Hereafter referred to as Directive 2000/29 or 'the CPHR base Directive'.

- Developments concerning international treaties, in particular the establishment of the WTO - SPS Agreement and the EC accession to the IPPC, and the resulting implications for EU policy as a result of the need to be in alignment with international standards on phytosanitary measures;
- Various other developments notably: trade globalisation (increase in volume and diversity of trade flows) and global warming (climate change); changed expectations from society, and the balance of interests involved in the agricultural system as a whole; decreasing resources for public services;
- The increasing role of Pest Risk Analysis (PRA) as a foundation for phytosanitary measures and the availability of scientific expertise to develop PRA (risk assessment and management), the eroding science and research base underpinning the CPHR including the diagnostic infrastructure; the establishment and role of EFSA; and,
- The evolution of related Community regimes, in particular in the field of seed and plant propagating material (S&PM); also, of conceptually parallel Community regimes from which conclusions could potentially be drawn, in particular the new EU Strategy for Animal Health (AHS).

This evaluation has been carried out by the Food Chain Evaluation Consortium (FCEC) under the leadership of Agra CEAS Consulting with the additional technical expertise of Professor John Mumford (Imperial College), and with the participation of two other FCEC partners Arcadia International and Van Dijk Management Consultants[13].

The evaluation was launched in early June 2009. This Final Report presents the final results of the evaluation, including the identification and analysis of options for the future.

1.2 Objectives

In line with the ToR, the evaluation had two objectives:

- The first *ex-post* objective of the evaluation has been to analyse, in an independent way, the results of the CPHR to date, as compared to the acknowledged objectives that were set out by the Community when it was introduced;

- The second objective has been forward looking: to clarify which aspects of the current regime need to be improved and to suggest potential options for improvement. This will feed into the design of future policy in this field and the development by the Commission services of a Community plant health strategy.

1.3 Scope

1.3.1 Geographical coverage

The analysis covered all EU 27 Member States. MS information was gathered through surveys covering CAs and stakeholders in all 27 MS, supplemented by in depth interviews with a wide range of experts in the EU and at international level, field visits in 12 MS and the review of 5 third country plant health policies, as described in the methodology section.

[13] The Consortium leader, Civic Consulting, has had the consortium quality control function in this evaluation.

1.3.2 Time period

The reference timeframe for this evaluation has been 1993 to 2008, i.e. from the start of the internal market reform of the CPHR to date. It is noted that the CPHR as such is open ended.

1.3.3 Thematic coverage

The evaluation covered the entire CPHR policy area. This includes the entire Community plant health *acquis*, its implementation in the Community and the relevant infrastructural and budgetary support. The evaluation addressed EU phytosanitary obligations in the international context, notably under the WTO-SPS Agreement, the IPPC, the EPPO, and the Convention on Biodiversity (CBD) such as on invasive alien plant species (IAS) although it does not pertain to the CBD and environmental policy as such. The evaluation also addressed the relationship of the CPHR to related Community regimes.

The evaluation questions (EQs) were grouped by the ToR into 12 blocks, of which 5 (in bold below) were covered in depth through the MS field visits:

A. Objectives and scope of the CPHR (including categorisation of HOs);
B. Surveillance of harmful organisms (THEME 1);
C. Import regime (THEME 2);
D. Intra-Community movement (THEME 3);
E. Protected zones and regionalisation (THEME 4);
F. Control measures for outbreaks and new findings (THEME 5);
G. Organisational issues;
H. Research and methodology development in support to CPHR;
I. Coherence with other Community regimes;
J. Social, economic and environmental impacts in relation to the objectives of the regime;
K. Strengths, weaknesses, opportunities and threats (SWOT); and
L. Forward-looking issues (second objective).

The purpose of the MS field visits has been the in-depth investigation into the issues explored under this evaluation to capture – as extensively as possible – the range of viewpoints and positions of the various MS and stakeholders.

For each of the above 12 groups, one or several EQs were analysed leading to a total of 28 EQs and related sub-questions[14], while further elements for study were taken into account in some cases.

The first 11 blocks mainly refer to the CPHR as it currently stands and as it has performed to date, although certain elements pertain to the need and feasibility of carrying out reforms in the regime.

[14] Several EQs are split into a further set of questions.

The evaluation of the past and the identification of the regime's current strength and weaknesses lead to the last of the 12 blocks (EQ28), which relates to the second objective of this evaluation, the development of options for the future. In this context, different options were defined and presented, as appropriate and relevant in the various themes covered by the 11 EQ blocks, including in each case consideration of the "Status Quo".

1.4 Methodology

1.4.1 Overview of methodological approach

This evaluation has followed the classical four step approach of Structuring – Observing – Analysing – Judging. The analysis and judgement considered the criteria of the relevance, utility, effectiveness, efficiency, coherence and sustainability of the CPHR in future. The 4 steps of the evaluation process are synthesised in the Table below.

Table 1-1: Evaluation steps

Step	Work objectives	Timetable
Kick off meeting with the Steering Group (SG)		
Presentation of the evaluation to the Advisory Group on the Food Chain and to MS (COPHs)		
Step 1: Structuring		
	Draft a detailed schedule for the evaluation work.	Presentation Kick off meeting
	Establish the description of the regime.	Inception Report
	Draft a reference model of the intervention logic showing the relationships between the instruments, the expected impacts and the objectives of the measure as a whole.	Inception Report
	Define the key terms for each evaluation question, (the evaluation terms as well as the technical terms), elaborate judgement criteria and indicators allowing the answering of each evaluation question.	Inception Report
	Identify additional information sources as required, quantitative and qualitative, for each evaluation question: databases, surveys, studies, persons in administrations, organisations, companies and institutes to be interviewed.	Inception Report
	Create the tools needed for the quantitative and qualitative analysis: conduct exploratory interviews to provide basis for interview guides, questionnaires, and all other data collection and analysis deemed appropriate.	Inception Report
Tools were validated by the Steering Group SG before data collection (Inception meeting).		
Step 2: Observing		
	Collect information: a) collect necessary data, including interviews notes; b) assess the validity of the information collected.	Interim Report (execution of task)
	Draft an overview on the progress of the evaluation, including the difficulties encountered in carrying out the evaluation and solutions to overcoming these.	Interim Report (execution of task)

Step	Work objectives	Timetable
Results of Task 2 were presented and discussed with the Steering Group (SG) at Interim meeting, and to MS CAs and stakeholders at a conference organised by DG SANCO in Brussels on 23-24 February		
Step 3: Analysing		
	Based on the data collected, draft preliminary answers to the evaluation questions EQ1-28 (incl. options for the future).	Draft Final Report
	Revise answers in the light of the comments of the SG.	
	Draft full answers to all evaluation questions.	Revised Draft Final Report
Results of Step 3 to be presented and discussed with the Steering Group (SG) at meeting of 20 April 2010.		
Step 4: Judging		
	Draft conclusions and recommendations.	Revised Draft Final Report
	Draft an executive summary, including brief presentation of the evaluation work and methods and summary of conclusions and recommendations.	Draft Executive Summary
	Compile the draft final Report.	Revised Draft Final Report
	Revise the draft executive summary, incorporating all changes agreed with SG.	Revised Draft Executive Summary
	Draft a synthetic summary (1 page), including main results and recommendations of the evaluation and Key Messages.	Synthetic Summary
	Compile the draft final deliverable: Study report (revised with SG comments); Executive Summary; Key Messages Summary; PowerPoint Presentation .	Draft Final Deliverable

1.4.2 Literature review

The desk research has covered the various documents listed in the ToR and the CPHR *acquis*, as well as:

- Relevant FVO reports and other Commission documents (including EUROPHYT data, and access to CIRCA);
- EC guidelines and recommended methodology for the calculation of "*administrative cost of obligations under EU legislation*";
- IPPC and EPPO websites and documentation;
- MS websites and documentation;
- Websites of countries for which the plant health regime has to be described (US, Canada, Thailand, Argentina, and Israel);
- Any other documents provided by DG SANCO and interviewees (exploratory interviews) and other relevant sources of information.

Our database of relevant literature has been continuously built up over the course of the evaluation with relevant articles, publications, etc. from the ongoing desk research and documents which have been brought to our attention.

A list of the key documents identified and/or reviewed to date is provided in **Annex 7**.

1.4.3 General survey of Competent Authorities and stakeholders

The general survey of Competent Authorities (CAs) was launched on 25 September 2009 with a deadline for response of 8 weeks. It covered over 50 pre-identified contacts in the field of plant health, as well as the CAs responsible for forestry[15] (the current list of the Standing Forestry Committee includes 97 contacts), in the 27 MS. Following a number of requests by various MS, the original response deadline was extended to 30 November 2009.

The general survey of stakeholders was launched on 5 October 2009 with a response deadline of 8 weeks. It covered 25 EU associations and their national members (an estimated 500-600 organisations), as well as relevant international and research organisations, and NGOs. Again, following requests by stakeholders and in line with the approach for CAs, it was agreed to extend the original deadline to 30 November 2009; some further extension was given exceptionally in a few cases to provide more flexibility to stakeholders where this was necessary to enable a more comprehensive response to the questionnaire.

Generally, the feedback from CAs and stakeholders has been positive in that the questionnaire was considered to raise a number of relevant and important issues. However, due to the length of the survey and the complexity of the policy issues being addressed, as well as the number of experts that each organisation needed to involve in its internal consultations for replying to the questionnaire (i.e. members at national level in the case of the EU professional organisations; other authorities/agencies, stakeholders, research organisations, diagnostic laboratories in the case of the MS CAs) more time was needed for them to gather and synthesise the various positions and the requested data.

A total of 66 responses have been received, of which 28 from plant health CAs (all MS except Lux)[16], and 37 from stakeholders. No separate responses were received from forestry CAs, but in most MS the plant health CAs engaged in a consultation process for filling in the questionnaire which involved forestry CAs.

In the case of stakeholders, out of the total 37 responses received, 8 were from EU level professional associations, which in all cases involved prior consultation with their national members. It is noted that 3 more EU level associations (FRESHFEL, Copa-Cogeca and CELCAA) submitted a position paper, although this was not a direct response to the survey

[15] Coordinated with DG ENV and DG AGRI.

[16] In the case of two MS, responses were received from two CAs, and these have been merged to provide one response for each MS.

questionnaire as such[17]. An overview of the stakeholder representativeness (MS, sectors) is presented in the table below.

Table 1-2: Stakeholder response to the general survey

	Responses to general survey: stakeholders
MS level:	
DE	5
NL	6 (of which 1 is an international logistics company)
UK	4
SE	2
DK	1
ES	1
FR	1
PT	1
PL	1
SK?	1
Total MS level	**23**
EU level:	8 (ESA, ECPA, COPA-COGECA, FEFPEB, CPPC, AIPH, EFNA, EUROPATAT)[17]
Total MS/EU	**31**
Other (a)	6
TOTAL	**37**

(a) Includes: 2x FVO, DG ENV, DG Trade, 2 individuals

Data and findings from the general survey are included in the analysis in this Final Report. The full quantitative results of the survey are presented in **Annex 8 (sections 1 and 2)**.

It is noted that the possibility to reply 'do not know' was given in each question, in case respondents did not have a view or could not take a position or the question asked was not relevant to them. Several of the respondents (MS CAs and EU level stakeholders, in particular) have commented that this possibility was also used when there was a great divergence of opinion amongst those consulted by the organisation. This point is taken into account when interpreting the results for those questions where the number of 'do not know' replies is significant.

1.4.4 Expert interviews

The main phase of the evaluation involved a second round of interviews, in addition to the exploratory interviews carried out during the structuring (inception) phase.

[17] The FRESHFEL position paper is taken into account in the analysis, but not in the quantitative results of the general survey, as it has not been a direct response to the questionnaire as such.

Interviews were carried out with a number of experts and representatives of EU professional associations, international organisations and with the Commission services. This included a total of about 50-60 organisations. In most cases, interviews were conducted by a team of FCEC experts and have involved significant organisation and preparation; on their part, many of the organisations interviewed have involved a group of experts in the interview.
The target group for the interviews covered the full range of stakeholder interests in the sector of plant health, including growers, breeders, and traders for the various products sectors, the forest and wood packaging industry, landowners, logistic companies, plant protection industry, insurance sector, public gardens and parks, and NGOs. A full list of the European professional associations consulted during the evaluation is provided in **Annex 6**.

At the level of other EU and international organisations, meetings have been held with the EFSA, the EPPO, the IPPC (both at secretariat level and at panel level), IRU, OIBC, EUPHRESCO[18], PRATIQUE[19] (full list in **Annex 6**).

Interviews with the Commission services included relevant DGs (DG SANCO, DG ENV, DG AGRI, DG TRADE, DG TAXUD, DG RESEARCH, DG BUDGET, and Secretariat General). Interviews were conducted with a range of relevant desk officers within these DGs, including the members of the SG. Within DG SANCO, meetings have also been held with the FVO plant health department.

NGOs targeted by the survey and interviews have generally shown limited interest in this policy area, despite repeated FCEC efforts to stimulate interest for an interview. This is mainly due to the fact that the targeted NGOs (8 organisations in total) cover a wide range of subjects and plant health does not appear to be a priority dossier at the moment. This lack of interest can also be interpreted as a finding that there would not appear to be any significant negative positions or views on the current CPHR.

Further interviews with the national members of key organisations amongst the above were conducted during the field visits in the selected MS, to the extent these had not already been covered by the EU association group interview, and as applicable and appropriate under each theme and for each MS.

1.4.5 MS field visits

The organisation of the field visits in 12 MS aimed to focus on the implementation of the policy in each MS amongst the 5 case study themes (surveillance and categorisation of HOs; import regime; intra-Community movement (plant passport system); protected zones; control and emergency measures for outbreaks and new findings). MS were selected on the basis of relevance to these areas. The field visits involved face-to-face interviews with relevant organisations (CAs and stakeholders), and took place from November to early February.

[18] EUPHRESCO is a project funded by the EU FP6 ERA-NET (European Research Area – Network) scheme from 2006-2010. It addresses the coordination of the funding by MS of plant health research.

[19] The PRATIQUE project is supported by the 7th EC Framework Programme for Research and Technological Development: It addresses the "development of more efficient risk analysis techniques for pests and pathogens of phytosanitary concern", in the framework of sustainable production and management of biological resources from land, forest and aquatic environments.

Table 1-3: Selection of MS for field visits and relevance to thematic case studies

MS	Timing (a)	Evaluation theme
France	Nov/Dec	2, 4 and 5
Germany	Dec/Jan	3
Italy	Jan	2 (3), 4, 5
Lithuania	Dec	3, (to cover specific issues for the Baltic MS in the other themes)
NL	Nov/Dec	2, 3, 5
Poland	Dec	1, 3
Portugal	Nov	1, 3, 5 (PWN), (other pests?)
Bulgaria (b)	Early Feb	2, 5
Spain	Dec/Jan	1, 4, 5
DK	Dec	1
Sweden	Jan	2, 4
UK	Dec/Jan	2, 1, 4

Evaluation themes:
1. Surveillance and categorisation of HOs;
2. Import regime;
3. Intra-Community movement;
4. Protected zones and regionalisation;
5. Control measures for outbreaks and new findings.

(a) Indicates period during which interviews took place. Depending on location, some MS visits were planned at intervals rather than in continuum (e.g. France, Spain, Germany and UK interviews).
(b) In late December it was clarified that Romania would be unable to proceed with the field visit and was replaced by Bulgaria.

1.4.6 Comparison with third countries

This element of the evaluation involved interviews with third country representatives for the five third countries covered by this evaluation (US, Canada, Argentina, Israel, Thailand), and desk research including the analysis of additional literature and data provided. The selection of third countries was decided on the following criteria:

- US as a large exporter to the EU with a fundamentally different approach to plant health legislation for imports into the US;
- Canada as similar to the US but less stringent;
- Thailand as an exporter to the EU with an important number of interceptions by the EU in recent years on plants and plant products imported from Thailand;
- Israel as its plant health legislative structure is quite similar to the EU but with a large number of interceptions by the EU on plants and plant products imported from Israel;

- Argentina as the EU imposed stringent measures on this country in the near past (e.g. citrus fruit originating in Argentina and exported to the EU).

The description of the selected third country phytosanitary systems is provided in **Annex 2**, and evidence is drawn from it in respect of individual EQs as necessary.

On the basis of this analysis, a comparison between the different regulatory frameworks has been developed for the themes covered by this evaluation (presented in section 3.13).

The main parameters considered for this comparison are as follows:

- Structure of the regulatory framework and legal basis;
- Approach to import measures and associated regulation;
- Emergency and control measures within the territory.

1.4.7 Further Competent Authority and stakeholder consultations

In the course of the evaluation, several presentations on the progress of the evaluation were made by the FCEC to meetings of the Council Working Party of MS Chief Plant Health Officers (COPHs), and the Working Group on Plant Health of the Advisory Group on the Food Chain, Animal and Plant Health. This has ensured maximum cooperation at CA and stakeholder level for the surveys and MS field visits and stimulated a discussion on the issues covered by the evaluation.

In order to conclude the consultation process, a 1.5 day conference encompassing MS CAs and key stakeholder groups attended by 180 participants was organised by DG SANCO on 23-24 February 2010. The purpose of this meeting was to provide feedback on the interim outcome of the evaluation and to prepare for the synthesis phase (Step 4) of the evaluation. The aim was to have a more in-depth discussion, once data had been collected and analysed, and preliminary conclusions had been made including on the development of options for the future. The conference provided a valuable opportunity for the FCEC to identify and fill any gaps in the analysis, to validate the findings and preliminary conclusions, and to elaborate further on the options for the future.

1.5 Economic analysis (administrative and other operational costs)

This section outlines the methodological approach followed by the FCEC for the economic analysis of the administrative and other operational costs, which involved the development of a specific cost survey and analytical tools.

1.5.1 Specific cost survey

Before launching the main cost survey, a preliminary survey was carried out of the MS CAs and EU stakeholders. It aimed to achieve a first collection of data to enable a better understanding of data sources and availability, so as to shape accordingly the main phase of the specific cost survey. The analysis of the preliminary questionnaires provided valuable information, mainly as regards: the identification of the most significant CPHR obligations in terms of costs; rough estimation by several CAs of the costs associated with the different

CPHR obligations; and, better understanding of the drivers of costs behind each CPHR obligation.

Following this, the main cost survey was developed and launched in October 2009. This survey aimed at getting specific data on the costs (distinguishing between the **administrative**[20] and the substantive **compliance costs** of the CPHR), the fees system, the Community financing, the national cost-sharing schemes, the benefits as well as the way to improve the cost-benefit balance in the future.

1.5.2 Development of a cost matrix and cost model

The evaluation of the costs was based on a cost model specifically developed for this purpose. The model distinguishes between input parameters, calculation, and model output, as illustrated in the figure below.

Different approaches were used to estimate the administrative costs and the other operational costs, as required in the ToR:

- The administrative costs were estimated using the Standard Cost Model approach. The total administrative cost is calculated as P x Q where: Q is the number of times per year (occurrences) that each information obligation has to be complied with, multiplied by the number of entities concerned; P is the administrative cost per entity of complying with the obligation. P is the sum of staff costs and equipment costs. The staff costs include the annual gross salary of the personnel and a part of the overheads costs (estimated by default at 25% of the gross salary);

- The other operational costs (called 'Substantive compliance costs') were assessed from a general perspective, as a total amount in €, for the different CPHR obligations classified as 'compliance obligations'.

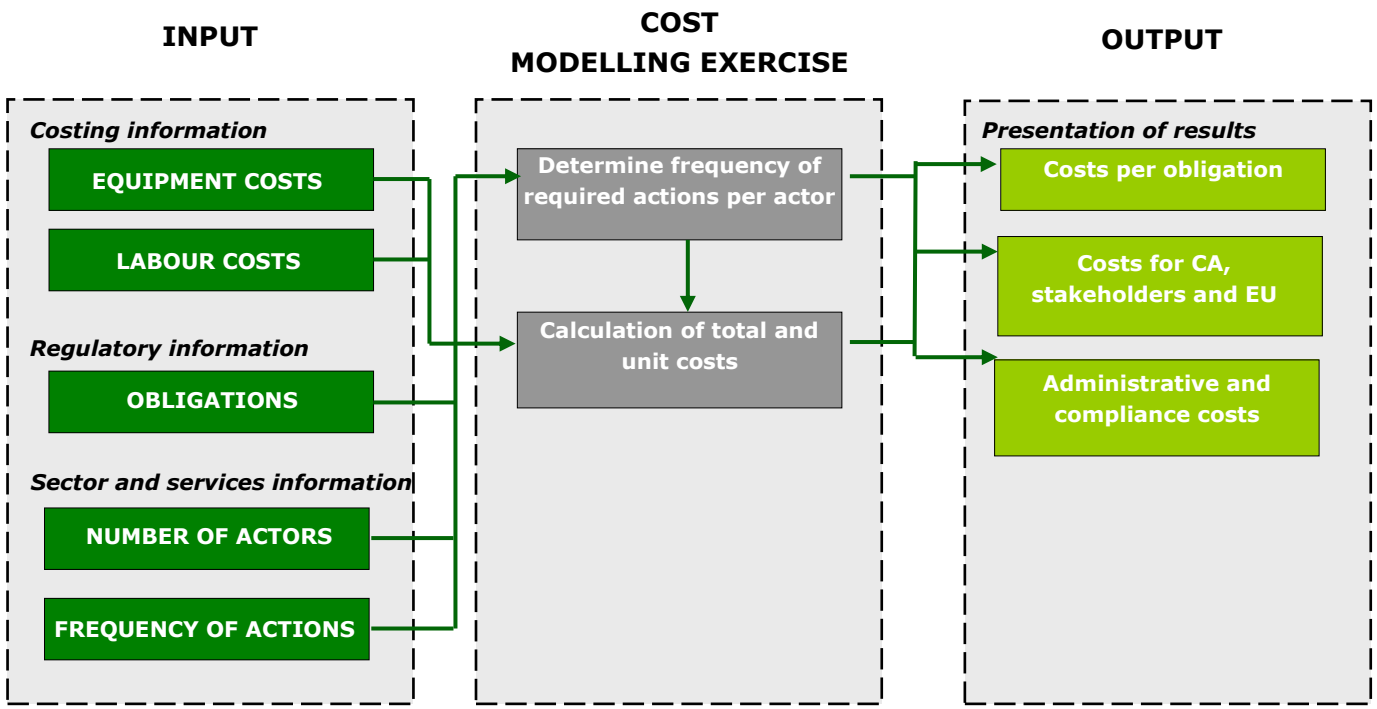
In total, 13 obligations were considered in the cost model. For each of these, costs were estimated on an average annual basis. A 14th obligation refers to the implementation of measures to eradicate or inhibit the spread of HO, which cannot be estimated on an annual basis (as the number and intensity of outbreaks may vary in time) and this has therefore been considered separately.

Finally, the costs associated with the general surveillance (i.e. the surveillance for other organisms than those covered by the Community emergency measures and Control Directives) and exports checks have also been analysed. Although these costs do not refer to CPHR obligations, for specific HO they have been considered because:

[20] Introducing questions on administrative costs into the cost survey was not originally foreseen in the Inception Report (data on the administrative costs were to be collected during the field visits). Such questions concern all entities relevant for agriculture, horticulture, forestry and the environment and therefore do not focus specifically on the apple tree sector as foreseen in the Inception Report, mainly because, as discussed and agreed with the SG, focusing on such a specific case would not provide us with the required data to be able to extrapolate administrative costs for all sectors at EU level.

- The option of including general surveillance in the future CPHR has been mentioned on several occasions;
- Exports checks represent an important cost for CA and private operators.

Figure 1-1: Design of cost model



Source: FCEC

1.5.3 Legal obligations considered in the analysis of the costs of the CPHR

The following table presents for each obligation, the tasks and volumes to which the cost analysis refers, the assumptions made as well as the type of obligation (administrative or compliance). Of the 13 obligations which have been considered in the cost model:

- 7 obligations have been classified as **administrative**. These are: registration; authorization to issue plant passport; issuing of plant passport; notification of interceptions in trade; keeping of records; check the correct and uniform application of CPHR; and, submission and treatment of applications for solidarity funding.

- The remaining 6 obligations have been classified as **substantive compliance**[21]. These are: import inspection; official inspection at the place of production; annual survey of protected zones or buffer zones; annual surveys of regulated harmful organisms; overall management of the plant health policy; and, the conducting of Pest Risk Analysis.

[21] The extent to which the obligations for inspection and for surveillance had to be considered as administrative or substantive compliance costs was not clear (i.e. borderline obligations). The FCEC classified them as substantive compliance costs based on the fact that these obligations have not been created to provide information but to protect the health status of plants in the Community. This classification was presented and agreed in the course of the evaluation with the SG.

Table 1-4: Obligations, tasks, volumes and assumptions used in the cost analysis

Nb	Title of the obligation	Tasks considered in the analysis of the costs	Volume (a)	Main assumptions	Type of obligation (b)
1	Registration	*Private operators:* Compile and submit an application for listing in an official register (including a plan of the premises on which plants, plant products and other objects are grown, produced, stored, kept or used by the operator). *Competent authorities:* Record any application for new registration in an official register, examine the information supplied in the application form, list the operator once the CA has established that it is able to meet the obligations. Possibly visit the premises of the applicant for registration. Renew any existing registration (if relevant).	4971 private operators registered on average per year. Data extrapolated by FCEC for IT and DE from partial data provided respectively for 10 and 14 regions. Data estimated by FCEC for BE, DK, PL and UK mainly based on comments provided by the concerned MS.	*Private operators:* 20 hours needed on average per registration dossier	Administrative
2	Authorization to issue Plant Passport	*Private operators:* Compile and submit an application for authorization. *Competent authorities:* Record the application in an official register, examine the information supplied in the application form, list the operator once the CA has established that it is able to meet the obligations, amend or renew the register Possibly visit the premises of the applicant for authorization to issue PP	1517 private operators authorized on average per year. Data estimated by FCEC for BE, DK, LV based on comments provided by the concerned MS. Data extrapolated by FCEC for IT based on partial data provided for 10 regions. Data estimated by FCEC for CY, FR, DE and UK by considering that 40 % of private operators registered on average per year are authorized to issue PP.	*Private operators:* 5 hours needed on average per authorization dossier	Administrative
3	Issuing of Plant Passport	*Private operators:* Produce and print the PP (for private operators authorized to do so) *Competent authorities:* For all cases where the private operators are not authorized to issue PP: produce, print and deliver the PP. This activity includes the	36,068 private operators authorized to issue Plant Passports. Data available for BE, DK, FR, LV, NL, PL, RO, SI and UK Data estimated by FCEC for the other MS by considering that 50% of producers are authorized to issue Plant Passports.	*Private operators:* 10 hours needed on average per year per private operator	Administrative

Nb	Title of the obligation	Tasks considered in the analysis of the costs	Volume (a)	Main assumptions	Type of obligation (b)
		issuance of the specific PP for PWN	40,963,462 PPs issued by competent authorities on average per year (all PPs in PL and RO, mainly PPs for seed potatoes and possibly propagating materials in CZ, CY, EE, FR, HU, IE, LV, LT, MT, NL, PT, SI and UK).		
4	Notification of interceptions in trade	*Competent authorities:* Notify 3rd country interception and taken official measures through EUROPHYT to the Commission and the other MS *Commission:* DG SANCO F4: Manage the network for the notification of new occurrences of harmful organisms (EUROPHYT)	5,905 interceptions in 2009. 1 FTE consultant, 1 FTE secretary staff Time estimations are based on the number of interceptions/MS, as presented by the FVO to the SCPH.	*Competent authorities:* 1 hour needed on average to notify one interception	Administrative
5	Keeping of records	*Private operators:* To keep an updated plan of the premises on which plants, plant products, or other objects are grown and produced by the producer. To keep records of plants, plant products or other objects purchased for storage or planting on the premises, under production or dispatched to others and to keep the related documents for at least one year. To keep any plant passport received for at least one year and enter the reference in their records.	118,321 private operators registered for plant health inspections. Data extrapolated by FCEC for IT based on partial data provided for 10 regions.	*Private operators:* 20 hours needed on average per year per private operator. This figure can vary depending on the sector concerned (e.g. horticulture, seed potatoes) as well as the size of the company.	Administrative
6	Check the correct and uniform application of CPHR	*Competent authorities:* Assist DG SANCO F4 for their mission in the MS (filling in of questionnaire, preparation of required documents and information, mission planning and participation) *Commission:* DG SANCO F4: Carry out missions in the MS and draft mission reports	17 FVO inspections on average per year. 6.5 FTE inspectors and 2 secretary staffs. 15 people assisting the FVO inspection per MS on average (estimated by FCEC based on partial data provided by some MS during the preliminary cost survey)	Duration of one inspection in the MS : 1 week	Administrative
7	Submission and treatment	*Competent authorities:* Retrieve the required data, fill in the application	6.5 dossiers submitted on average per year. 1 policy officer 2 months/year and one	*Competent authorities:* The estimated duration	Administrative

Nb	Title of the obligation	Tasks considered in the analysis of the costs	Volume (a)	Main assumptions	Type of obligation (b)
	of applications for Solidarity Funding	form/dossier, submit it and possibly attend meeting to present it. *Commission:* Analyse solidarity dossiers, verify the eligibility for funding, follow-up of accepted dossiers	person in charge of financing 2 weeks/year max.	for the preparation and the submission of a dossier is around 1 month, as indicated during the evaluation of the Solidarity Regime by FCEC.	
8	Import inspection (at border or at place of destination)	*Competent authorities:* Make a documentary, identity and plant health check (including laboratory testing of samples)	572,684 documentary checks on average per year, 386,424 identity checks on average per year, 319,600 plant health checks on average per year, 43,982 samples for plant health checks on average per year. Data extrapolated by FCEC for IT and DE from partial data provided respectively for 10 and 14 regions. Data provided by CY and SK on volume (number of checks and number of samples) but not on costs. Costs data have been estimated for these 2 MS based on the ratio volume/cost calculated for the other MS. No data provided by ES. Data estimated on the basis of the ones provided by the other MS, taking the account the respective nb of importers.		Compliance
9	Official inspection of plants, plant products and other objects at the places of production	*Competent authorities:* Carry out plant health checks (including laboratory testing of samples)	241,823 inspections at the place of production on average per year. 420,131 samples for the purpose of plant health checks at the place of production. Data extrapolated by FCEC for IT and DE from partial data provided respectively for 10 and 9 regions. Data provided by CY, DE and MT on volume (number of checks and number of inspections) but not on costs. Costs data		Compliance

Nb	Title of the obligation	Tasks considered in the analysis of the costs	Volume (a)	Main assumptions	Type of obligation (b)
			was estimated for these 3 MS based on the ratio volume/cost calculated for the other MS.		
10	Annual survey of protected zones or buffer zones	*Competent authorities:* Conduct annual survey of protected zones or buffer zones and submit the results to DG SANCO E1	Very rough estimation based on general data provided by BE, CZ, EE, LV, LT, PL, SI and SE in the context of the preliminary cost survey.		Compliance
11	Annual surveys of regulated harmful organisms	*Competent authorities:* Implement the different mandatory surveys and report to DG SANCO F4 *Commission:* DG SANCO F4: Produce an annual summary table/report for each survey	205,630 inspections on average per year for surveillance as foreseen in EC emergency measures. 88,647 samples for surveillance as foreseen in EC emergency measures. 157,580 inspections on average per year for surveillance as foreseen in Directives for Potato cyst nematode, brown rot and ring rot. 387,792 samples for surveillance as foreseen in Directives for Potato cyst nematode, brown rot and ring rot. Data provided by AT, CZ and DE on volume (number of samples and number of inspections) but not on costs. Costs data was estimated for these 3 MS based on the ratio volume/cost calculated for the other MS. No data provided by DK and CY for surveillance as foreseen in Directives for Potato cyst nematode, brown rot and ring rot. Data estimated on the basis of the ones provided by the other MS, taking into account the number of potato producers		Compliance
12	Overall management	*Competent authorities:* Meetings of the Council Working Parties,	*Competent authorities:* Information on costs for meetings		Compliance

Nb	Title of the obligation	Tasks considered in the analysis of the costs	Volume (a)	Main assumptions	Type of obligation (b)
	of the Plant Health policy	Standing Committee on Plant Health and working groups *Commission:* DG SANCO E1: Overall management of the PH policy (without considering the costs associated with the management of Solidarity Regime that are considered under obligation No 7)	provided only by BE, CZ, DK, EE, LV, NL, PL, SI, SE and UK in the preliminary cost survey. Estimation for the other MS based on the available data, taking into account the size and location of the MS *Commission:* 1 head of unit, 2 permanent officials, 1 temporary official, 2 national experts, 2 assistants in charge of the management of CPHR with SANCO E1.		
13	Conduct Pest Risk Analysis	*Competent authorities:* Conduct Pest Risk Analysis (PRA) Commission: EFSA: conduct Pest Risk Analysis (PRA)	Rough estimation based on general data provided by BE, CZ, EE, LV, NL, PL, SI and UK in the context of the preliminary cost survey		Compliance

(a) Data on volumes provided by all MS except BG, EL and LU. Data provided by a sample of MS only for obligation No 10 and 13.
(b) Indicates whether administrative or substantive compliance obligation.

Source: compiled by FCEC, based on the results of the specific cost survey

1.5.4 Data sources and reliability

The cost analysis has been primarily based on the data provided by MS CAs and stakeholders during the specific cost survey, to which 25 MS CAs have responded.

Data provided by EL have not been integrated in the cost model, as they concerned 4 Rural Development Directorates of the Prefectures (RDDPs) out of 57; and therefore did not provide a sufficient basis to extrapolate for the entire Greek territory. BG and LU did not respond.

Questionnaires were completed by the CA of 10 Italian regions out of 20 and the German CA provided one questionnaire summarizing as far as possible the responses given by 14 Länder out of 16 (sometimes less for some specific aspects of the questionnaire). FCEC roughly extrapolated from these bases to obtain figures for IT and DE as a whole.

A total of 9 questionnaires were completed by stakeholders, of which 4 provided quantified data useful for the cost analysis.

Therefore, FCEC considers that the data provided by the MS CAs have provided a very solid basis for the cost analysis. Despite the scarcity of the data provided by stakeholders (also called 'private operators' (POs) in the cost model), it has been possible to obtain some estimates of PO costs by extrapolating on the basis of: 1) data provided by the MS CAs on for instance the number of operators, the number of inspections at the place of production, the charged fees; and, 2) certain assumptions made by FCEC.

As far as possible, FCEC has cross checked the quality of the provided data either by contacting the respondents by email or phone to obtain further explanation or by comparing data between sources and across the data provided.

Finally, the cost model has been designed in such a way that the effect on costs of any change to the input data (e.g. number of entities concerned, time needed to carry out one specific task) is automatically generated, and this makes it possible to fine-tune the analysis with any additional data which becomes available.

2 Reference model: the current CPHR

The analysis below captures the main themes of the **Reference Model** required by section 2.2 of the ToR[22]. Reference to the Evaluation Questions (EQs) of the ToR is made where appropriate. The model describes the design and implementation of the current CPHR.

The aim of the model is a clear understanding of the hierarchy of objectives, intervention logic and relationship between different stakeholders involved, the instruments used and the impacts generated, along the chain from producers to final consumers/users. It also serves to focus discussion on the proposed changes/options for the future and their likely impacts.

2.1 Legal basis

The Community plant health *acquis* is based on Article 43 of the Treaty on the Functioning of the European Union (under Title III: Agriculture and Fisheries). It is also based on the IPPC and the WTO-SPS agreement, to which the EU is a contracting party.

The evaluation, in particular, reviews Council Directive 2000/29/EC of 8 May 2000 (hereafter referred to as "the base Directive") on protective measures against the introduction into the Community of organisms harmful to plants or plant products and against their spread within the Community. The Directive is a codification of the original rules introduced in 1977 including all subsequent amendments, and constitutes the base legislation of the CPHR.

2.2 Evolution of the CPHR to date

By far the most significant point in the evolution of the CHPR was the introduction of the Single Market in 1993, which resulted in a new strategy in the field of plant health. This aimed to strike a balance between opening the EU's internal borders (i.e. minimising internal border controls and restrictions) and sufficiently protecting the EU's territory from the introduction and spread of harmful organisms (HOs). To this end, a series of measures were introduced, which included:

- the establishment of common plant health standards for domestic and intra-Community trade;
- the transfer of checks from internal borders to places of production (and for third country producers to external Community frontiers) - this was effected via the issuing of 'plant passports' for all movements within the EU (replacing phytosanitary certificates);

[22] In addition to answering the evaluation questions, the ToR request the development of a *reference model* for describing the current Community plant health regime. This would cover: the legal basis; objectives (including scope and positioning concerning related regimes); responsibilities of the different parties involved (including aspects of subsidiarity and Community added value); intervention logic; key instruments used under the CPHR and how instruments are integrated (including monitoring systems and reporting structure); infrastructure (including official laboratories and science and methodological innovation (R&D)); management procedures and comitology; administrative issues (burden to stakeholders); and budget and Community financing.

- the application of the concept of regionalisation with the definition of protected zones (PZs) at particular risk;
- the introduction of systematic checks during marketing; and,
- a system of Community financial assistance linked to financial liability rules for consignor MS found to be at fault.

The key concepts of the system introduced by the new strategy in 1993 are essentially in application today[23]. As it stands, the current CPHR aims to protect the EU territory against the introduction and spread of regulated organisms which are harmful to plants or plant products. It lays down specific requirements for imports of all plants and some plant products into the EU and for internal movement of a limited number of plants within the EU. The fully harmonized regime allows free movement of consignments produced within the EU or, after import inspection, imported into the EU and at the same time allows for the recognition of protected zones that are free from specific HOs occurring elsewhere in the EU.

The CPHR covers HOs, which according to Council Directive 2000/29/EC are considered to mean: *"any species, strain or biotype of plant, animal or pathogenic agent injurious to plants or plant products"*. The current quarantine list covers some 250 *harmful organisms*, and these are listed in the Annexes to Directive 2000/29/EC ('the Directive'). This includes only organisms directly injurious to plants and plant products, and does not cover organisms harmful to human or animal health.

It is noted that unlike other areas in the remit of DG SANCO, food safety is not at stake in the CPHR, because plant pests and plant diseases (HOs) are generally not infectious to humans or animals and only exceptionally produce metabolites that are toxic to humans and animals[24]. While the safety of plant protection products (PPPs) for human health is regulated strictly in the EU, there may be indirect effects if there is a need for increased PPP application[25] to control pests and diseases entering the Community, in case of the absence of quarantine legislation or the failure to implement quarantine measures. Therefore, while possible consequences to human health as such are covered in the PPP regime, this evaluation will discuss the indirect potential impact on human health of the potentially increased need for the use of PPPs in the case of failure of the CPHR to provide sufficient protection against new pests and diseases. The CPHR and the Community plant protection regime share the objective of promoting healthy and productive crops and to minimise environmental harm in achieving this objective.

[23] A key exception has been the planned official programme for coordinating and financing scientific / technical activities with a view to developing appropriate diagnostic tools and harmonising these, which has not been followed up through legislation to date (except specifically for some potato control Directives).

[24] For example mycotoxins; however, none of the fungi that produce these has been considered for quarantine listing since they are common worldwide. Ambrosia *artemisifolia* and oak processionary moth (*Thaumetopoea processionea*) are other potential examples of plant health issues with human health implications.

[25] It is noted that this does not refer to the potential effects of the PPP due to the toxicity of the product as such (which is subject to strict authorisation procedures at EU level) but on the risks linked to the increased volumes of PPPs used following from the entry of new HOs and the incorrect usage/application of these PPPs.

2.3 Intervention logic and objectives

The intervention logic of the CPHR in terms of its global, specific and operational objectives is presented in Figure 2-1. This has been developed based on the findings of the evaluation on the understanding and implementation of the CPHR objectives during the evaluation period (since 1993 to date).

As it currently stands, the objectives of the CPHR can be summarised as follows:

- To protect the EU against the harm caused by the introduction (entry and establishment) and spread of harmful organisms (HOs) injurious to plants and plant products (*intermediary objective*);
- thereby contributing to the Treaty objectives of increasing agricultural productivity, maintaining farm incomes, securing food supply at reasonable prices (Art. 33 of the Treaty) (*global objective*).

The key aim is to minimise within the EU the potential negative impacts of the various stages of phytosanitary risk exposure: introduction, establishment and spread. As summarised above, these impacts are expressed mainly in socio-economic terms.

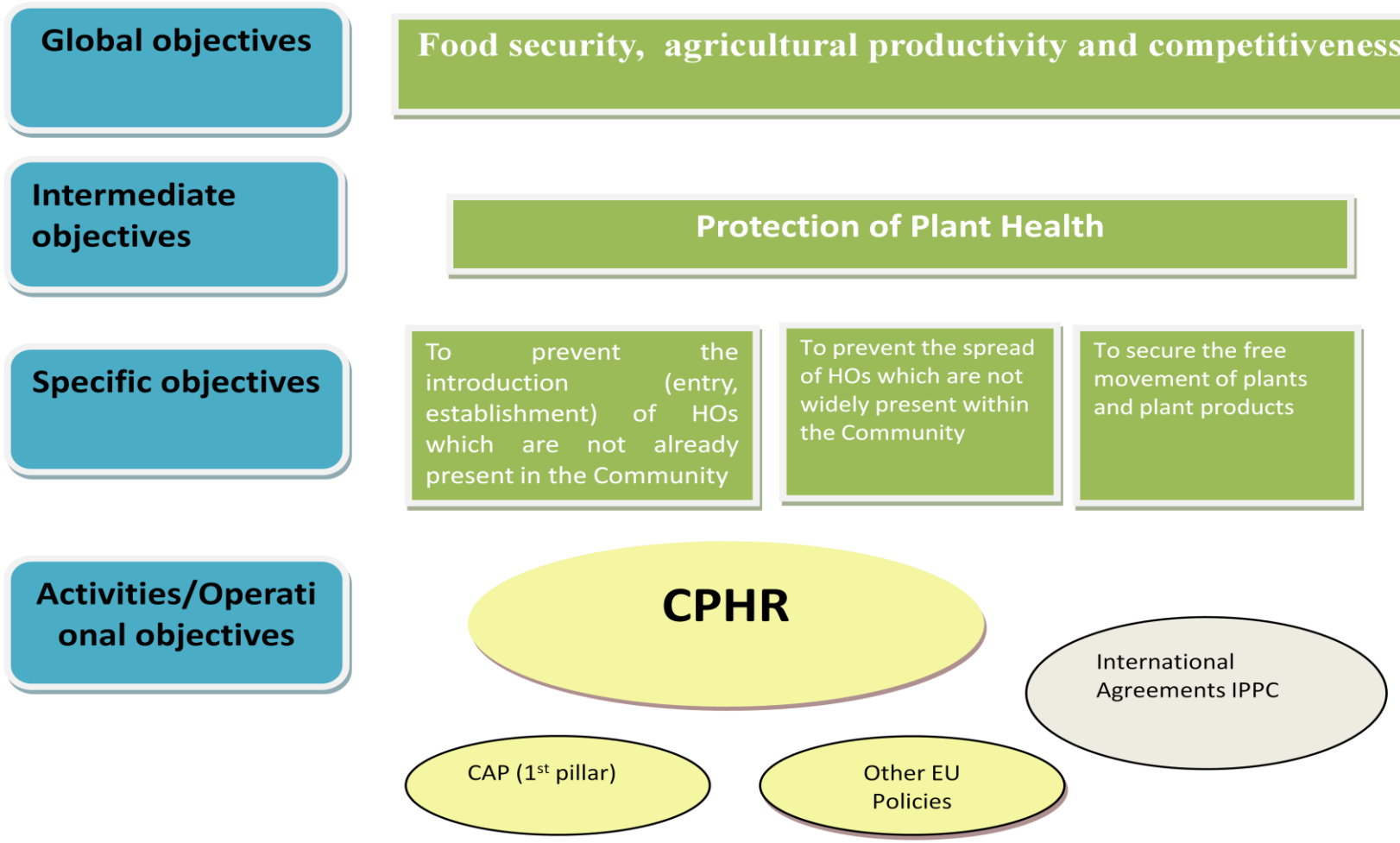
To this end, the CPHR has developed in the course of its lifetime the following *specific operational objectives*:

1. preventing the introduction (entry and establishment) of HOs not already present in the Community;
2. preventing the spread of HOs not widely present within the Community; while,
3. ensuring free movement of plants and plant products within the EU, in particular within the context of the Single Market established since 1993.

A series of measures are envisaged to this effect, as summarised in Table 2-2.

The control and management of HOs, in the event the HO becomes established, is an implicit operational objective, with measures envisaged at national level and eligible for Community financing under certain conditions (Articles 22-24 of the Directive).

Figure 2-1: CPHR intervention logic (past)



Source: FCEC

The current CPHR limits the Community financial contribution on measures taken by MS to eradicate and control HOs specifically to the spread through movement (Article 23.1). This effectively excludes natural spread, at least as a single factor for the spread of HOs. It can be argued that the wider scope of the CPHR covers natural spread, for example under the notification rules of Article 16, although no Community financing is envisaged in this case. The need for further clarification on the scope of the CPHR regarding natural spread is discussed in section 3.1.1.

The current CPHR is limited to invasive alien species (IAS) that cause harm to plant and plant products, which is a narrower definition than that followed by the CBD[26] (*"invasive alien species" means an alien species whose introduction and/or spread threaten biological diversity*, where *"Alien species" refers to a species, subspecies or lower taxon, introduced outside its natural past or present distribution; includes any part, gametes, seeds, eggs, or propagules of such species that might survive and subsequently reproduce*). The need for further clarification on the scope of the CPHR regarding IAS is discussed in section 5.1.2.

As indicated in the intervention logic, the focus of the CPHR on direct injury to plants and plant products from HOs introduced and spread through movement has historically been driven by the global objectives of safeguarding commercial agricultural crops rather than wider environmental or societal objectives. In recent years however, as will be discussed further in the following sections, there has been a *de facto* shift towards a widening of the global objectives beyond Article 37 of the Treaty as such. This has been brought about by the need to address new pathways and pests as well as by newly emerging risk factors (notably climate change and increasing trade).It has also been driven by the presence of pests in non-commercial and non-agriculture sectors and particularly by citizens' perceptions and expectations on plant health in this regard. The evaluation therefore seeks to address whether the historical objectives of the CPHR, as specified in the Directive and associated legal basis, are still being met and whether they are still appropriate (EQ1).

Issues of increasing concern to society in the context of the global objective for the future CPHR may have a wider coverage (including objectives already addressed in Article 37 of the Treaty):

- Protecting the environment (prevention of entry of new HOs and diseases helps limiting the use of pesticides[27]), including the possible impacts of climate change on the spread and introduction of new or already existing HOs;
- Ensuring competitiveness and the sustainability of European agriculture and rural sectors (plant health measures to sustain economic growth, employment and rural economies against the negative effects of harmful organisms), provided the cost-benefit

[26] CBD Guiding principles (CBD Decision COP VI/23 on "Alien species that threaten ecosystems, habitats or species of the CBD")

[27] Although quantitative data are not available, there is broad consensus on the fact that regulating HOs (and therefore preventing the introduction and spread of pests) avoids the use of pesticides, which are largely consumed for the treatment of plant diseases (e.g. *Fusarium foetens*, *Phytophthora infestans* of potato).

balance for society is positive and measures are fair to individual growers or private persons[28];

- Ensuring food security (e.g. in the context of rising world population and constraints on the availability of arable land, which result in rising overall food prices); and
- Safeguarding the natural environment (public and private green, forests, landscape).

However, society can pose contradictory demands in terms of environmental, social and economic sustainability, and in many cases tension exists between these basic aims. Some citizens may be in favour of preventive measures aimed at long-term protection of the environment, while others would be against such measures because of the short-term costs and impacts. The functioning and balance of the CPHR therefore needs to be evaluated within this context.

2.4 Distribution of responsibilities

The specific and operational objectives of the CPHR are implemented by various activities and interventions, as laid down in the Directive. These are pursued at different levels, including aspects of subsidiarity (MS level) and Community added value (EU level), but in some cases may also involve action at the level of international organisations (IPPC, EPPO), as indicated in the following Table.

[28] Indeed, the WTO-SPS Agreement as well as ISPM No. 2 (Import regulations. Guidelines for pest risk analysis) and No. 11 (Pest risk analysis for quarantine pests including analysis of environmental risks and living modified organisms) require that socio-economic impacts of phytosanitary measures must be taken into account in pest risk management in addition to environmental impacts, and that costs and benefits must be assessed.

Table 2-1: Current distribution of responsibilities in the implementation of the CPHR

Activities	**COM**	**MS**	**Other**
Conducting risk assessments		√	EFSA EPPO Other scientific orgs
Risk management system appraisals (e.g. FVO missions to TCs)	√		
Deciding whether specific organisms should be regulated and whether imports should be prohibited or can be allowed	√	√	
Executing impact assessments for policy options	√	√	
Developing plant health legislation to mitigate the risk of new harmful organisms and to eradicate, contain or control them	√	√	
Performing controls to importers for compliance with the legislation and necessary phytosanitary certificates[29]		√	
Inspecting producers of seeds and plants for planting and supervising companies issuing plant passports for intra-EU trade		√	
Monitoring / surveying the territory of the EU for the absence of regulated harmful organisms (pest status determination)		√	
Containment and control of harmful organisms that cannot be eradicated		√	
Co-financing eradication, containment and control activities	√	√	
Enforcing compliance with the legislation, at industry level		√	
Enforcing compliance with the legislation, at MS level	√		
Issuing derogations	√	√	
Ensuring safe research, movement and use of regulated harmful organisms/plants/plant products under derogation		√	
Communication with stakeholders and citizens	√	√	EPPO, EFSA
Development of quality assurance systems, diagnostic protocols	√ (RTD)	√	IPPC EPPO
Support for the development of diagnostic methods (e.g. ring testing)	√ (RTD)	√	EPPO
Infrastructure needs (to perform the above activities)	**COM**	**MS**	**Other**
Development of quality assurance systems for plant health inspections		√	EPPO
Training of plant health inspectors	√ (BTSF)	√	EPPO[30]
Development of diagnostic protocols and quality assurance systems for plant health diagnostic laboratories		√	EPPO, IPPC
Training for diagnosis		√	
Support to plant health research on the biology and economy of harmful organisms, risk assessment and risk management	√	√	
Support to the development, ring testing and implementation of rapid and reliable diagnostic methods	√ (RTD)	√	EPPO
Support to the amelioration of the border control infrastructure	√		
Technical assistance	√	√	√

Source: FCEC based on review of legislation

[29] MS also perform export controls and issue phytosanitary export certificates, but this is outside the scope of the current plant health regime.
[30] Annual workshop for phytosanitary inspectors

Article 1 (4) of Council Directive 2000/29/EC indicates that "*The Member States shall ensure a close, rapid, immediate and effective cooperation between themselves and the Commission in relation to matters covered by this Directive. To this end, each Member State shall establish or designate a single authority, which shall be responsible, at least for the coordination and contact in relation to such matters. The official plant protection organisation set up under the IPPC shall preferably be designated for this purpose".*

According to Article 2(1g) the responsible official bodies in a MS shall be either the official plant protection organisation(s) or any State authority established at national and/or regional level, and the responsible official bodies may, under certain conditions, delegate the tasks provided for in the Directive under their authority and supervision to any legal person, whether governed by public or by private law.

According to the responses received by the MS CAs to the general survey, the NPPO is considered to be the Single Authority for coordination and contact with the MS and the Commission within the meaning of Article 1(4) in nearly all MS, while in all MS, the MS CAs indicated that the NPPO is considered to be the Responsible Official Body within the meaning of Article 2.1(g) of the Directive.

Only in the case of BE and AT, the CAs indicated that the NPPO was not the Single Authority within the meaning of Article 1(4), where respectively the "Federal Public Service of Public Health, Food Chain Safety and Environment" and the "Bundesministerium für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft" have been designated for this role. It is also noted that in the case of MS with decentralised governance (e.g. DE, ES, IT) the Single Authority acts as a coordinator of the regions which act as the responsible official bodies for implementation; in this case the federal authority typically carries the tasks of coordination and supervision of the regions, contact with the Commission, other MS and third countries, and data collection at national level. In the case of DE, the NPPO consists of the responsible official bodies of the Federal States and the phytosanitary units of JKI and BMELV (Ministry).

When considering the complete implementation of Directive 2000/29/EC, there is a range of tasks and duties foreseen for the Single Authority and the Responsible Official Bodies, some of which can be delegated to other legal bodies under certain conditions (Article 2(1g)). These issues have been explored and are discussed further in section 3.10.1.

2.5 Overview of the CPHR main instruments

As it currently stands, the CPHR consists of a series of measures that are in place for the control and eventually the eradication of HOs. The measures relate either to organisms listed in the Directive and/or to non-listed ones. The key measures are explored in depth in five thematic case studies (**Themes 1-5)**. A schematic presentation of how the CPHR is positioned within the wider context of the plant health system, and the detailed CPHR measures currently in place are provided in **Figure 3-2** and **Table 3-1**, respectively.

Protection of the EU against the harm caused by the introduction and the spread of HOs, while ensuring functioning of internal market

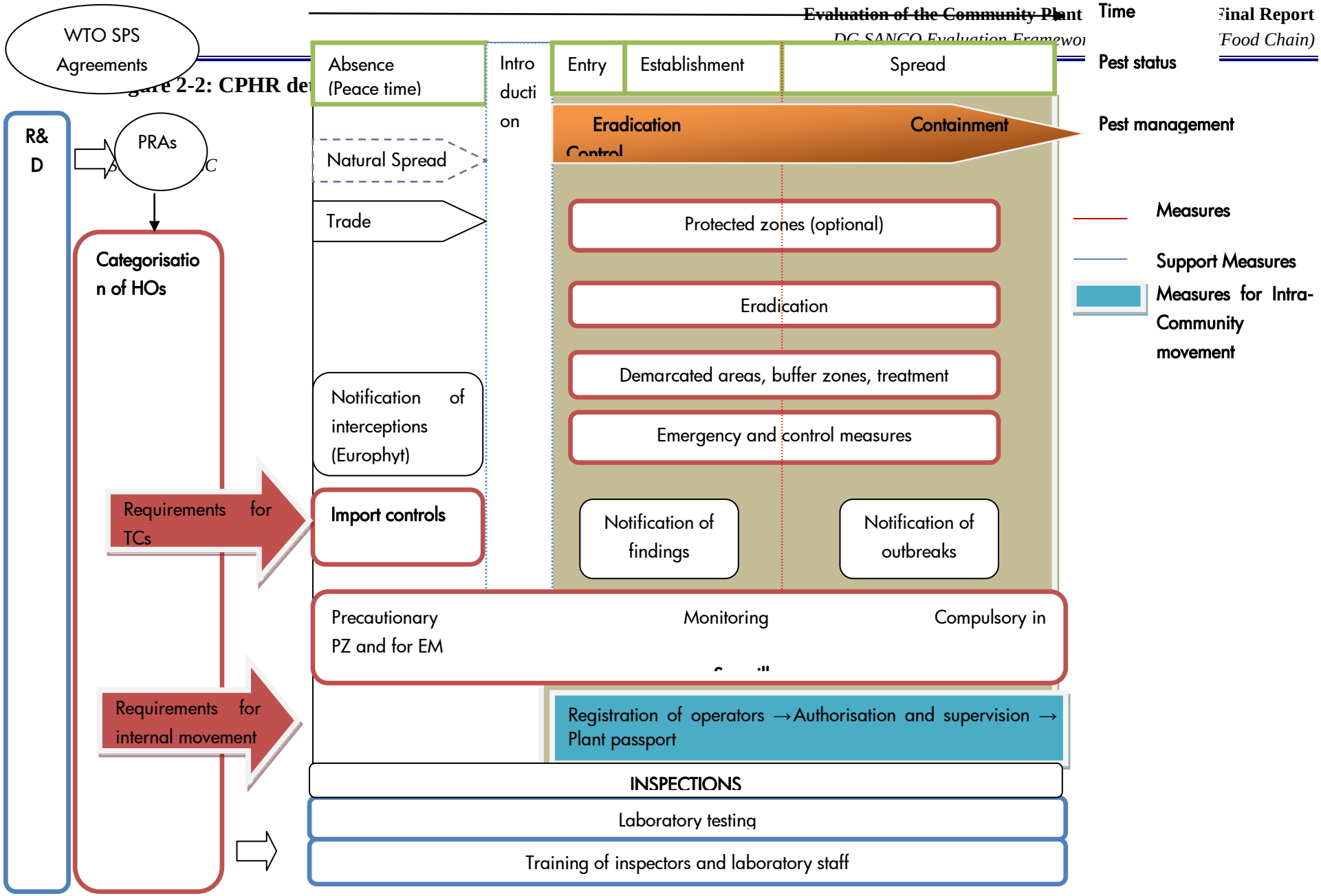


Table 2-2: Overview of CPHR objectives and measures (a)

Objective	Operational objectives	Measure
To protect the EU against the harm caused by the introduction of HOs	To prevent the introduction (entry, establishment) of HOs which are not already present in the Community	- Border control - Notification of interceptions (EUROPHYT) - Categorisation of HOs (PRA) - Surveillance - Eradication - Laboratory testing - R&D (e.g. early detection methods which are sufficiently sensitive) - Training of inspectors and laboratory staff
To protect the EU against the harm caused by the spread of HOs	To prevent the spread of HOs which are not widely present within the Community	- Surveillance - Notification of outbreaks (PRA) - Emergency and control measures (e.g. Diabrotica) - Protected zones and regionalisation, surveillance of PZ - Eradication - Laboratory testing - Training of inspectors and laboratory staff - Establishment of demarcated areas, buffer zones, treatment - R&D (e.g. early detection methods which are sufficiently sensitive)
Internal market	To secure free movement of plants and plant products within the EU	- Inspection and registration of operators - Authorisation and supervision - Harmonisation of operator inspection practices (Art 21.6) - Training of inspectors and laboratory staff - Laboratory testing - Plant passports - R&D (e.g. early detection methods which are sufficiently sensitive) *(These measures currently cover mainly seeds & plants for planting)*

(a) This Table aims to capture the key measures prescribed at EU level under the current CPHR (as laid down in the relevant EU legislation), not to provide a complete and exhaustive list of all the measures in place. It is a list of currently applied measures, not a presentation of the optimal intervention framework for plant health.

Source: FCEC based on review of legislation

The Directive foresees a menu of measures depending on the HOs to which these are addressed, as determined by the HO listing in the Annexes I to VI. Although the definition of a HO in the Directive formally applies to all HOs, in practice the current scope pertains to regulated quarantine pests, thereby largely excluding regulated non quarantine pests (RNQPs) for which a tolerance level is applicable.

The provisions for setting up of **monitoring and surveillance** programmes have the objective to ensure that the EU territory (or Protected Zones) remains free of HOs. The provisions to carry out annual surveys in the MS are confined to HOs related to Protected Zones and to Emergency Measures. It is **compulsory for MS to notify findings** of listed organisms as well as those non-listed organisms that are found for the first time in the territory of a MS.

The approach followed for the categorisation of HOs and the monitoring and surveillance measures are further evaluated in a specific thematic case study (**Theme 1**).

The existing provisions of **preventive measures on imports** in part pertain to HOs which are not allowed to enter the EU territory, either in general (Annex I of the Directive) or when linked to specific commodities (Annex II). Other provisions specify plants and plant products of which import from TCs into the EU is prohibited, as well as specific import requirements for commodities (e.g. official guarantees that the material originates from a country, region, field or place of production that is free from the HO involved, or official guarantees for appropriate treatment of commodities to eliminate any such HOs[31]). In line with the WTO-SPS agreement, requirements for intra-Community trade must equate to the provisions for import from TCs, except when differences in provisions are technically justified.

Regulated plants and plant products must, as a general rule, be accompanied by an official **plant health certificate** as laid down in the EU legislation. The products are subject to both documentary and physical checks before release into the Community by customs authorities; documentary checks must always be carried out at the border, while identity checks and plant health checks may be carried out at the final destination. For intra-Community movements between the point of entry and the final destination where the import inspections are carried out, the CPHR requires the use of an official plant health document that was developed for this purpose. In case of risk of spread of HOs, compulsory import inspection checks can be imposed on the relevant plants and plant products. The import regime was revised in 2002 *inter alia* with the introduction of reduced frequency checks under certain conditions, implemented from 1 January 2005.

In case of derogation requests from existing import requirements or prohibitions, the Commission services evaluate whether the plant health situation, the official services, the legal provisions, the control systems and production standards of the requesting TCs meet the EU requirements. An on-the-spot inspection by the Food and Veterinary Office – FVO is often required before the derogation can be considered. A specific system has been established for the introduction or movement of HOs listed in the Directive, for trial or scientific purposes and for work on varietal selections (Directive 2008/61/EC).

[31] Example: coniferous wood and wood packaging material from specific third countries must be debarked and have undergone heat treatment.

The measures in place on imports are evaluated in a specific thematic case study (**Theme 2**).

The Directive regulates the movement within MS of certain plants, plant products and other objects which are potential carriers of HOs of relevance for the entire Community, generally in terms of a high economic importance. The measures apply to certain material, listed in Part A of Annex V of the Directive, which mainly concerns some seeds, plants for planting, some types of wood and a limited number of end products for consumer use. This material is subject to specific conditions governing the control of production that include:

- **Official inspections at the place of production** at the most appropriate time, i.e. during the growing season and immediately after harvest;
- Any producers of this material must be listed in an official register[32]. The authorisation of growers is based on regular inspection of their premises for the presence of HOs by or on behalf of the National Plant Protection Organization (NPPO).
- The material is also to be accompanied by a **plant passport** when moved, which provides evidence that it originates from a registered and officially inspected place of production[33] (this replaces the phytosanitary certificate, used for trade between MS before the establishment of the Single Market).

Further non-discriminatory checks on plants and plant products may be carried out *en route* or at the final destination, and can be targeted where there is earlier evidence of non-compliance.

The measures in place for intra-Community movement of plants and plant products are evaluated in a specific thematic case study (**Theme 3**).

For certain HOs, **protected zones** (PZs) in which these specific organisms do not occur are recognised within the EU. Seed and plants for planting, and some products including wood, coming into these zones must fulfil additional phytosanitary requirements (including the "PZ" plant passport for intra-Community movement). According to the Directive, HOs are considered to be established in an area where they are known to occur if either no official measures have been taken with a view to eradication or such measures have proved, for a period of at least two successive years, to be ineffective; the protected zone status may therefore be lost if the eradication of outbreaks over two years proves to be unsuccessful.

The measures concerning PZs are evaluated in a specific thematic case study (**Theme 4**).

Provisions are in place for **eradication** of listed and non-listed HOs or, where not possible, **containment** (Article 16 of the base Directive); **emergency** measures may be put in place for listed HOs and for new HOs not as yet listed in the Directive.

[32] In accordance with Commission Directives 92/90 EEC and 93/50EC.

[33] Rules for issuing plant passports are laid down in Commission Directive 92/105/EEC, as amended by Commission Directive 2005/ 17/ EC.

The CPHR does not generally cover control measures by means of detailed eradication and management programmes in case of outbreaks with the exception of some organisms harmful to potatoes (and more recently emergency measures for PWN), although such measures may be taken by the MS. When eradication of a regulated HO is not possible, MS are required to take all necessary measures to at least contain it. The scope of the Directive is confined to movements only and does not explicitly cover the eradication of naturally spreading HOs; this has implications for the Community financial assistance provided for the control of these organisms[34], although it may be difficult to distinguish the way in which spread took place as these two factors (natural spread and through movement) often work in combination. Some Council Control Directives (for potato diseases[35]) are linked to the base Directive since they regulate detailed control of HOs of a crop (potato).

In the case of findings of **new non-listed HOs**, MS should carry out a pest risk analysis (PRA). For organisms considered injurious, both the finding itself and the measures taken to eliminate/eradicate the HO should be notified to the Commission by the MS concerned. The Commission discusses the national emergency measures taken by the MS in the Standing Committee on Plant Health (SCPH), with a view to a decision concerning harmonised EU measures; following this, the national measures are either expanded to the EU as a whole (as such or after amendment), or have to be rescinded. EU emergency measures remain in place until rescinded (i.e. HO is eradicated or no longer controllable) or until the HO is included in the Directive.

The control and emergency measures are evaluated in a specific thematic case study, including exemplary evidence from the PWN and *Diabrotica virgifera* experience (**Theme 5**).

A fuller description of the current CPHR provisions is provided per each Theme in **Annex 1**.

2.6 Infrastructure and support activities

No network of EU and National Reference Laboratories (EU - RLs[36]/NRLs) exists in the plant health domain, contrary to the animal health and food safety domain where such laboratories are in place. Binding protocols for diagnostic methods do not exist, with the exception of some harmful organisms of potato for which Control Directives are in place which provide detailed requirements for detection and diagnosis. It should be noted, however, that, for a range of organisms, the EPPO and IPPC have issued standards for diagnostic methods and procedures. As for the advisory function of reference laboratories, the Commission draws upon the expertise of individual scientists and MS NPPO staff.

[34] A strict line is followed for Community financial support to MS expenditures to eradicate and contain HOs. Financial support is not given for eradication of findings that probably resulted from natural spread; for example, the cost of eradication of the first findings of *Diabrotica virgifera* in specific MS was not compensated for by the Commission because the HO had already occurred in a neighbouring MS.

[35] Council Directive 69/464/EEC, Council Directive 93/85/EEC, Council Directive 98/57/EC, and Council Directive 2007/33/EC.

[36] Following the entry into force of the Lisbon Treaty the CRLs (Community Reference Laboratories) are since 1 January 2010 named European Union Reference Laboratories.

The EU has been financing research and development in the plant health field through EC research programmes (currently under FP7). A range of projects are currently funded under this, including PRATIQUE and EUPHRESCO. In addition, there are MS research and development programmes.

2.7 Management procedures and comitology

Before the adoption of the Lisbon Treaty, the legal base for Community action in the plant health area was Article 37 (ex-Article 43) of the Treaty establishing the European Community (TCE) which attributed the legislative power to the Council alone. The basic legislation on plant health currently applicable, i.e. Directive 2000/29/EC, has thus been adopted by the Council acting by qualified majority on proposal of the Commission and after consultation of the European Parliament. In practice the texts were voted in the AGRI section of the Council, assisted in its tasks by the Working Party on Plant Health. In addition, the Working Party of the Chief Officers for Plant Health (COPHs) discusses strategic issues.

The Treaty on the Functioning of the European Union (TFUE) which entered into force on 1st December 2009 modifies the legislative competence in this area. Following Article 43 TFUE which replaced Article 37 TCE, European Parliament and Council act as co-legislator following the ordinary legislative procedure after consultation of the Economic and Social Committee. Any new basic legislative proposal will thus have to be adopted in accordance with Article 289 TFUE by the European Parliament and the Council, on proposal of the Commission.

Directive 2000/29/EC foresees that the Commission adopts implementing measures in accordance with the procedures the laid down in Articles 5 and 7 of Council Decision 1999/468/EC (regulatory procedure). For this work the Commission is assisted by the Standing Committee on Plant Health (SCPH) which is composed of representatives from the MS and chaired by the Commission. According to that procedure, the Commission shall submit to the SCPH a draft of the measures to be taken. The Committee shall deliver an opinion on the measures which can be adopted by the Commission only if the measures envisaged are in accordance with the opinion of the Committee. Where it is not the case, the Commission shall submit a proposal to the Council. The SCPH plays therefore a key role in the decision making process for the development of Community plant health legislation.

The Commission, assisted by the SCPH, has the leading role in monitoring and controlling diseases and pests in the EU. It defined in particular in the Annexes of Directive 2000/29/EC the list of the harmful organisms, plant or plant products whose introduction in the EU, or certain parts of it, is prohibited or subject to specific requirements. It also adopted emergency measures to avoid the spreading and ensure the eradication of certain harmful organisms within the Community when the measures taken by the Member States are, for various reasons, not sufficient.

Since the entry into force of the Treaty of Lisbon on 1 December 2009, Article 290 and Article 291 of the TFEU substantially modify the framework for the implementing powers conferred upon the Commission by the legislator. In particular, the TFEU allows the legislator to delegate to the Commission the power to adopt non-legislative acts of general application

to supplement or amend certain non-essential elements of a legislative act ('delegated acts', Art. 290) and to confer to the Commission powers to adopt implementing acts (Art. 291). Those are subject to different legal frameworks[37]. **The definition of the legal framework to replace the comitology procedure established under the ECT (Art. 202) is currently on going[38]** and it is therefore not possible at the time of redaction of this report to elaborate on it. It appears however that any revision of the Plant Health acquis would require adaptation to these new comitology rules and would entail the need to scrutinize which kind of measures previously adopted through the comitology rules set out in Commission Decision 1999/468/EC, falls into one or the other of the two concerned Articles of the TFUE **[2].**

In terms of EU bilateral and international relations with third countries, at the level of the European Commission several DGs are involved in SPS related issues, but the two main DGs active in this field are DG TRADE and DG SANCO. The responsibilities of the two DGs are distributed as follows:

- DG SANCO covers imports and intra-Community trade and in the case of countries with which bilateral agreements exist, DG SANCO covers all phytosanitary matters in trade (i.e. also exports);
- DG TRADE covers SPS issues in trade, with particular emphasis on EU exports (barriers to EU exports). Exports are the responsibility of individual MS and DG TRADE provides support to MS when trade issues emerge[39].

The Commission (DG SANCO) may be assisted in negotiating and managing SPS agreements with third countries by the MS through the Roosendaal Group(s) under the Working Party on Plant Health[40]. These working groups are kept informed, where relevant, of developments in the negotiations on export problems held in the framework of the WTO-SPS preparatory

[37] The provisions on 'delegated acts' (Art. 290), provide for the legislator to control the exercise of the Commission's powers by means of a right of revocation and/or a right of objection. These provisions do not require any legal binding framework to make them operational. The provisions on 'implementing acts' (Art.291), do not provide any role for the European Parliament and the Council to control the Commission's exercise of implementing powers: such control can only be exercised by MS. A legal framework is required to establish the mechanisms of such control.

[38] As regards the implementation of Art.290, the Commission has set out its views on the scope of delegated acts, the framework of delegation of power and the working methods it intends to use for preparing delegated acts in a Communication to the EP and the Council (COM (2009) 673 of 9 December 2009). As regards the implementation of Art.291, the Commission has submitted a proposal for a Regulation of the EP and the Council laying down the rules and the general principles concerning mechanisms for control by MS of the Commission's exercise of implementing powers (COM (2010) 83 final).

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[39] Although DG TRADE is not directly involved in imports, it is important to demonstrate the system works transparently and efficiently in the interest of reciprocity; when DG TRADE receives complains on EU import issues from third countries, it provides the first point of contact for importers and then refers them to DG SANCO.

[40] There are 5 sub-groups within the Roosendaal Group covering the broad world geographic regions.

Committee and Market Access Advisory Committee. Market access and export issues are handled in the context of such agreements. In case no such agreement exists the market access and export issues are dealt with in the so-called market access working groups managed by DG TRADE. Furthermore market access and export issues are dealt with in the SPS Committee meetings.

2.8 International relations

The CPHR is linked to EU obligations under the World Trade Organization (WTO) Sanitary and Phytosanitary (SPS) Agreement adopted in 1994. For plant health, the WTO-SPS Agreement refers to the standards, guidelines and recommendations developed under the auspices of the International Plant Protection Convention (IPPC), which lays down requirements to contracting parties and their subordinate NPPOs. The EU is a contracting party to both the WTO-SPS (since 1995) and the IPPC (since 2004).

The IPPC has developed a large framework of so-called International Standards for Phytosanitary Measures (ISPMs). These are not legally binding, but contracting parties should base their phytosanitary policy upon them. All EU-27 MS are IPPC Contracting Parties. The Community acceded to the IPPC in 2004.

All MS are also members of the European and Mediterranean Plant Protection Organisation (EPPO), which has developed a large set of standards for phytosanitary measures (see the website of EPPO). The Commission attends some EPPO panels as well as the Phytosanitary Working Party and EPPO Council meetings as observer.

In addition, the EU has a number of bilateral trade and partnership or cooperation agreements with a range of third countries, and in some cases these include phytosanitary aspects.

2.9 EU financial instruments and contribution

Financial contributions by the Community on plant health currently take place in the context of the Solidarity Regime. Costs from public funds to implement eradication and containment measures may be supported financially by the Community on the basis of Articles 22 and 23 of Directive 2000/29/EC. Financial support may also be given for the border control infrastructure on the basis of Article 13.c.5 of the Directive. Costs for growers whose plant material is destroyed are not compensated.

In summary the financial aspects of the current regime are as follows:

i. The system is restricted to costs incurred by governments for phytosanitary actions (mainly costs of inspections and testing, costs of destruction of plants and plant products and of disinfection of production, packaging and storage materials and means of transport) but not financial losses of growers; a possibility to cover such costs has been inserted in the Directive but the legal framework to use it (implementing Regulation) has not been developed;
ii. The Community financial contribution is restricted only to eradication and containment costs related to spreading of harmful organisms caused by movements of plants and plant products (but excluding natural spread);

iii. Annual budgets (on the basis of past expenditure) have been relatively modest, but have been adapted to the needs when necessary, as shown in the case of Pinewood Nematode (PWN).

The financial instruments in use in MS (public compensation to growers, public and private insurance systems, etc.) have been looked at by the evaluation of the Financial Aspects of the CPHR (solidarity regime) undertaken by the FCEC (final report of March 2008). The outcome of this Plant Health – Financial Aspects report has been integrated in the current CPHR evaluation and the analysis has been further developed. It is more specifically noted that since the preparation of the 2008 report the situation has evolved notably due to the fact that intervention requests have increased very considerably compared to the situation reviewed by the previous evaluation. In this context, other more recent developments and mechanisms available at EU level were also examined[41].

A fuller presentation of the financial aspects of the CPHR, including the budget devoted to this sector to date, is provided in **Annex 3**.

In addition to the Solidarity Régime, DG SANCO also manages the phytosanitary dossiers introduced under the POSEIDOM[42] programme (as regards the DOM regions of France) and the POSEIMA[43] programme (as regards Madeira Island and the Azores). Both programmes were originally developed with the objective of bringing the remote and backward economies of the Community closer to the more prosperous continental economies. Plant health is only one area of possible funding under these mechanisms, which are quite large in cope and also cover modernization of infrastructure etc.

Example of dossiers introduced by France under the POSEIDOM programme are as follows:

- a sub-programme drawn up for the department of Martinique in two parts: plant health evaluation and diagnostics by use of the regional laboratory and its mobile unit ("labo vert"), and study of the biodiversity in fruit or vegetable farms;
- a sub-programme drawn up for the department of Guyana in two parts: set up of an agricultural phytosanitary warning system for rice production, and strengthening of the diagnostic capacity by the use of the regional laboratory and its mobile unit ("labo vert");
- a sub-programme drawn up for the department of Guadeloupe in four parts: set up of an survey network for fruit flies, survey and follow-up of the coconut lethal yellowing disease, management of the risk of introduction of harmful organisms by the touristic activity, and bio depollution of soils contaminated by chlordecone and HCH.

[41] It is noted that a new mechanism of financial assistance in cases of economic losses due to plant diseases (among others) is established by Council Regulation (EC) 73/2009 (Council Regulation (EC) no. 73/2009 of 19 January 2009 "*establishing common rules for direct support schemes for farmers under the common agricultural policy and establishing certain support schemes for farmers*"). Art. 70 (1) and 71 define respectively the possibility for MS to grant respectively financial contribution to premiums for plant insurances and to mutual funds. The first may be applied" *against economic losses caused by adverse climatic events and animal or plant diseases or pest infestation*", whereas the latter in cases of "*the outbreak of an animal or plant disease or an environmental incident*". The conditions for such contributions are further specified within the mentioned articles; this mechanism has been in place since January 2010.

[42] Programme d'options spécifiques à l'éloignement et à l'insularité des départements Français

[43] Programme d'options spécifiques à l'éloignement et à l'insularité de Madère et des Açores

3 Evaluation of the performance of the CPHR to date

This section includes the findings of the evaluation with regards to the performance of the CPHR to date. The analysis addresses the Evaluation Questions (EQs), only for the elements of these questions that relate to the past performance of the CPHR. The reader is referred to sections 4 and 5 for the forward looking elements of the EQs.

To ease reference to the text, the following table provides the correspondence of the Evaluation questions (EQs) to the sections of this Report:

Table 3-1 Correspondence of EQs (ToR) to sections of this Report

EQ	Question	Report section
1	*In how far are the **objectives** of the CPHR still met and are they still appropriate?*	3.1.4
2	*Is it desirable to include in the CPHR the control of **natural spread** (not only movement) of harmful organisms (HOs), in the light of the necessary efficacy of the regime?*	3.1.1 (past) 5.1.3 (future)
3	*To what extent would it be desirable/feasible to include **Invasive Alien Species (IAS)** which are not directly injurious to plants or plant products in the scope of the CPHR?*	3.1.2 (past) 5.1.2 (future)
4	*Does the CPHR put appropriate emphasis on **prevention** in general (and what type of additional provisions on prevention might be useful)?*	3.1.4 (past) 5.2 (future: imports) 5.3 (future: intra-EU)
5	*In how far does the **classification of harmful organisms (HOs)** in Directive 2000/29/EC reflect the different objectives of the regime and the priorities as concerns phytosanitary risks, and in how far is reliable information available for appropriate risk assessment / risk management (including data on pest status and scientific data for impact and cost/benefit analysis)?* *(Including views on the appropriate positioning of Regulated Non Quarantine Pests (RNQPs)*	3.2 (past) 5.2 (future: imports) 5.3 (future: intra-EU) 5.1.4 (future: RNQPs)
6	*What provisions exist in Member States (MS) for **general surveillance** for the presence of listed organisms, non-listed organisms, and organisms for which emergency measures are in place, in relation to pest status, and how are they implemented?*	3.3 (past) 5.3 (future)
7	*How is current **import regime** implemented by Member States, how effective is it and what are its critical success factors?*	3.4 (past) 5.2 (future)
8	*How is the current **intra-Community movement regime** implemented by MS, how effective and useful is it and what are its critical success factors? (**Plant Passport system**)*	3.5 (past) 5.5 (future)
9	*How is the current **Protected Zones (PZ) regime** implemented by MS, how effective and useful is it and what are its critical success factors?*	3.6 (past) 5.6 (future)
10	*How are the current provisions for **control and emergency measures** implemented by MS, how effective are they and what are their critical success factors?*	3.7 (past) 5.4 (future) 5.8.4 (future: emergency team)
11	*How is the **Single Authority / Responsible Official Body** concept implemented by MS and does it need to be improved (if so, how)?*	3.10.1
12	*What are the views on the appropriate **sharing of responsibilities***	3.10.1 (past)

EQ	Question	Report section
	*between national authorities and private sector in the implementation*38 *of the CPHR?*	5.7 (future: incentives)
13	*In how far do the **FVO plant health activities** ensure the harmonised implementation of Community provisions by MS and third country compliance?*	3.4 (past) 5.2 (future: imports)
14	*In how far does the **EUROPHYT tool** address the needs for rapid exchange of information on interceptions and provision of statistics? What are its critical success factors and are any changes needed?*	3.4 (past) 5.2 (future: imports)
15	*How effective is the functioning of the CPHR as for **communication and consultation**?*	3.10.4 (past) 5.8.5 (future)
16	*To what extent is the CPHR supported by an appropriate **diagnostic infrastructure**, allowing for rapid and reliable diagnosis of all regulated HOs?*	3.9.2.1 (past) 5.8.2 (future)
17	*What would be the pros and cons of CRLs?*	3.4 (past) 5.2 (future)
18	*In how far have the CPHR requirements for appropriate **training** of MS plant health inspectors and diagnosticians been met and how can this be improved?*	3.9.2.2 (past) 5.8.3 (future)
19	*In how far is the CPHR adequately supported by **research and development**?*	3.9.1 (past)
20	*In how far is the CPHR appropriately connected and appropriately coordinated with **related Community regimes**?*	3.12
21	*In how far has the CPHR **successfully prevented the entry, establishment and spread of HOs** and what were the social, economic and environmental **impacts**?*	3.11.1 (past) 5.2 (future)
22	*What are the **costs and benefits** of the CPHR?*	3.11 (past) 5.2 (future)
23	*What are the major **strengths and weaknesses, opportunities and threats** of the CPHR, based on the conclusions of all previous questions, and which areas of improvement can be identified?*	4.1.1
24	*In how far is the CPHR suitable to mitigate risks of **future challenges**, in particular the control of new HOs reaching or spreading in the Community as a consequence of climate change?*	4.1.2
25	*Which **IPPC guidelines** and **WTO-SPS rules** should be better taken into account in the CPHR?*	4.2.1
26	*What economic impacts do any differences in standards between EU producers and **key international trading partners** have on Community trade, and is there a need that EU societal concerns and legitimate factors would be better reflected in the implementation of international and bilateral rules?*	4.2.2
27	*How many financial resources should be mobilised and are the necessary **financial instruments** for the CPHR in place? Is Community financing of the CPHR justified?*	2.9 (past) 5.9 (future)
28	*What **options** exist to strengthen and modernise the CPHR, so as to better reach its objectives and serve the needs of society? Where is simplification possible, which areas need more harmonisation, and how can this be achieved?*	Options developed, presented and analysed in section 5

3.1 Scope of the CPHR

As discussed in the reference model, the current CPHR includes invasive alien species (IAS) only insofar as they are directly – rather than indirectly - harmful to plants and plant products. It is also limited to spread through movement, thereby excluding natural spread in terms of financial compensation to those bearing the costs of outbreaks and control measures.

The analysis below presents in more detail the current state of play with regards to the extent to which the CPHR - as it currently stands and is currently implemented - covers the control of natural spread and IAS, in order to address EQ 2 and EQ 3.

The evaluation has identified the need to work with standardised, ideally international agreed, definitions for key terms used in plant health policy. This includes notably the terms 'Harmful Organisms' (HOs) (referred to in international standards as pests, quarantine and non quarantine, regulated or non regulated), 'Invasive Alien Species' (IAS), 'natural spread', 'outbreaks' and 'new findings'. The current lack of a common understanding concerning these definitions is discussed in the relevant sections of this Report.

3.1.1 Natural spread

EQ2 addresses the extent to which it would be desirable to include the control of natural spread of harmful organisms (HOs) in the scope of the CPHR. The control of 'natural spread' in this context refers to the extent to which current measures are suitable for controlling the presence and not only the man-assisted movement of HOs.

A subsidiary question to EQ2 is to clarify the extent to which the CPHR intervention logic is also suited for control of HOs in public green, forests and natural habitats (including Natura 2000 sites), in addition to agriculture and horticulture. This question relates also to the extent to which Invasive Alien Species are included in the scope of the CPHR, which is explored further in the following section 3.1.2**Error! Reference source not found.**.

3.1.1.1 Inclusion of natural spread in CPHR scope

The evaluation has found that the current legislation is not explicit on whether natural spread is or is not included in the CPHR regime, leading to considerable confusion and divergence in interpretation amongst MS and stakeholders.

Several elements lead to the conclusion that natural spread is included in the scope of Directive 2000/29/EC (the base Directive), as follows:

- Article 16(1) of the base Directive indicates that "*each Member State shall immediately notify [...] of the presence in its territory of any harmful organisms listed in Annex I, Part A, Section I or Annex II, Part A, Section I or of the appearance in part of its territory in which their presence was previously unknown [...]. It shall take all necessary measures to eradicate, or if that is impossible, inhibit the spread of the harmful organisms concerned*".

Article 16(2) indicates that "*these measures must, inter alia, be such as to prevent risk of the spread of the harmful organism concerned [...]*". The evaluation has found that MS interpret these articles differently, with some MS considering that they introduce the concept of natural spread within the Directive. In their opinion, according to these articles, any outbreak of a HO has to be eradicated and not only those that originate from the movement of plants and plant products so that the eradication obligation also applies to the case of a new outbreak based on natural spread.

- The management of the PWN outbreak in Portugal and the recurrent approval of solidarity funding for its eradication are *de facto* indicating that natural spread is integrated in the legislation. Solidarity funding has been granted based on the appearance of new outbreaks but most of the parties met during the evaluation for this case have acknowledged that these new outbreaks were due to the natural spread of the pest from the original outbreak areas. Additionally, the clear cut belt, i.e. the control measure taken for the containment of PWN which was co-financed by the solidarity regime, specifically targeted natural spread.

Several elements may lead to the conclusion that natural spread is not included in the scope of Directive 2000/29/EC (the base Directive), as follows:

- Originally the base Directive was designed to address the trade and movement of plants and plants products as indicated in Article 1(a) as follows: "*The Directive concerns protective measures against the introduction into the MS [...]. It also concerns [...] protective measures against the spread of harmful organisms within the Community by means related to movements of plants, plant products and other related objects within a Member State"*. Trade was considered to be, and still is as is indicated in section 3.43.4, the basic pathway of introduction of HOs in the EU.
- According to the rules of the solidarity regime (Article 23 of the base Directive), outbreaks of HOs that are based on natural spread are currently not considered to be eligible for solidarity funding. The justification for the current exclusion of natural spread lies in the basic principle of the solidarity regime, according to which a MS may receive solidarity funding on the condition that it is not responsible for the appearance of the HO on its territory. However, determining the responsibility or otherwise of a MS is a complex process.
- In the absence of an internationally recognised or commonly acknowledged definition, the 'natural spread' concept could in fact have many interpretations. "Spread" is being defined by the IPPC as "*Expansion of the geographical distribution of a pest within an area*[44]", but "natural spread" is not defined, as the IPPC does not refer to the natural spread concept in its Convention. In practice, a range of interpretations are possible, from spread through natural means (e.g. through natural phenomena) to man-assisted but unintended spread (e.g. through the movement of people or goods).

The main arguments formulated by survey respondents and interviewees against the inclusion of natural spread are as follows:

[44] ISPM No. 5: Glossary of phytosanitary terms.

- HOs which have a high potential of natural spread (i.e. spread by means other than man-assisted movement) are in practice sometimes impossible to eradicate and will sooner or later become widely established. The higher the capacity of a pest to spread naturally the less effective control measures will be (this also makes the case for early prevention and reaction particularly important for such HOs);
- Natural spread cannot be regulated as responsibility/liability may not be easy to establish. Difficulties in defining '*natural*' spread, distinguishing natural spread from spread by movement, and assigning responsibility make the inclusion of natural spread in the provisions of the current Directive complex if not impossible; on the other hand, it can be argued that the difficulties to judge on responsibility/liability should be a reason to include natural spread, not the opposite.
- There is also concern that inclusion might dilute the focus and efficacy of the current measures on controls of movement.

With respect to the exclusion of natural spread in the solidarity regime, it should be noted that there is a strong interaction between the natural spread and movement of plants which in practice makes the distinction of causal effects on plant health difficult. This has implications for assigning responsibility in the current regime. To date two elements are being used to assess the non-responsibility of the MS for approving solidarity payments: the "identification of the source of contamination" and, when the source of contamination is not known, "the non-introduction of the HO by natural spread". Making a judgement on whether natural spread has occurred or not is quite simple when the origin of contamination is well identified. It is far more complicated when such origin is not known. For instance, the French and Belgian *Diabrotica* solidarity dossiers in 2003 and 2004 were easily assessed as eligible because they were clear cases of introduction through airports, whereas the Austrian *Diabrotica* dossier introduced in 2003 was considered as non eligible because "*there was a strong probability of natural dissemination because the findings are close to the border between Austria and Slovakia, where the pest has already been found*"[45].

Evidence from the past decade, confirmed by the general survey results, suggests that the incidence of natural spread is considered to be an increasing problem, particularly in the context of climate change and expanding trade for any type of production areas and mainly forestry and agriculture but also for the environment (Q1.2).

General survey results

Q1.2.a, b Extent to which natural spread is currently perceived as a problem, within and/or across MS

25 out of 26 MS CAs and 31 out of 34 stakeholders perceive natural spread to be a problem (at least partly) (0 MS CAs and 2 stakeholders do not know). Respectively 22 and 25 of them consider that it is a problem within and across MS.

Q 1.2.c Extent to which natural spread is perceived as being more a problem than in the past

21 out of 26 MS CAs and 23 out of 34 stakeholders perceive natural spread as being more a problem than in the past. (1 MS CA and 9 stakeholders do not know).

Q1.2.d Extent to which there is an increased incidence of natural spread

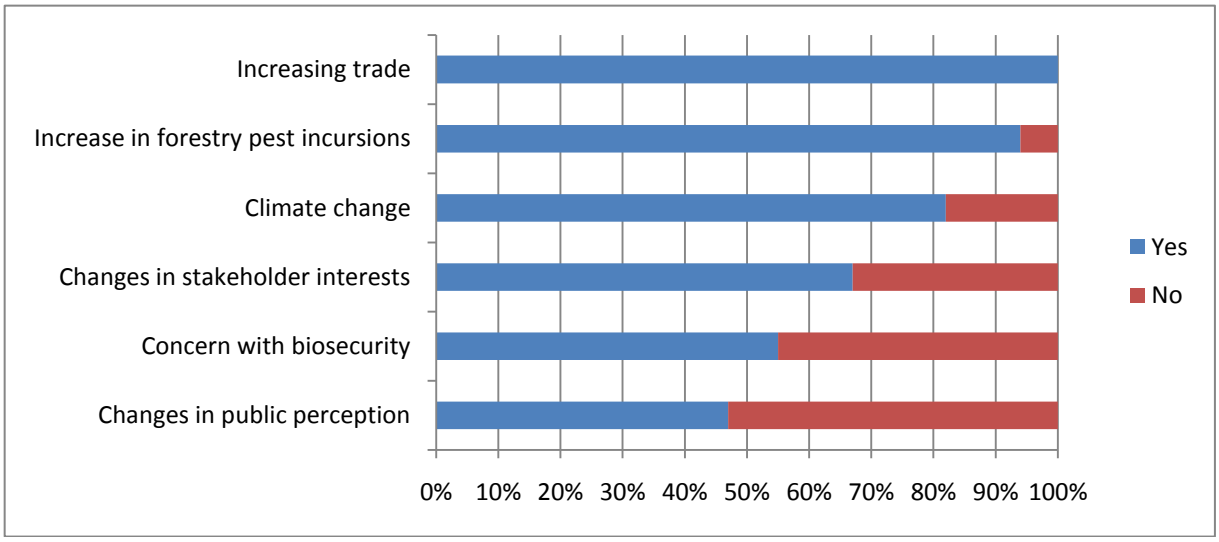
21 out of 26 MS CAs and 22 out of 34 stakeholders consider that there is an increased incidence of natural spread (2 MS CAs and 8 stakeholders do not know)

[45] EC Working Group 'Solidarity' dossiers examination 22-23 April 2003

Q1.2.e Reasons explaining the increased incidence of natural spread		
Reasons	**MS CAs**	**Stakeholders**
Increasing trade	23 out of 25 (2 do not know)	30 out of 32 (2 do not know)
Climate change	18 out of 25 (3 do not know)	26 out of 33 (5 do not know)
Increase in forestry pest incursions	15 out of 25 (9 do not know)	12 out of 29 (17 do not know)
Changes in stakeholder interests	10 out of 25 (10 do not know)	6 out of 29 (15 do not know)
Change in public perception	7 out of 25 (10 do not know)	4 out of 28 (14 do not know)
Concern with biosecurity	6 out of 25 (14 do not know)	11 out of 28 (11 do not know)

According to MS CAs, the increase in trade comes first in explaining the increased incidence of natural spread, followed by the increase in forestry pest incursions, and climate change:

Figure 3-1: Main reasons explaining the increased incidence of natural spread



Note: Based on responses of MS CAs to Q1.2.e of the general survey

Source: FCEC based on general survey results

Global warming has the potential to alter the patterns and scale of natural spread in the EU. The effects of climate change are already seen in the way it is affecting cropping systems and natural vegetation such as forests and non-cultivated areas[46]. On the one hand, it can be anticipated that HOs already present in the EU will move further from the south to the north of the EU creating new issues in Nordic countries. Currently the pressure on agriculture and

[46] There is a wealth of literature on the subject. For example: Impacts of Europe's changing climate - 2008 indicator-based assessment. European Environment Agency Report (EEA Report No 4/2008). The report presents past and projected climate change and impacts in Europe by means of about 40 indicators and identifies sectors and regions most vulnerable with a high need for adaptation, including agriculture and forestry. Also: Climate change impacts on forest health (Beverly Moore & Gillian Allard, Working Paper FBS/34E FAO, Rome, November 2008). Earlier literature includes the Intergovernmental Panel on Climate Change (IPCC): Climate Change 2007: Synthesis Report (Cambridge University Press, 2007).

forestry from insect pests and insect-borne diseases is less important at higher latitudes, owing to the less favourable conditions. On the other hand, new pests are expected to be introduced via natural spread from the North of Africa and Middle East as the modified climate is becoming favourable to this spread[47].

Additionally, under changing climatic conditions, some organisms may reach a higher population level and possibly start to naturally spread as climatic conditions become more favourable. These effects are increasingly evident around the world, with weather patterns becoming an excellent predictive model for pest patterns, especially in cases of extreme climatic events, e.g. strong co-relation between the El Nino cycle and pest numbers are evident in newly emerging studies[48].

Therefore along with modifications of trade patterns (new supply chains, multiplication of origins of plants and plant products, more exotic species, etc.), which are considered to be the main pathway for the introduction of HOs and invasive species, global warming plays a complementary role being the other important "driver of change" affecting both the incidence and severity of plant diseases[49].

In terms of the sectors most affected by natural spread, both MS CAs and stakeholders (respondents) to the general survey consider that the damages caused by natural spread of regulated HOs are more important in forestry followed closely by agriculture, public and private garden and horticulture. Aquaculture seems not to be as highly affected by this problem (or perhaps awareness is lower), although certain interviewees and some literature point to certain impacts of natural spread in relation to IAS aquatic plants.

General survey results
Q1.2.f Importance of the damage caused by natural spread of regulated HOs in the following sectors:

Areas	MS-CA	Stakeholders
Forestry	Out of 25: 16 'high' and 4 'medium' answers (2 do not know)	Out of 30: 9 'high' and 5 'medium' answers (14 do not know)
Agriculture	Out of 25: 15 'high' and 6 'medium' answers (1 do not know)	Out of 29: 5 'high' and 10 'medium' answers (12 do not know)

[47] A number of presentations on this were made at the Conference organised under the CPHR evaluation: ***Modernising the plant health regime in view of globalisation and climate change*** (23/24 February 2010, Brussels). For example: Plant health threats to agriculture from globalisation and climate change (Mike Jeger and Marco Pautasso, Imperial College London); Forestry health threats from globalisation and climate change (Gillian Allard, Forestry Officer (Protection and Health) Forest Assessment, Management and Conservation Division, Forest Management Team Forestry Department, FAO).

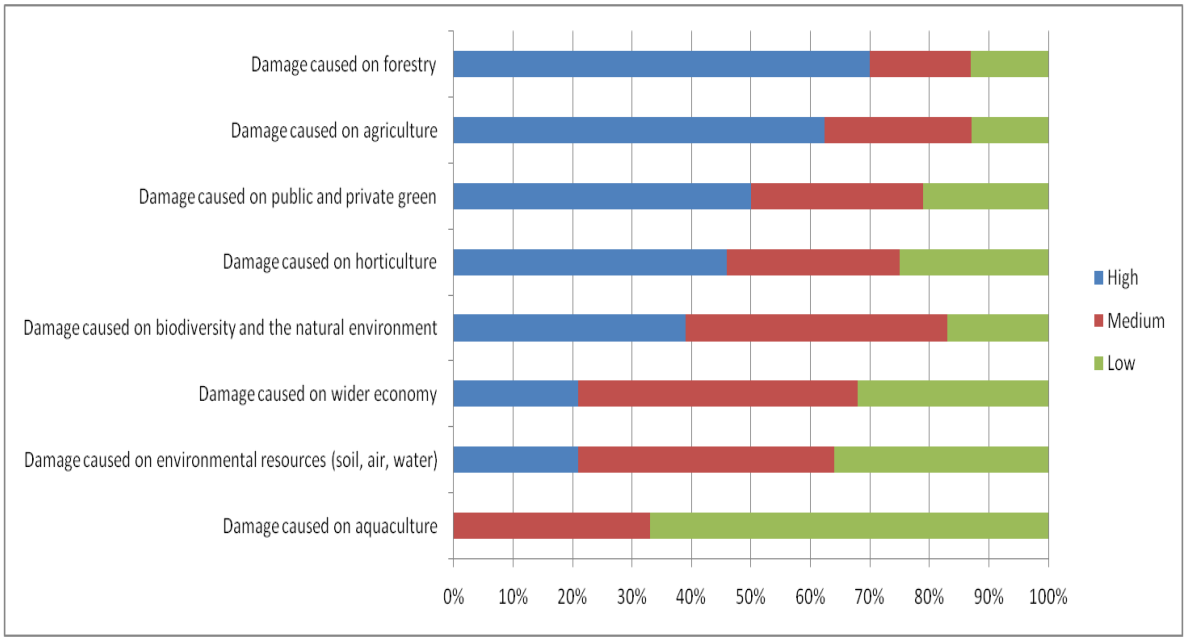
[48] World Bank/World Trade Organisation Workshop: Climate Change and Agricultural Trade: Risks and Responses, Washington, 22-23 September 2009. This workshop was financed by the Standards and Trade Development Facility of the WTO and was aimed primarily at identifying the risks and threats to trade and development arising from climate change. Conference participants concluded that climate change is a reality and the scientific evidence is now judged to be conclusive by the multilateral agencies, and there is commitment to review and adapt their policies accordingly to both promote mitigating actions and help confine the rise in global temperatures to tolerable levels.

[49] COMMISSION STAFF WORKING DOCUMENT *Accompanying document to the* WHITE PAPER: Adapting to climate change: Towards a European framework for action *Human, Animal and Plant Health Impacts of Climate Change* {COM(2009) 147 final}

Areas	MS-CA	Stakeholders
Public and private gardens	Out of 25: 12 'high' and 7 'medium' answers (1 do not know)	Out of 29: 5 'high' and 3 'medium' answers (18 do not know)
Horticulture	Out of 25: 11 'high' and 7 'medium' answers (1 do not know)	Out of 31: 7 'high' and 8 'medium' answers (11 do not know)
Biodiversity and natural environment	Out of 25: 7 'high' and 8 'medium' answers (6 do not know)	Out of 29: 5 'high' and 4 'medium' answers (17 do not know)
Wider economy	Out of 25: 4 'high' and 9 'medium' answers (6 do not know)	Out of 29: 2 'high' and 7 'medium' answers (16 do not know)
Environmental resources (soil, air, water)	Out of 25: 3 'high' and 6 'medium' answers (11 do not know)	Out of 28: 4 'high' and 1 'medium' answers (19 do not know)
Aquaculture	Out of 25: 0 'high' and 2 'medium' answers (18 do not know)	Out of 29: 5 'high' and 1 'medium' answers (23 do not know)
Note: answers were given in terms of low-medium-high		

MS CA and stakeholder response to these questions may be explained by the fact that major plant health issues in the last ten years have been *Diabrotica virgifera* on maize, PWN on pine trees and *Erwinia amylovora* on fruit plants and ornamentals, which all have a significant capacity to spread naturally. A minority of MS CAs and stakeholders have indicated that the damage caused to biodiversity and the natural environment is high.

Figure 3-2: Importance of the damage caused by natural spread of regulated HOs in different sectors



Note: Based on responses of MS CAs to Q1.2.f of the general survey

Source: FCEC based on general survey results

Consequently, the vast majority of MS CAs consider that the scope of the regime should expand to include a more active prevention of natural spread; a weaker majority of stakeholders are in favour of this approach.

General survey results

Q1.4. Expand scope to include a more active prevention of natural spread

23 out of 26 MS CAs and 15 out of 32 stakeholders consider that the scope of the CPHR should expand to include a more active prevention of natural spread (1 MS CA and 7 stakeholders do not know)

The main argument for more explicitly including natural spread in the CPHR is that the ultimate goal of the regime should be to try to eradicate any case of introduction of HO as early and quickly as possible, whatever the cause of introduction (movement or natural spread). Past experience in the agriculture and horticulture sectors has shown that the CPHR has not been fully effective in some cases because it has generally excluded natural spread from its provisions in relation to surveillance, management and financial assistance.

The evaluation of the Solidarity Regime, conducted by FCEC in 2007, indicated that "*the Diabrotica example shows the limits of using the criteria 'non-introduction of the harmful organism by natural spread' "* and led to the conclusion that it would be preferable to include cases of natural spread in the solidarity regime but to limit these to cases when eradication/containment is *"technically"* possible and brings clear benefits to the plant health status, the environment and/or the economy in the EU. These cases could concern natural spread within a MS and from one MS to another, to prevent an outbreak in a given MS from naturally spreading to a neighbouring MS, or to reduce the risk of such spread.

The above conclusions of the solidarity evaluation have generally been confirmed by MS CAs during the survey and the field visits, with strong arguments for considering the inclusion of natural spread on a case by case basis, i.e. where it is considered that effective management of natural spread is technically, financially and administratively feasible. In their opinion, this would imply that appropriate criteria and conditions are established to ensure that measures are well targeted, proportionate, and could not lead to adverse or perverse incentives by undermining the importance of assigning responsibility to the actions of the private operators and authorities involved in the system. That would also require the clarification of the definition of '*natural*', since, as has been indicated above, a range of interpretations are possible, from spread through natural means (e.g. through natural phenomena) to man-assisted but unintended spread (e.g. through the movement of people or goods).

Technically, as discussed in the previous section, the distinction between natural spread and spread by means of man-assisted movement, particularly when both factors are strongly present (e.g. *Diabrotica virgifera*), is questionable due to their strong interaction. Furthermore, technically speaking, the phenomenon of natural spread is inherent by definition to any pest[50]. This makes the focus of current control measures (covered by solidarity

[50] As quoted in ISPM 2, when conducting Stage 1 of a PRA, some intrinsic attributes that may indicate whether an organism is a pest include: high rate of propagation; and, high mobility of propagules. Determination of an organism as a pest requires that 'it should at least have been shown to be [... ...] transmissible or able to disperse'.

payments) exclusively on 'man-assisted' movement inappropriate and even unsustainable in the long term.

It is noted that ISPM 2 prescribes pest risk analysis whatever the pathway of pest introduction or spread, and at the final stage of the PRA (Stage 3: Pest risk management) foresees that phytosanitary measures are only justified if the pest risk is considered not acceptable and the measures are feasible ("*whether appropriate phytosanitary measures adequate to reduce the pest risk to an acceptable level are available, cost-effective and feasible*"). This may, on a case-by-case basis, include measures to address natural spread[51].

3.1.1.2 Suitability of CPHR intervention logic for forestry, public green and natural habitats

The appropriateness of the current CPHR intervention logic to address the control of HOs in public green, forests and natural habitats (sub-question of EQ2) is an issue which goes beyond the debate on whether or not natural spread as such is - or should be explicitly - included in the scope of the plant health regime. It also concerns, for example, the consideration of inclusion of invasive alien species (IAS) in the scope of the plant health regime, since IAS generally impact on the natural environment (see sections 3.1.1.2 and 5.1.2).
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The vast majority of MS CAs consider that, during the last 15 years, the CPHR has only partly addressed the objective of safeguarding the natural environment, while the damage caused by natural spread of regulated HOs (listed and non-listed) to forestry and public green is considered to be high (results to EQ 1.4 of general survey and graph above). The stakeholders' general position, when considering in particular the affected stakeholders in these sectors, is equally strong.

It appears that, at its origin, the fundamental principles and objectives on which the current CPHR intervention logic is based are designed for the sectors of agriculture and horticulture. In practice, in its current legal form, the Directive aims primarily at protecting commercial products and at acting at all levels to protect these products in trade. For instance, the protection of maize crops against *Diabrotica virgifera virgifera* is limited to the perimeter of the maize field; in the case of PWN, actions outside the affected areas have to be taken to support the protection of non-affected areas.

Nonetheless, it is also clear that, although the CPHR was originally not intended for forestry and public green, the regime has always listed pests of potential impact on forests and natural green. In principle, the overall aim and approach of the regime applies across all sectors: listing of non-EU HOs prevents their entry into the EU and protects not only agriculture but also EU forests and natural green against potentially high damages. It is noted that third countries similarly regulate HOs impacting on forests and public green.

While the overall aim of the regime is the same across all sectors, the selection of appropriate measures and objectives to ensure this aim can vary between sectors.

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[51] ISPM 2, PRA Stage 3: "*Phytosanitary measures are not justified if the pest risk is considered acceptable or if they are not feasible (e.g. as may be the case with natural spread).*"

The key issue here is the appropriateness of measures to address the introduction and spread of HOs in each case and for each sector. While full-scale eradication may be the most appropriate course of action (depending also on the phase of the outbreak) to effectively address the introduction and spread of pests in agriculture and horticulture, applying similar measures in forests and public green may or may not - on balance - have positive effects. For example, if measures require the large scale felling of trees, this can cause substantial damage which undermines and is incoherent not only with environmental sustainability objectives but also with phytosanitary objectives longer term (e.g. weakened habitats accentuate the potential impacts of new or re-emerging phytosanitary risks). However, this measure may be deemed necessary for effectively addressing a pest, especially at the early stages of an outbreak, in which case it serves both phytosanitary and environmental objectives.

The decision on whether or not to proceed to, and in later stages to continue with, any course of action will depend on consideration of potential costs and benefits (including economic, environmental and social impacts) of the action against alternatives; this will ultimately determine the feasibility, but also the acceptability of the action. For example, in the case of forests and public green, the eradication objective may need to be pursued immediately and at a sufficient scale to be effective at the start, but may need to be timely replaced by containment when eradication is no longer feasible but the rest of the EU still requires protection (e.g. PWN). Failure to implement in a complete and timely manner eradication or containment measures will threaten the effectiveness of these measures and put at risk the health of EU forests, with potentially substantial damages for the EU as a whole. On the other hand, continuation of drastic eradication measures (in particular large scale clear cuts) where these may no longer be effective can also cause very serious and unnecessary damage to the environment and biodiversity, particularly in Natura 2000 areas, and their timely replacement by containment measures is necessary is such cases. Where natural spread is a major factor and this renders even containment not feasible, deregulation may be inevitable; in such a case, standard pest management practices including damage threshold levels will apply.

From the very start therefore, deciding on the regulation of such pests requires consideration of whether the potential impact of the pest warrants quarantine regulation (i.e. requiring drastic measures for outbreaks), or could be managed with a systemic approach with damage thresholds (= outside the CPHR). Such decisions need to involve close coordination between plant health and environment protection policy makers.

In practice, past experience has shown that MS have consistently demanded rapid and strict action at EU level against certain forest pests (e.g. PWN and Anoplophora), which indicates the need to be able to address non-EU HOs affecting forests and public green through the CPHR.

While technically the feasibility of one or another course of action may be unequivocal, the final decision will depend on political considerations of the need to take action at Commission level versus MS subsidiarity. Indeed, listing non-EU forestry pests in Annex I.A.I of Directive 2000/29/EC is relatively straightforward if technically justified, but developing binding contingency plans or emergency measures for outbreaks of such HOs (even more so, control

measures) will need careful coordination between the competent Commission Services and between the Commission and the MS.

3.1.1.3 Conclusions

Inclusion of natural spread in CPHR scope: the current legislation is not explicit on 'natural spread' (as opposed to man-assisted spread), leading to considerable confusion and divergence in interpretation amongst MS and stakeholders. From the review of the CPHR legislation, natural spread is covered by Directive 2000/29 in Article 16 which requires measures to deal with spread; however, Article 23 explicitly excludes natural spread from eligibility for solidarity funding, and past experience has shown the shortcomings of this approach in effectively targeting pests at the start of an outbreak (e.g. *Diabrotica virgifera*). Technically, the strong interaction between the natural spread and movement of plants, and the fact that natural spread is an inherent characteristic of any pest, make the distinction of causal effects on plant health questionable; ISPM 2 includes consideration of natural spread where the pest risk is considered not acceptable and phytosanitary measures are feasible. Therefore, there is need for clarification of CPHR rules on natural spread. The potential longer term effects of climate change on altering patterns of natural spread of HOs in the EU need also to be taken into account. In view of these conclusions, options for the explicit inclusion of natural spread in the CPHR are explored further in section 5.1.3

Suitability of CPHR intervention logic for forestry, public green and natural habitats: the appropriateness of the CPHR to address the control of HOs in these sectors is an issue which goes beyond the clarification of the provisions on natural spread as such. Principally, the CPHR should continue to provide protection against non-EU HOs in these sectors as is currently already the case, and as is the practice in the plant health legislation of third countries. Deciding on the best course of action in case of outbreaks of regulated non-EU HOs in EU forests, public green or natural habitats (e.g. PWN and Anoplophora), however, requires consideration on a case by case basis of whether the potential impact (economic, environmental and social) of the pest in these sectors continues to warrant drastic measures under quarantine regulation (= CPHR) when initial eradication fails. Such decisions may be ultimately political (Commission action vs MS subsidiarity) and need to involve close coordination between plant health and environment protection policy makers.

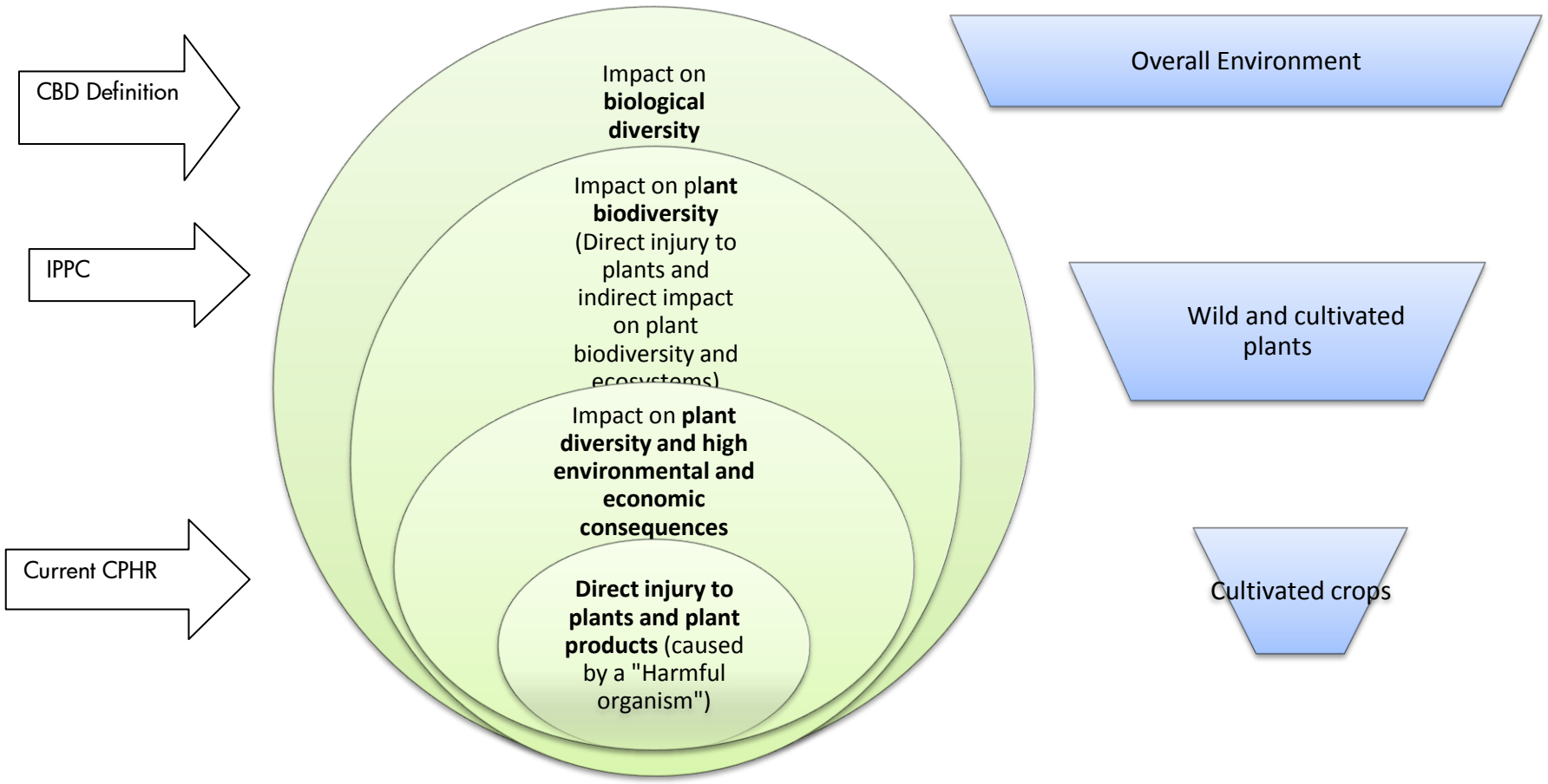
3.1.2 IAS

EQ3 addresses the extent to which it would be desirable or feasible to include Invasive Alien Species (IAS) not directly injurious to plants or plant products in the scope of the CPHR. As such, this question concerns the future plant health policy and is therefore being examined further in the context of future options in section 5 of this Report. To enable the analysis of future options on the inclusion of IAS, the evaluators have assessed the extent to which the current CPHR and its implementation have covered aspects of IAS, as well as the more general approach on IAS management currently followed in an international context.

Both from the general survey and during the interviews and MS visits, it emerged that there is currently lack of common understanding, leading to considerable confusion, on both the definition of IAS and the extent to which IAS are currently covered by the scope of the Directive. There are therefore extensive calls for clarification of the CPHR on this issue.

The coverage of IAS by the current CPHR and its positioning within the wider scope of IAS definitions provided by the Convention on Biological Diversity (CBD) are depicted in the figure below.

Figure 3-3: Definitions of potential scope and impact of CPHR[52]



[52] The graph represents the inclusion of IAS in CPHR broadly as it stands today in the legislation; in practice, the approach for the protection of the natural environment may be wider, as the case of PWN has demonstrated.

3.1.2.1 Current EU and MS approach to IAS

The vast majority of regulated HOs (i.e. listed in Directive 2000/29/EC) are IAS in the sense that they do not occur as yet in the EU (Annexes I.A.I and II.A.I) or they entered the EU and spread in the EU in the past (Annexes I.A.II and II.A.II).

The defining characteristic of IAS, according to the CBD definition, is their wider environmental impact on ecosystems[53]. Historically, this has been considered as an indirect impact for the purposes of Directive 2000/29/EC, which has focussed on HOs causing direct injury to plants and plant products where the direct economic impact (to commercial crops) could be clearly established, and thus making a distinction with the concept of indirect impact (e.g. impact of weeds on crops through competition, such as *Cyperus esculentus*). It is noted, however, that the definition of HO in the Directive does not distinguish between direct and indirect impacts[54].

In recent years, the focus of the Directive has been shifting to consideration of indirect impacts due to major pest incursions that have had significant indirect, non-commercial or purely environmental impacts. In practice, many regulated pests already listed in the Directive (recent examples include *Anoplophora spp*., *Phytophthora Ramorum)* include consideration of wider environmental impacts. To some extent, therefore, it appears that *de facto* the implementation of the Directive in recent years has partially covered IAS in this definition. It is also noted that consideration of indirect effects and wider environmental impacts are included in the formal remit of PRAs according to the IPPC guidelines. This is further pursued in the guidelines developed by the EFSA Panel on Plant Health[55], although work is currently ongoing to develop a harmonised approach for the distinction between direct and indirect impacts and the identification of the range of impacts under each category[56].

At the same time, it is noted that both in the European and the international policy context there have been some significant developments in the consideration of IAS, which need to be taken into account in the future EU plant health regime.

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[53] According to the CBD definition, invasive alien species (IAS) are non-native species whose introduction and/or spread outside their natural past or present ranges poses a threat to biodiversity (ecosystems, habitats or species) (Article 8(h) and decision VI/23 of the CBD).

[54] Article 2.1(c): *harmful organisms* shall be considered to mean: any species, strain or biotype of plant, animal or pathogenic agent injurious to plants or plant products.

[55] The Panel assesses potential direct and indirect consequences of entry, establishment and spread of pests on all affected plant species as well as environmental consequences. Harmonised approach is needed in (i) distinguishing between direct and indirect impacts of pests, (ii) identifying the range of direct and indirect impacts, (iii) defining data requirements for their evaluation and (iv) incorporating these impacts into the overall characterization of the risk of a plant pest. EFSA Panel on Plant Health (PLH), Scientific Opinion: Guidance on a harmonised framework for pest risk assessment and the identification and evaluation of pest risk management options by EFSA. EFSA Journal 2010; 8(2):1495, February 2010.

[56] These aspects are inter-alia the subject of on-going projects funded both by EFSA and the European Commission (PRASSIS and PRATIQUE, respectively).

Within the EU, since 2003, the development of a European Strategy on IAS has been coordinated by the Bern Convention[57]. Following this work, the development of Community legislation for Invasive Species (IS) is currently under way, in particular COM(2008)789final[58] and the background impact assessment[59], and its follow up in the context of the Council Conclusions of 25 June 2009, the opinions of the European Economic and Social Committee of 11 June 2009 and 22 June 2009, and the Recommendations and assessments of policy options of the IEEP. A new strategy aiming at preventing the entry, establishment and spread of IS is to be developed by the Commission in 2011 and MS and stakeholders will be invited to provide their views during its development.

One of the options examined in this context[60] is maximising the use of existing legal instruments (together with voluntary measures), and adapting existing legislation (including Directive 2000/29/EC). Another option being examined is developing a comprehensive dedicated EU legal instrument, although this could be considered as a complementary instrument (to cover the wider range of IS).

The definition pursued in the Commission's IS strategy covers the entire spectrum of invasive species following the CBD definition (i.e. any impact in terms of biodiversity), whereas the required clarification of plant health rules on IAS concerns a relatively narrow category within this spectrum. It would appear therefore that complementary legislation to cover the full spectrum of IS might be needed, in which case it is important to ensure that any other Community legislation touching on IAS (such as a clarified scope for Directive 2000/29/EC) and such broader legislation should be consistent with each other. Several MS have already expressed the view at COPHs meetings that IAS included in the scope of the IPPC should be covered by the CPHR rather than being left only to IS specific legislation. Close coordination between DG ENV and DG SANCO is therefore required on this to ensure coherence and complementarity and to avoid any potential duplication.

The development of a European Strategy on IAS will aim at filling the gaps and establishing a common approach in the EU, where despite the coordination efforts since 2003 under the Bern Convention, there is considerable variation between MS in the regulatory approach to IAS.

[57] The Bern Convention (Convention on the Conservation of European Wildlife and Natural Habitats) created in 1992 a specialised "*Group of Experts on Invasive Alien Species*". The group collected and analysed different national laws dealing with invasive species and proposed work aimed at the harmonisation of national regulations on introduced species, particularly on the fields of definitions, territorial scope of regulation, listing of species whose introduction is undesirable, identification of authorities responsible for permits, conditions for issuing such permits and control involved. One of the main products of the Group was the **European Strategy on IAS** (Convention Standing Committee 23rd meeting, Strasbourg, December 2003T-PVS (2003) 7 revised).

[58] Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions towards an EU strategy on Invasive Species, Brussels, 3.12.2008, COM(2008) 789 final.

[59] SEC(2008) 2887, Brussels, 3.12.2008.

[60] An external study to examine the options has been recently launched by DG ENV (January 2010).

According to the technical studies conducted in the framework of the EU Strategy on IAS[61], several MS have developed or are in the process of developing a national action plan on IAS (by late 2008, 13 out of 27 MS were engaged in this process), but there is a multitude of provisions in place regarding national/sub-national regulation of IAS trade and movement of known high risk species, as well as significant variation in the scope of the measures, funding (including on research, scientific support and risk assessment capacity), administrative roles and responsibilities, and the knowledge base on IAS (e.g. species inventories are largely national and interoperability is limited)[62]. As a result, some MS are adopting measures, even with limited scientific backing, while others are not, leading to significant incoherence in objectives (e.g. several cases were noted where trade in known high-risk species was banned in one country/ region but not in neighbouring ones). The present evaluation has found that these shortcomings continue to be a cause of concern both amongst MS NPPOs and amongst stakeholders.

This evaluation has also identified the need to motivate and involve the wider public in the appreciation of the threats posed by IAS and effective management measures. This is a significant task, as visibility of the issue remains low amongst the wider public, confirming the findings of earlier studies[63]. Nonetheless, the results of a web-based public consultation carried out by the Commission in May 2008[64] indicate that respondents are in favour of action at EU level, and the regulation of trade is considered necessary in order to prevent new introductions of IAS.

3.1.2.2 International approach to IAS

At a more international level, the EU/MS are signatories to a number of international agreements touching on IAS, including the IPPC (to which reference is made under the WTO Agreement on SPS), the WTO-SPS, and the CBD[65].

Since 1997, revisions to the IPPC have included clarification on the scope with regards to IAS: *"the definition of pest was adopted with the understanding that the term injurious includes both*

[61] Shine et al. (2009)
[62] The significant contribution made by EU research funding to improve the knowledge base is noted, including the projects DAISIE and PRATIQUE.
[63] E.g. a scoping study carried out for the EU Biodiversity Communication Campaign 2008-2010 found that only 2% of general public respondents thought that IAS were an important threat to biodiversity (compared to high awareness for other factors such as pollution (27%), manmade disasters (27%), climate change (19%), intensive agriculture (13%) and land use/development (8%). Final report to the Commission, DG ENV Contract 07-0307/2007/474126/MAR/A1, March 2008.
[64] The consultation attracted 880 replies from 24 MS, overseas territories and international contributions. About a quarter of the replies came from organisations and three quarters from individuals. A full report on the responses to the questionnaire, detailing the replies received, can be found at: http://ec.europa.eu/environment/nature/invasivealien/index_en.htm.
[65] The Convention on Biological Diversity is the most significant regulation in the field of nature protection. Article 8(h) and decision VI/23 of the CBD place obligations on member countries and provide guidance in the management of IAS. The guiding principles suggest comprehensive national strategies on the basis of a three-stage hierarchical approach (prevention, early detection, measures). The CBD has been transferred into several pieces of legislation of the EU acquis, most notably Council Regulation (EC) No 338/97 on the protection of species of wild fauna and flora by regulating trade therein, the Habitats Directive (Council Directive 92/43/EC) and the Birds Directive (Council Directive 79/409/EC).

indirect and indirect damage"[66]. Between 2000 and 2003, the IPPC clarified its scope further and aligned to CBD work in this area[67]. Following these clarifications, as it stands, the IPPC clearly states that consideration of the economic importance of a pest (ISPM 5) includes impact on plant ecosystems and the scope includes indirect impact, but effects should be exerted primarily on plants (ISPM 11):

- ISPM 5: pest is "*Any species, strain or biotype of plant, animal or pathogenic agent injurious to plants or plant products*";
- ISPM 11: section 2.3.1 (*Pest effects*) covers both direct and indirect effects, but *"environmental effects and consequences considered should result from effects on plants"* (i.e. *"the regulation of plants solely on the basis of their effects on other organisms or systems (e.g. on human or animal health) is outside the scope of this standard"*). The scope includes: pests affecting uncultivated/unmanaged plants; weeds and/or invasive plants; and, pests affecting plants through effects on other organisms

It is noted that it is not an obligation for IPPC contracting parties to address this scope[68], although it is generally considered as a matter of principle that signatories will comply. Also, the SPS Agreement (Annex A: Definitions) includes forests and wild flora in the definition of 'plant' and weeds in the definition of 'pests'.

EPPO followed the IPPC approach and is effectively operating based on this clarified scope. In line with the IPPC and the Bern Convention, EPPO is currently developing a cooperative Europe-wide strategy to protect the EPPO region against **invasive alien plants**. Invasive plant species are broadly defined by the EPPO as weeds which can harm both cultivated crops by their competition, and biodiversity in the wild uncultivated environment. Traditionally, the EPPO – like the EU - has given priority to pests of cultivated plants, i.e. insects, nematodes, fungi, bacteria, viruses, but increasingly it has also been concerned with IAS. To this end, in 2002 the EPPO established an ad hoc international Panel of experts on IAS[69] with the task of identifying invasive plant species which may present a risk to the EPPO region and to propose management options. The number of plants that can be considered as potential pest species is very large and the Panel is elaborating a prioritization process for all known, or potential invasive alien plants in the EPPO region.

In most third countries, the ongoing practice is for invasive plant pests (weeds) and their impacts as well as the wider impact of IAS on the environment to be included in the scope of the

[66] Article II, Appendix I, Resolution 12/97, 39th session of the Committee on Agriculture, FAO, Rome, 7-18 November 1997.
[67] To avoid conflicting developments within the IPPC and the CBD regarding IAS and plant pests, the secretariats of the two conventions have established a Memorandum of Cooperation and developed a joint work plan as was called for by the Conference of Parties to the CBD at its seventh meeting.
[68] Preamble to Appendix I, Resolution 12/97, cited above.
[69] The Panel meets twice a year and has the following aims: to provide information on invasive alien species for the EPPO region, particularly plants; to pilot studies on risk analysis of specific invasive alien species; to recommend measures to prevent their introduction and spread; to recommend measures to eradicate, suppress and contain invasive species already introduced. The members of this Panel come from 14 European and Mediterranean countries, of which 10 are EU MS: Austria, Belarus, Czech Republic, Estonia, France, Germany, Hungary, Israel, Latvia, Lithuania, Netherlands, Norway, Switzerland and the UK.

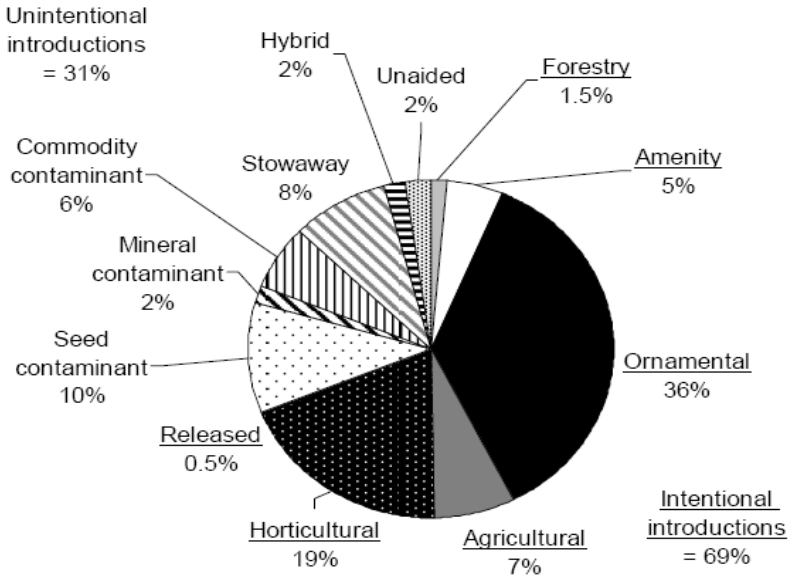
phytosanitary system. For example, Russia, South America and Australia include weeds. Australia and some other countries have PRAs on weeds. Similarly, most of the new MS prior to accession had included weeds in their quarantine lists.

3.1.2.3 IAS trends in the EU

There is significant evidence that the emergence of IAS is a growing concern of the last few decades, and specifically associated with growing trade in certain high risk products, notably ornamentals and exotic species more generally. This view is commonly expressed by the majority of MS CAs and stakeholders and the international organisations interviewed for this evaluation, and is backed up by the growing number of interceptions of IAS on such products (MS evidence and EUROPHYT), and it confirms the findings of previous research as summarised below.

According to systematic research carried out across the EU in the context of a pan-European IAS inventory established by the EC funded project DAISIE [70], intentional introductions of naturalised aliens (i.e. species with the area of origin outside Europe) account for two thirds (69%) of all introductions to Europe, with ornamentals the biggest category (36%), versus one third of introductions due to unintentional pathways such as contamination of consignments.

Figure 3-4: Pathways of introduction for naturalised aliens to Europe (DAISIE)



Note: Pathways of intentional introductions are underlined. Based on 2024 naturalised aliens.

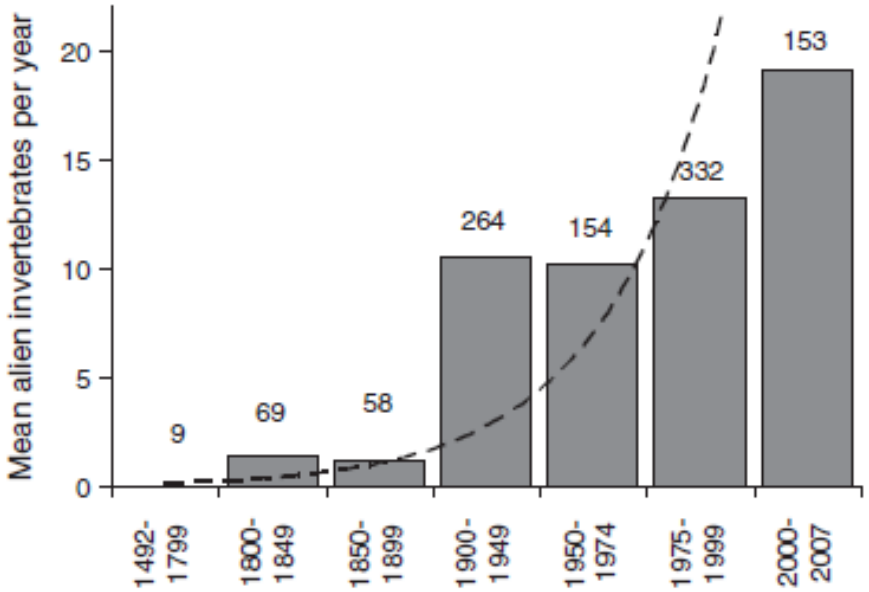
Source: Hulme P. et al (2008)

[70] DAISIE: Delivering Alien Invasive Species Inventories for Europe (www.europe-aliens.org). DAISIE identified 1094 species with documented ecological impacts and 1347 species with documented economic impacts, out of the 10,822 alien species known to exist in Europe. It identified the hundred worst IAS in Europe, mainly based on current knowledge about the ecological effects of IAS on European territory.

In the UK, using a database constructed on 325 non native invertebrate plant pests that have established, or are suspected to have established, in Great Britain between 1787 and 2004[71], it is evident that 47% of all establishments occurred after 1970, with all but one of the significant post-1970 establishments on ornamental plants. Of the post-1970 pests on cultivated hosts, 44% were accidentally introduced, compared to 6% colonising naturally (the mode of entry could not be designated for the remaining species). Most non-native plant pests originated in continental Europe, with substantial minorities contributed by North America and East Asia. The number and composition of species that have established in Great Britain since 1970 is broadly similar to that observed in France, Italy and Spain.

Globalisation increases opportunities for species to move beyond their natural borders through trade, transport, travel and tourism, thus leading to a marked increase of both intentional and unintentional introductions in recent years. For example, a review by the DAISIE project of records of established alien terrestrial invertebrates in Europe since 1492 demonstrates that, on average, the establishment of invertebrates has increased from 13 species recorded per year in the 1975-99 period to nearly 22 during the last decade.

Figure 3-5: Trend of established alien invertebrates in Europe (DAISIE)



Note: Calculations on 995 species for which the first record is precisely known. The numbers above the bars correspond to the number of new species recorded per period. A lack of European expertise in some taxonomic groups did not allow coverage of all the terrestrial invertebrates with the same level of precision: data on insects were more reliable than those of other taxa, and consequently the analysis mostly refers to this group.

Source: Roques et al. 2009.

[71] Non-native invertebrate plant pests established in Great Britain: an assessment of patterns and trends. R M Smith,, R H A Baker, C P Malumphy, S Hockland, R P Hammon, J C Ostojá-Starzewski, D W Collins.

These trends are predicted to continue, along with the further spread of already established species. This is not only due to globalisation, but also to the negative effects of environmental degradation caused by pollution, habitat loss and land use change, which create favourable conditions for some introduced species to establish and spread. Climate change in particular is predicted to have the ability to modify the whole process of an invasion (sources, pathways and destinations) and increase ecosystem vulnerability to IAS.

3.1.2.4 IAS economic impact

The potential economic impact of IAS is a significant concern that increasingly adds to the debate on developing effective strategies for IAS prevention and management. Based on documented figures of available studies, a review carried out in the context of the current EU strategy on IS[72] estimates the costs of IAS damage and control measures to be at least €12.5 billion /year (within this overall figure, available sector-specific evidence shows that IAS cost almost €6 billion /year to key sectors including agriculture, fisheries and forestry). The majority of the total costs, i.e. €9.6 billion /year, result from the damage caused by IAS whereas the rest, i.e. €2.8 billion /year, are related to the control of IAS[73]. These figures are considered to be a gross under-estimate of the current real impacts of IAS in Europe, as the impacts of only about 10% of IAS in Europe are known to ecologists and economists[74]. A partial and conservative extrapolation undertaken on 25 out of the 61 IAS covered by the study estimates costs at over €20 billion /year. Moving forward, due to the expansion of trade, without appropriate safeguards against IAS, the threats from IAS are forecast to increase at an accelerated pace. It is also noted that costs and benefits related to actions taken to reduce IAS risks are unevenly distributed: the costs of intervention (control and clean up costs) are usually met from the public budget, whereas the benefits of avoided damage are usually private.

The estimated costs of IAS in Europe appear to be of a comparable scale to those identified in other parts of the world, although caution should be used when comparing these figures directly due to the different methodologies used in the analysis. The best-known study on IAS impacts is the assessment of known environmental and economic costs of IAS in the US, UK, Australia, South Africa, India and Brazil carried out in 2001 and updated in 2005 (Pimentel et al. 2005). This study estimated that invasions of non-native species in the six countries concerned cost over US$ 314 billion in damage per year. Assuming similar costs worldwide, Pimentel estimated that damage from invasive species could reach over US$ 1.4 trillion per year, representing nearly 5% of world GDP.

[72] Kettunen et al. 2009, as quoted in COM (2008) 789 final. Based on costs as documented in existing studies (i.e. real & estimated costs). This study has carried out an assessment of the known costs of IAS in Europe based on available studies on the monetary costs of IAS (available for 61 individual species and 14 specific IAS species groups, out of the 100 worst IAS identified by DAISE). Costs related to terrestrial IAS (e.g. vertebrates, plants and invertebrates) form a major part of this estimate. They include, for example, damage caused by pests to agriculture and forestry. The extrapolation has been carried out on the basis of information on the area affected by IAS and the known range of IAS in Europe (according to data from the DAISIE project). Given these information requirements the extrapolation of costs was possible for 25 IAS considered in this study.

[73] It is noted, however, that cost data on IAS control measures are more widely available across different IAS taxa and ecosystems than data on the costs of damage.

[74] Vilà, M. et al (2009).

Previous studies have pointed to the difficulty of estimating the economic impact of IAS on EU ecosystems and adjacent sectors, for which reliable data have been notably scarce or unavailable. In general, most economic research has focused on *ex ante* and *ex post* assessments of IAS costs or on cost and benefit calculations of relevant prevention, control or eradication programmes, and there are few well-documented studies, with most of them investigating cases where the monetary value of the impact can be calculated (e.g. impact of single species in specific areas, where the assessment of control costs and economic losses in relatively well-defined systems is feasible)[75].

Assessing the potential threat posed by IAS is complicated by the fact that, in some cases, it may take years before an alien organism (i.e. previously not found in the EU) becomes harmful and invasive, and there may also be cases where this never happens. Furthermore, the situation and patterns of invasiveness of a specific organism can differ significantly from MS to MS, making it difficult to extrapolate from individual MS or regional experiences, but also to foster a harmonised approach on each potentially invasive alien species across the EU.

As was pointed out by a 2008 study for the EEA[76] an indicator of the increasing importance attached to IAS in the EU is the significant increase in the funding provided for research in this field. Over the last 15 years, despite the lack of a specific strategy or a dedicated financial instrument to deal with IAS, the EC has contributed to financing almost 300 projects addressing this issue, for a total budget exceeding €132 million[77]. It is also noted that between 1992 and 2006, the average annual budget spent for IAS issues has been about €10 million /year, but in the period 2004-2006 it increased to €15 million /year. Further initiatives on IAS action are currently being examined, including the feasibility of establishing an early warning and information system to cover the entire EU[78].

3.1.2.5 Conclusions

There is currently lack of common understanding, leading to considerable confusion, on both the definition of Invasive Alien Species (IAS) and the extent to which IAS are covered by the scope of the Directive. The defining characteristic of IAS, according to the CBD definition, is their wider environmental impact on ecosystems. Historically, this has been considered as an indirect impact for the purposes of Directive 2000/29, but in recent years there has been a *de facto* shift in implementation, due to major pest incursions with significant indirect, non-commercial or purely environmental impacts. In practice, many regulated pests are IAS already listed in the Directive (recent examples including *Anoplophora spp*., *Phytophthora Ramorum,* also PWN). There have also been international developments in considering IAS at the level of IPPC and

[75] Gren I-M (2008).

[76] EU funding for management and research of invasive alien species in Europe, May 2008.

[77] Figures based on projects funded under two specific EU financial tools: LIFE and the RTD Framework Programmes. The contribution of the two programmes has been characterised by an overall positive trend over the years, in terms of both the number of projects and the budget spent.

[78] Study undertaken for the European Environment Agency (EEA). Genovesi P. et al (2009).

EPPO, and a more general EU strategy on Invasive Species (IS), following the CBD definition, has been developed. There are therefore extensive calls for clarification of the CPHR on this issue. The potential effects of climate change on altering patterns of alien species invasion in the EU need also to be taken into account.

The options for the future regarding the inclusion of IAS in the CPHR are explored further in section 5.1.2.

3.2 Classification of HOs

This section summarises the findings of the evaluation on the CPHR performance to date, taking into consideration EQ 5 (area B) of the ToR.

> *EQ5. In how far does the classification of harmful organisms (HOs) in Directive 2000/29/EC reflect the different objectives of the regime and the priorities as concerns phytosanitary risks, and in how far is reliable information available for appropriate risk assessment / risk management (including data on pest status and scientific data for impact and cost/benefit analysis)?*

A description of the current HO classification approach and surveillance measures is provided in **Annex 1 (Theme 1)**.

3.2.1 Current approach for listing HOs in Directive 2000/29/EC

The CPHR defines HOs as "*any species, strain or biotype of plant, animal or pathogenic agent injurious to plants or plant products"* (Art. 2(1)(e) of Directive 2000/29/EC). The Annexes I and II of the Directive list the HOs whose introduction into, and spread within all MS shall be banned, either in all cases (Annex I), or only if present on certain plants and plant products (Annex II).

Currently, the number of listed HOs amounts to 250. The need for a long list is explained by the approach followed at EU level towards imports, which is an open system, conceptually different from the more restrictive approach followed by other major trading partners (e.g. US, Australia, Canada), where imports are prohibited unless an import license is issued on the basis of a PRA.

The current listing in the Directive 2000/29/EC is based on Directive 77/93, which was largely based on work done in EPPO, as these pests were included in the original EPPO list. At the time, there was no formal PRA process[79], and therefore most of the original organisms on the list have not been subjected to this process. In contrast, each HO that has been added to the list in recent years has been submitted to a PRA and introduced into the list on this basis. However, the PRAs that have been carried out at EU level have only concentrated on the phytosanitary/biological aspects, not the economic issues. The PRA currently done by the EU is essentially a technical assessment of whether an organism is injurious to plant health. The economic issues are largely

[79] The beginning of PRA process dates back to early 1990s: 1992 first ISPM 2 (Framework for pest risk analysis), which then evolved and was added with specific PRA ISPMs 11 (quarantine pests) and 21 (non quarantine pests). EPPO standards have been developed in parallel.

not addressed, although international standards for PRA (IPPC: ISPM 11 and ISPM 21) and current practice (EPPO, some countries) indicate it should include a cost benefit analysis.

As the results of the survey and interviews with relevant experts indicate, the availability of data for PRAs is variable, with regard to the different components required, and in particular there is lack of data and agreed methodologies concerning the quantification of economic impacts. One of the tasks of the on-going PRATIQUE Project is indeed to assemble the datasets required to construct PRAs valid for the whole of the EU. More elements on the limitations of the current PRA methodology and practice are discussed in other sections of the report (i.e. in the context of imports, emergency measures and research and scientific advice).

Revisions to the lists, which have been undertaken in the past, have not resulted in a reduction of the HOs – but rather in an increase -, as views diverge among MS, depending on the MS and relevant HO risks (in relation to production/trade domestic patterns). From the general survey and the interviews conducted, it has emerged that there is need for a revision of the current lists in the Directive: the majority of MS believe that there are some HOs which should be listed in the Directive and some that should not be listed. Also, the need for a regular update of the list was widely acknowledged, with a view to include new HOs of potential threat and delete those HOs that are considered not necessary or feasible to control any longer.

2.1. Current categorisation of HOs in Directive 2000/29/EC:

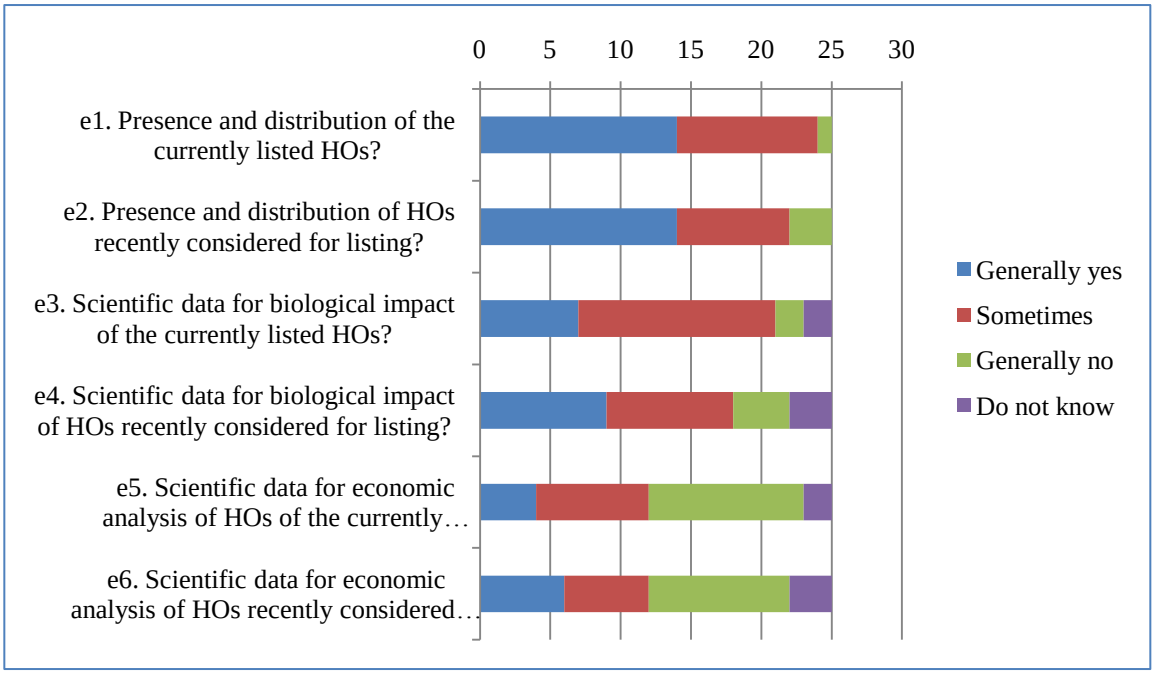
a. Are there HOs which should be listed in the Directive (and are not currently listed)? Which ones?

The majority of MS CAs (20 out of 25, 3 do not know) consider that there are certain HOs that should be listed in the Directive. Stakeholders mostly do not hold an opinion (11 out of 29 do not know), whereas 10 do not believe there are any HOs that should be listed in the Directive.

b. Are there HOs which are currently listed in the Directive and should not be listed? Which ones?

The majority of MS CAs (19 out of 25, 3 do not know) consider that there are certain HOs that should not be listed in the Directive. 11 stakeholders hold the same opinion, but the majority (18) do not know.

e. Extent to which reliable information for appropriate risk assessment / risk management for listing is available*:



Note: results based on responses of MS CAs

f. Extent to which the approach for structuring of the Annexes I and II is appropriate for providing effective protection:

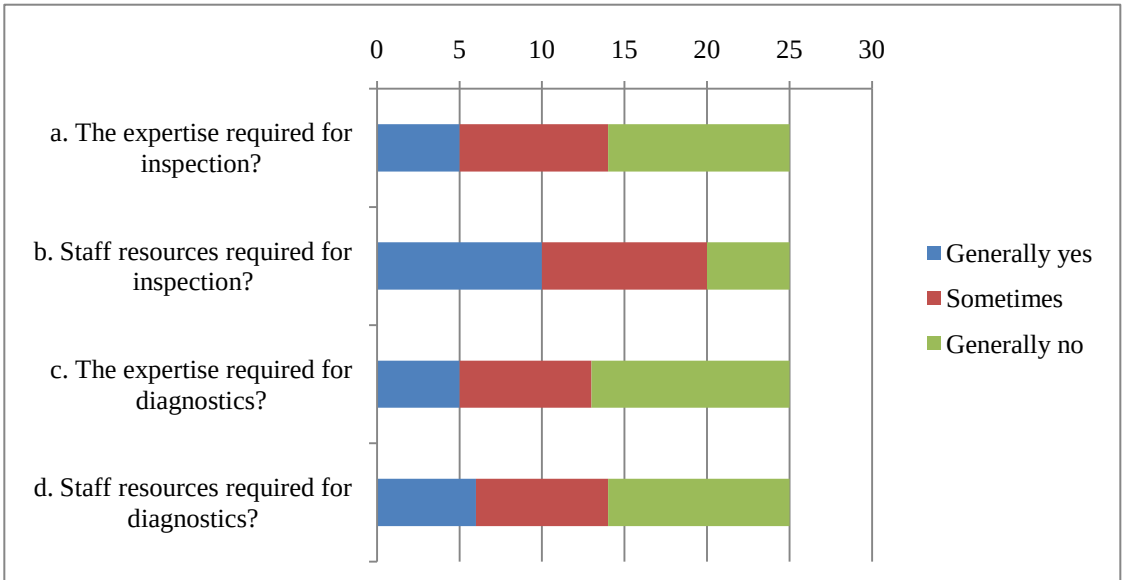
15 MS CAs (out of 25, 2 do not know) consider that the current structuring of Annexes I and II is appropriate for providing effective protection. The majority of stakeholders hold the same opinion, 14 out of 26, 6 do not know).

2.2 (stakeholders): Are you satisfied with the current prioritisation of HOs followed by the plant protection services in the implementation of the CPHR in your country?

The majority of stakeholders are satisfied (12 out of 23, 5 do not know).

2.3. Are there HOs which present an important phytosanitary risk and/or economic impact in your country but on which your plant protection services cannot sufficiently focus on at present?
The majority of MS CAs (13 out of 25) do not sufficiently focus at present on HOs which present an important phytosanitary risk and/or economic impact. 11 stakeholders consider focus is not sufficient (out of 28, 7 do not know).
The main reason (11 out of 35) is the insufficient staff (out of 35), and other reasons (10), for the majority financial resources.

2.4. Do the plant protection services in your country experience difficulties in effectively dealing with all the regulated HOs (many of which are non-European), in terms of:



According to the results of the general survey, the majority of MS CAs consider that some revision to the lists of the base Directive is needed, on the basis that certain HOs that are listed should possibly be delisted, while there may be HOs not currently listed but which should possibly be listed (Q 2.1).

MS have provided suggestions for HOs which should be included in the lists[80]; indicating that without common approach at EU level, the current situation is that MS take action against non-listed HOs on a national basis. In many cases it has been suggested that at least those which are currently regulated by emergency measures should be listed. Similarly, MS have provided suggestions for HOs that should be removed from the lists[81], on the basis of different criteria and

[80] HOs suggested for inclusion in lists are: *Ambrosia artemisifolia*, *Chalarafraxinea*, *Cameraria ohridella*, *Dryocosmus kuriphilus*, *Eichhornia crassipes*, *Fusarium foetens*, *Gibberella (Fusarium) circinata*, *Hydrocotyle ranunculoides*, *Ips subelongatus*, PepMV, *Phytophthora fragariae var. rubi*, *Phytophthora kernoviae*, *Phytophthora ramorum*, PSTVd, *Pueraria lobata*, *Rhynchophorus ferrugineus*, *Saperda candida*, *Sirex ermak*, *Tuta absoluta*, *Xanthomonas axonopodis pv dieffenbachiae.*

[81] Apple Proliferation phytoplasma, *Cacoecimorpha pronubana*, *Cacyreus marshalli*, *Ciborinia camelliae*, *Cryphonectria parasitica*, *Daktulosphaira vitifoliae*, *Diabrotica virgifera*, *Diaporthe vaccinii*, *Dickeya (Erwinia) chrysanthemi*, *Ditylenchus destructor*, *Ditylenchus dipsaci*, *Erschoviella musculana*, European Stone Fruit Phytoplasma, *Globodera* spp., *Frankliniella occidentalis*, *Heliothis armigera*, Impatiens necrotic spot virus, *Leptinotarsa decemlineata*, *Liriomyza huidobrensis*, *Liriomyza trifolii*, Pepino Mosaic Virus, *Phialophora*

on the basis of comparison with the costs of the measures in place. The criteria that have been quoted include:

- the level of spread in the Community;
- economic impact;
- relevance of host plant;
- cropping area;
- potential for introduction;
- and potential for establishment.

Several MS suggested that a revision of the current list should be undertaken on the basis of PRAs and taking into account international lists (EPPO lists[82]). Although a PRA is the basis and pre-requisite for regulating pests according to the existing IPPC standards[83], therefore for inclusion in the lists of the base Directive, for the reasons noted above not all of the currently listed HOs have been subject to a formal PRA[84], and for some of these the level of phytosanitary risk may no longer justify measures. It is also suggested that the role of revising the list should again be taken up by technical experts within the EC, and in particular within the Annexes Working Group, a WG which was operational in the past and has recently been re-established[85].

Furthermore, since the inception of the CPHR, the dimension and patterns of trade for the EU have significantly increased as well as changed. The EU is currently confronted with new problems, as new countries and areas have emerged and become major trading partners. This may justify a revision of the current approach, which is considered to be appropriate but also to have limitations, at least in some cases, as was also highlighted during the EPPO Colloquium of

cinerescens, *Phytophthora fragariae*, *Phytophthora fragariae* var. *fragariae*, *Phytoplasma mali* (apple proliferation), *Phytoplasma pyri* (pear decline), Plum Pox Virus, *Puccinia horiana*, *Quadraspidiotus perniciosus*, Raspberry leaf curl virus, Raspberry ringspot virus, *Rhagoletis cingulata*, *Scirrhia pini*, *Trogoderma granarium*, *Viteus vitifoliae*, *Xanthomonas fragariae*.

[82] EPPO A1 and A2 Lists of pests recommended for regulation as quarantine pests. EPPO Action List of A1 and A2 pests recommended for regulation, but not yet included in EPPO member countries' phytosanitary regulations. EPPO Alert list of pests possibly presenting a risk to EPPO member countries.

[83] A PRA is the IPPC guideline for regulating both quarantine and non quarantine pests (RNQPs). Undertaking a PRA in connection with RNQPs is discussed in the following section.

[84] They all had an assessment of pest risk, see EPPO (1997), which covers all the pests of the EPPO A1 and A2 lists and of Annexes I and II of EU Directive 77/93.

[85] In the past the Annexes Working Group did the preparatory work for the Standing Committee on Plant Health (SCPH) to reduce discussion time. This also included a discussion on Risk Assesment. It is understood that the Annexes Working Group is to take up its work again, and the ToR for the WG were adopted by the SCPH on the 15 December 2009. The Annexes Working Group will only consider risk management, no longer risk assessment.The new strategy would be to have a written consultation on the draft recommendation made by SANCO, which would be put on CIRCA for comment. If comments are substantial, the draft recommendation would go back to the WG for revision of the recommendation. The work of the WG would be restricted to a limited and feasible set of tasks with quick deadlines. The work of the WG would include the analysis of EUROPHYT data, outbreak data reported by the MS, monitoring developments outside the EU and recommendations from the EPPO foresight activity. The EPPO tracks the evolution of pests (MS members have to notify). The EPPO is a member of the Annexes WG.

2009[86]. More specifically a targeted and stricter approach appears to be needed for plants for planting and Propagating Material, in particular applying pathway analysis more systematically in order to direct efforts to the most significant risks, or where risks are uncertain. This point is discussed in more detail in section 3.4 on imports.

According to the results of the general survey (Q2.1.f), the current overall structure of the Annexes is generally considered to be appropriate. Although the difference in approach for Annex I versus Annex II is considered appropriate by the majority, several comments point out that there are elements of inconsistency with objectives. In particular, it is pointed out by some respondents that Annex II (the majority of comments relate to the approach in Annex II) is too narrowly targeted in terms of host plants, and therefore may not provide adequate protection if an HO appears on hosts other than those listed. Further comments put forward by some MS CAs are that: this division does not include the spread of specific HOs in final production and the possibility of their natural spread, through vectors, etc.; Annex II is useful for distinguishing risks from plants and produce (e.g. many citrus pests which are only quarantine listed when on plants, not on fruit), but raises problems when quarantine status is only on certain genera. Another comment (from a trader) is that plants infested with an HO regulated in Annex II cannot be traded, while at the same time the HO may occur on other hosts in the area of destination, and therefore this raises questions of whether the protection is justified and effective.

The distinction between Annex I and Annex II raises problems at operational level, as in the view of interviewees it is ambiguous as to whether action can be taken when an HO is found on new hosts, which is a sign of increased risk (e.g. action is required against *Erwinia chrysanthemi* to protect potatoes but it is listed only on *Dianthus*). However, one MS also pointed out that currently provisions exist within Art. 3(7) of the Directive[87], which allow the Commission and MS (through comitology) to take actions against HOs which are listed in Annex II but occur in plants or plant products other than those listed. It is suggested that this possibility should be taken into account more and discussed, probably with a view to delegating responsibility to MS for tackling these cases.

On the other hand, even though the listing in Annex I should in theory provide more protection in that inspections can be targeted on any hosts, this may not always be the case as the broader range of potentially susceptible hosts may constitute a problem for inspections to be fully effective. In practice therefore, Annex I is perceived to be too broadly defined in terms of listing pests rather than host materials therefore making it difficult for inspectors to target inspections[88].

86 EPPO Council Colloquium (Angers, FR, 2009-09-24): 'Increasing trade, changing climate, emerging pests: Is the plant health sector prepared?'http://archives.eppo.org/MEETINGS/2009_conferences/council_colloquium.htm.

87 In accordance with the procedure referred to in Article 18(2), implementing provisions may be adopted to lay down conditions for the introduction into MS and the spread within MS of: (a) organisms which are suspected of being harmful to plants or plant products but are not listed in Annexes I and II; (b) organisms, which are listed in Annex II, but which occur on plants or plant products other than those listed in that Annex, and which are suspected of being harmful to plants or plant products; (c) organisms, which are listed in Annexes I and II, which are in an isolated state and which are considered to be harmful in that state to plants or plant products.

88 The difficulty for inspectors in targeting inspections arises because plant pests are polyphagous, therefore listing them against selected hosts does not deal effectively with the risk. There is a need of risk management systems that can cope with polyphagous pests which may be present on a wide range of traded commodities.

Indeed, this calls for a pest risk approach in some cases, while a pathway risk approach may work better in others (as discussed above for plants for planting). Moreover, no specifically defined measures are foreseen for HO listed in Annex I, as a consequence of which the security level offered by listing high-risk pests in Annex I is relatively low.

HOs listed in Annex I are prohibited from entry into the EU and may also not move around the EU in any form or on any host. However, for most of these pests there are no specific import or movement requirements, whereas for HOs in Annex II there are specific import requirements.

For example, in the case of *Rhynchophorus palmarum*, this is listed under Annex I and therefore subject to a blanket import ban, so there are actually no specific import requirements for this pest and no testing on imports even from high risk origins; however, visual inspection on this HO is not effective, as the weevil lives inside the trunk (and cutting into the palm is not considered to be a viable option due to its destructive nature), raising the risk of a latent outbreak (latent infections are in fact a general problem jeopardising the effectiveness of the CPHR). If the general requirement is properly implemented, Annex I should provide a higher degree of protection, but in case of incomplete implementation, this could potentially lead to greater risk. In those cases where the HO is included in the list under Annex II (with specific hosts), more specific requirements apply and therefore MS have the obligation to take measures. It is therefore suggested that this may result in more effective protection[89].

Some stakeholders perceive the Annexes to be too complex and advocate a simpler and more readable list (i.e. a simple list supported by a searchable database with the requirements) in order to improve ease of reference. Furthermore, they commented that it is preferable to specify the host plant for the HO (i.e. the approach of Annex II); along the same lines it is suggested that for TCs it would be simpler to list commodities and the HOs relevant for the commodities. It is also suggested by stakeholders that classification for the purposes of protected zones (PZs) needs to be reassessed (the argument being that PZs seem to be ineffective, and that different levels of requirements within EU are questionable and should be assessed and removed, because they increase the burden for operators; the effectiveness of PZs is discussed in section 3.6).

At the operational level (i.e. import controls, surveillance), although the general perception amongst CAs is that the number of listed HOs is not an issue *per se* for inspections, at least for import controls, it is noted that the declining staff resources available to CAs are a major constraint and the expertise may be variable for the different HOs; also, the number of listed HOs could pose problems for the diagnostics sector for individual MS and increases the need for a collaborative approach. To address these issues a greater degree of prioritisation appears therefore to be needed, and indeed has been advocated in some cases (by both CAs and stakeholders).

In practice, some degree of focus of the plant health services on specific HOs is already taking place. An analysis of the lists of HOs provided by MS CAs in response to Q2.2 of the general survey indicated that NPPOs in the 27 MS currently focus 'as a matter of priority' on a more

[89] It is also suggested that the measures carry a cost (which potentially could be of benefit to other MS/the whole of the EU) but only specific MS carry the costs. This suggests there may be disincentives or perverse incentives in the current system.

limited number of HOs than the full list (in total, the 27 MS are prioritising on 86 HOs, not all of which are listed in the Directive). Responses indicated that currently less than 40 HOs are a priority for more than 1 MS, and 20 of these HOs are a priority for more than 5 MS. These priority HOs appear to occupy most of the staff time at MS plant health services. Similarly, it appears that 20-30 HOs are taking most of the time of SANCO plant health services.

Table 3-2: Top 20 HOs most indicated by MS CAs 'to focus on as a matter of priority'

	HO	**Number of MS**
1	*Clavibacter michiganensis* ssp. *sepedonicus*	**23**
2	*Anoplophora*	**20**
	Anoplophora chinensis	9
	Anoplophora glabripennis	5
	Anoplophora spp.	6
3	*Globodera*	**20**
	Globodera pallida	6
	Globodera rostochiensis	4
	Globodera spp.	10
4	*Erwinia amylovora*	**19**
5	*Ralstonia solanacearum*	**17**
6	*Diabrotica virgifera virgifera*	**16**
7	*Bursaphelenchus xylophilus*	**15**
8	Plum pox virus	**13**
9	Potato spindle tuber viroid	**11**
10	*Phytophthora*	**10**
	Phytophthora ramorum	7
11	*Bemisia tabaci*	**9**
12	*Synchytrium endobioticum*	**8**
13	Grapevine flavescence	**6**
14	*Liriomyza* spp.	**6**
15	Pepino mosaic virus	**5**
16	*Meloidogyne*	**5**
17	*Monilinia fructicola*	**5**
18	*Thrips palmi*	**5**
19	Tomato spotted wilt virus	**5**
20	*Xanthomonas*	**5**

Note: Based on Q2.2 of general survey. Only those HOs mentioned by >5 MS are indiacted.

Source: FCEC based on general survey results

These results should not be read to suggest that MS CAs or SANCO 'limit' themselves to a finite number of HOs, nor that the current focus currently reflects optimal cost-effectiveness (i.e. that MS are necessarily focussing on the HOs that provide the best cost-benefit ratio). They simply indicate that, as it currently stands:

- The resources of MS NPPOs are mostly used on a relatively narrower range of HOs than the full lists of the base Directive (and this may well reflect national or regional priorities);

- A number of HOs appear to be of common interest and focus in a number of MS, suggesting that there are certain HOs for which a common EU approach needs to be followed to optimise response and cost-effectiveness;
- MS efforts are mainly targeted on HO for which Control Directives exist or for which emergency measures are in place.

If greater prioritisation is needed, then this could be based on criteria to be developed, and the general survey has already pointed in the direction these could take. The scope for prioritisation is explored further in relation to options for the future to ensure better prevention and to maximise the cost-effectiveness of current measures and resources (in particular for import inspections and for intra-EU surveillance, sections 5.2 and 5.3 respectively).

The process for considering additions to the lists in the Annexes is cumbersome and has created a backlog, and risk assessment and the risk management phases are considered to be ineffective in terms of the timeframe required. To overcome these constraints, consideration should be given to a number of improvements:

- 'Fast-track' risk assessment while fuller PRAs are under way, with a view to speeding up the adoption of measures particularly in emergency situations;
- A greater degree of central coordination of PRAs conducted at different levels (MS, EFSA, EPPO, where possible also involving stakeholders); and,
- PRAs should be conducted, proactively[90], i.e. when a HO is considered to represent a significant risk rather than when outbreaks occur. For this purpose more consideration and use of the EPPO Alert List is recommended by several MS.

At a more general level, the major limitation of the current approach – as the results of the survey and the interviews reveal – is considered to be the lack of horizon scanning and the lack of efficiency in dealing with emerging risks (e.g. for major suspected threats such as *Agrilus planipennis*). The mechanisms in place and the speed of the process are considered inadequate in terms of response to the new threats that are emerging for plant health. These issues are explored further under the options for the future in sections 5.2 and 5.4 respectively.

[90] Proactively produced PRAs could be used to develop EU contingency plans, coming into force automatically upon outbreaks, as in the Animal Health Regime.

3.2.2 The positioning of Regulated Non Quarantine Pests (RNQPs)

This section summarises our findings, taking into consideration EQ 5(i) (area B) of the ToR, on the appropriate positioning of RNQPs.

Certain plant diseases that are not listed as quarantine pests may be subject to phytosanitary measures because their presence in plants and plants for planting results in economically unacceptable impacts associated with the intended use of those plants. Such pests are known as regulated non-quarantine pests (RNQPs) and their definition in IPPC[91] provides criteria to distinguish this category of regulated pests from regulated quarantine pests (RQPs):

> "*a non-quarantine pest whose presence in plants for planting affects the intended use of those plants with an economically unacceptable impact and which is therefore regulated within the territory of the importing party*". [Article 2 of IPPC 1997 Convention]

A (regulated) quarantine pest (RQP) is defined by the IPPC as:

> *"a (regulated) pest of potential economic importance to the area endangered thereby and not yet present there, or present but not widely distributed and being officially controlled".*

A distinction is also made in the IPPC from non-regulated pests for which *"contracting parties shall not require phytosanitary measures" (Article VI.2 of IPPC 1997 Convention).*

RQPs and RNQPs can be compared and classified on the basis of four criteria, as presented in ISPM No. 16. These are: pest status; pathway; economic impact; official control; and, tolerances.

Table 3-3: Criteria for comparison of RQPs and RNQPs

Defining criteria	**RQP**	**RNQP**
Pest status	Absent or of limited distribution	Present and may be widely distributed
Pathway	Phytosanitary measures for any pathway	Phytosanitary measures only on **plants for planting**
Economic impact	Impact is predicted	Impact is known
Official control	Under official control if present with the aim of eradication or containment	Under official control with respect to the specified plants for planting with the aim of suppression
Tolerances	Zero tolerance	Appropriate tolerances (may be defined at zero) can be used to reduce the risk to an acceptable level

Source: Compiled by the FCEC based on ISPM 16

RNQPs are mainly associated with plants for planting. Examples of such pests include for example HOs affecting the forestry sector, such as *Phytophthora ramorum* and *Anoplophora*

[91] RNQPs were defined for the first time in the IPPC 1997 revision, followed by the publication of a standard in 2002, which is ISPM No. 16 "RNQPs: concept and application". Subsequently, a second standard was developed in 2004 related to "Pest risk analysis for RNQPs" (ISPM No. 21).

chinensis. Another example in the potato sector is the Potato Leafroll Virus (PLRV). A 2007 paper by IUFRO[92] (2009) asks for a pathway approach to plants for planting (rather than the current pest by pest control approach), similar to what is currently followed on wood packaging material (WPM), on the basis that plants for planting have provided just as many introductions of previously unknown forest pests as WPM[93]. In May 2006, the IPPC established an Expert Working Group in this area (Specification No. 34: Pest risk management for plants for planting in international trade). The risks of plants for planting and the need for a pathway approach have also been addressed in the work of EPPO, as highlighted in a recent EPPO colloquium on the subject in October 2009[94]. By analysing interception reports and recent pest introductions, the EPPO showed that imports of ornamentals and woody plants in particular were risky pathways.

The question on the appropriate positioning of RNQPs is raised because in the EU, two sets of legislation currently cover the range of regulated pests and some overlap may exist between these: the Plant Health Directive 2000/29/EC and the Marketing Directives for Seeds and Plant Propagating Material (S&PM)[95]. According to the above definition, Directive 2000/29/EC can be seen as exclusively dealing with regulated quarantine pests (RQPs), on the basis of the current principle that tolerance = zero; however, when the other above mentioned criteria are considered, the Directive may also be dealing with some pests that could be defined as RNQPs. On the other hand, on the basis that the current S&PM Directives regulate pests with tolerance ≥ zero[96], also if the other criteria are taken into account, the S&PM Directives could be seen as potentially covering both RQPs and RNQPs. Indeed, as will be discussed below, there is considerable confusion amongst MS and stakeholders over the scope of each set of legislation but also over the definitions of an RQP versus an RNQP; furthermore, some, although relatively minor, overlap in coverage of pests between the two sets of legislation currently exists.

It is also noted that the IPPC definition of RNQPs potentially raises a question on the difference between RNQPs and 'quality' pests and what could be the criteria for the classification or non-classification of a given organism in either of the two categories. Quality pests are not regulated pests and are not covered by the RNQP concept but may also be responsible for unacceptable economic impacts of "a non-phytosanitary nature". They are however managed by farmers themselves by application of crop rotation, use of plant protection products, etc.

[92] "Recommendation of a Pathway Approach for Regulation of Plants for Planting": a Concept Paper from the IUFRO Unit on Alien Invasive Species and International Trade.

[93] References quoted are: Relevant ISPMs, regional certification schemes such as: NAPPO's Regional Standard for Phytosanitary Measures (RSPM) No. 24 *Integrated Pest Risk Management Measures for the Importation of Plants for Planting into NAPPO Member Countries*, EPPO Standards: PM4 certification schemes. Canadian Food Inspection Agency's Policy Directive No. D-04-01, *Canadian Nursery Certification Program (CNCP).*

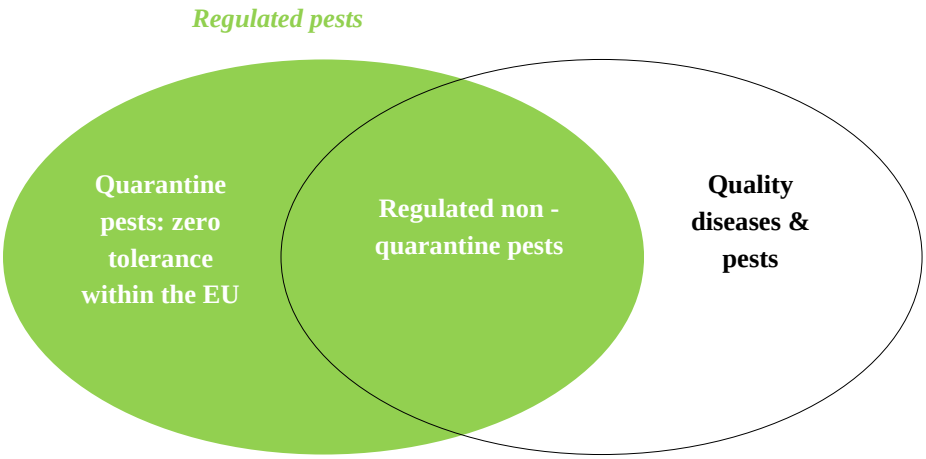
[94] EPPO Council Colloquium (Angers, FR, 2009-09-24), 'Increasing trade, changing climate, emerging pests: Is the plant health sector prepared?' (http://archives.eppo.org/MEETINGS/2009_conferences/council_colloquium.htm)

[95] http://ec.europa.eu/food/plant/propagation/index_en.htm

[96] Under the S&PM Directives pests which are widely established (which therefore do not qualify as quarantine pests), may be prohibited or only permitted within a certain tolerance on planting material such as certified seed potatoes, seeds and certain ornamental, vegetable and fruit plants. For seeds it is specified that all pests, must be at the lowest possible level. It is also possible under the requirements of the S&PM Marketing Directives that the marketing of a plant variety can be prohibited on the grounds that cultivation could be harmful in relation to plant health, to the cultivation of other varieties or species and there is an imminent danger of the spread of pests.

The distinction between the various pests and coverage by the two sets of legislation is graphically depicted below:

Figure 3-6: Positioning of RNQPs



Source: FCEC

The phytosanitary measures for RNQPs should be technically justified as required by the IPPC 1997. The classification of a pest as a RNQP and any restrictions placed on the import of the plant species with which it is associated should be justified by PRA (for which an international standard exists, ISPM 21)[97]. It is also necessary to demonstrate that plants for planting, including seeds, potted plants and bonsai are the main pathway for the pest and that the plants for planting are the main source of infestation (transmission pathway) of the pest that results in an economically unacceptable impact on the intended use of those plants. It is not necessary to evaluate the probability of establishment, the long-term economic impact of a RNQP nor the environmental effects, as RNQPs are organisms which are already present.

Following the publication of ISPM 16, the EU set up a Commission working group on "Regulated Non-Quarantine Pests" in EC legislation with the aim of exchanging information on this issue and to discuss elements related to the criteria that define RNQPs. A Commission paper entitled "Reflections on Community strategy for RNQPs" and a report to the Standing Committee on Plant Health[98] have been the two main deliverables of this working group.

The WG Report identifies Directive 2000/29/EC as the legal basis to provide mechanisms for control of RNQPs[99] and envisages three different scenarios to introduce and implement the

[97] According to ISPM 21, the objectives of a PRA for RNQPs are, for a specified PRA area, to identify pests associated with plants for planting, to evaluate their risk and, if appropriate, to identify risk management options to achieve a tolerance level. ISPM 21 is only to be used for seeds and plants for planting, to define the acceptable tolerance level, and this level should apply both for import requirements and domestic production.

[98] Report of the Commission Working Group on "RNQPs" in EC legislation, Brussels, 13 and 14 May 2004.

[99] In particular: imports: Article 3(4): tolerances via comitology; intra-EU trade: Article 3(4) and Article 3(3) ; inspection: Article 6 ; recognition of protected zones: if not the whole EC is relevant: Article 2.1(h); the use of plant passports: Article 10.1 or 10.2.

measures to regulate non quarantine pests, i.e. to apply an official control programme for the mentioned HOs. It notes that the same instruments (protected zones, plant passports, registration and yearly compulsory checks) used for RQPs can be used for RNQPs.

Based on the IPPC defining criteria, the Commission working group arrived at the conclusions that the following organisms might qualify as RNQPs:

- Most likely HOs listed in Annex II, Part A, Section II to Directive 2000/29/EC *("HOs known to occur in the Community and relevant for the entire Community"*[100]), and possibly HOs listed in other Annexes such as Annex I, Part A, Section II and Annex II, Part B;
- HOS for which plant health requirements are listed in the S&PM Directives (i.e. those *"HOs which reduce the usefulness of the seed and plant propagating material shall be at the lowest possible level"*), in particular those transmitted on plants for planting.

This working group highlighted several issues related to the definition and implementation of the RNQPs in the EU regulation. The main ones can be listed as follows:

- As a RNQP should be "present and maybe widely distributed", the question is who assesses the presence or not of the given HOs, on which criteria and how to qualify these;
- The concept of RNQPs applies to plants for planting, which includes seeds and potted plants. How can the criterion that plants for planting are "the" main source of pest infestation be assessed;
- How to segregate commercial from non-commercial use, as required by ISPM No. 16? Is this always feasible?
- ISPM No. 16 refers to specific plants (species, varieties, etc.) and ISPM No. 21 indicates that generally the taxonomic unit is the species, leading to the question how to anticipate problems when a given HO is present on several species.

The report concludes that the concept of RNPQ may be "very complex, expensive and difficult to implement", identifying in particular three main critical points: lack of clear advantages versus the current system; difficulty and costs of verifying compliance with thresholds; different status of the HO in parts of the EU or of MS.

The question that has been addressed in the survey and during the interviewees is whether the RNQPs should be regulated under the S&PM *acquis* or the CPHR. In the general survey, the position of MS on this question is inconclusive. Five MS indicated that some HOs currently listed in the S&PM Marketing Directives should be listed in Directive 2000/29/EC, while 11 MS indicated that some HOs should be de-listed from Directive 2000/29/EC and be transferred to the S&PM Marketing Directives:

[100] On the basis of the IPPC criteria, the WG Report identifies three examples of HOs which qualify as RNQPs: *Aphelenchoides besseyi* Cristie, *Phytophthora fragariae* Hickmann var. *fragariae* and *Plum pox virus*, currently listed in Annex II Part A, Section II.

General survey results

Q2.1.c Are there HOs which are currently not regulated under the Directive 2000/29/EC, but under the Directives on the Marketing of S&PM, and should be transferred to the plant health Directive?

5 out of 24 MS CAs consider that some HOs should be transferred from the S&PM *acquis* to the CPHR (9 MS CAs do not know); no stakeholders considered so (22 stakeholders do not know).

Q2.1.d Are there HOs which are currently listed in the plant health Directive 2000/29/EC but should be transferred to the Directives on the Marketing of S&PM?

11 out of 25 MS CAs and 8 out of 28 stakeholders consider that some HOs should be transferred from the CPHR *acquis* to the S&PM (8 MS CAs and 17 stakeholders do not know).

In general terms, both MS and stakeholders indicated that there is no inconsistency between the CPHR and the S&PM *acquis*, but overlaps exist and should be removed e.g. some HOs are listed in both sets of Directives (Q9.1). This conclusion was already present in the S&PM *acquis* evaluation carried out by the FCEC in 2007-08.

Some MS CAs and other interviewees have suggested that pests which could be considered as RNQPs should be identified and moved from the S&PM *acquis* and from Annexes I and II of Directive 2000/29/EC to a new Annex of the Directive specific to RNQPs. Furthermore, for plants for planting (including seeds and potted plants) as pathways for spreading, these should be included in the plant health Directive, aligning with the IPPC.

MS CAs in particular see some advantages in the inclusion of RNQPs in the plant health regime. This would, in the view of some MS, simplify the application of regulations for stakeholders, strengthen effectiveness of both PH and S&PM inspections, while ensuring a better level of protection.

It is also suggested that, given the difficulty of controlling RNQPs and to fully take into account regional aspects, substantial prioritisation would be needed and the actual number of RNQPs be kept fairly limited, at least during the period when the concept was being introduced. For the same reason, leaving the Marketing Directives with some 'softer' non-harmonised, non-SPS-related provisions might be advisable, at least in a transitional period.

On the other hand, it is suggested by a larger number of MS that a number of HOs[101], mostly listed in the Annex II part A section II[102], which are widespread in the Community and for which there are no PZs – but for which official supervision on containment measures is required - should be regulated in the S&PM Marketing Directives, de-listed or liberalised for the local/regional conditions. This point should be considered carefully as only certified material is being inspected in S&PM, leading to the point that moving some HOs from the CPHR regime to the S&PM *acquis* would lead to a complete elimination of inspections. The proposed approach is only valid for crops and species for which seed certification is required.

[101] Strawberry blackspot is an example. Other examples are HOs for planting material, such as strawberry diseases viruses and virus like organisms.

[102] A way of identifying these HOs would be to compare the Annex II part A section II with the list A2 of EPPO: those in 2.A.2 not the object of PZ and not listed in the EPPO A2 would be transferred to the S&PM Marketing Directives and then managed through certification (some examples are provided).

Suggestions on transfer of HOs between S&PM and PH Directives, according to the survey, are as follows:

To transfer from S&PM to PH	**To transfer from PH to S&PM**
Viruses for species Malus and Pyrus	Some HO listed in Annex IIAII for planting material:
Erwinia chrysanthami on potatoes	*Xanthomonas fragariae* on *Fragaria* because this HO does not seem to have an important economic impact
To be listed in a separate Annex of regulated non quarantine HOs in Directive 2000/29/EC:	Some viruses listed on *Fragaria* (among which Strawberry mild yellow edge virus (SMYEV) because they do not seem to have an important economic impact
Arabis mosaic virus	Apple proliferation phytoplasma
Bemisia tabaci	European stone fruit phytoplasma
Erwinia carotovora subsp. *carotovora*	HOs of hop (*Hopfenkrankheiten*)
Erwinia chrysanthemi,	*Mycosphaerella pini* (listed as *Scirrhia pini)*
Franklinella occidentalis	Pepino mosaïc virus (object of emergency measures) because it could be foreseen that this HO is managed through a system of seed analysis by the professionals (operators).
Grapevine fanleaf virus	Plum pox virus
Grapevine fleck virus	Strawberry diseases (like *Colletotrichum*; *Xanthomonas*)
Grapevine rupestris stem pitting virus	*Xanthomonas campestris* pv. *vesicatoria* on *Lycopersicon lycopersicum*
Longidorus spp.	
Meloidogyne spp.	
Phthorimaea operculella	
Quadraspidiotus perniciosus	
Raspberry bushy dwarf ideo virus etc.	
Xiphinema spp.	

On a general level, more coherence is required between these two sets of legislation, and it is expected that stronger harmonised requirements in the S&PM Marketing Directives would be a good tool to address some plant health problems.

The transfer of some HOs from one to the other set of legislation is therefore considered appropriate by several MS. The decision on this will ultimately depend on the need or otherwise for the management measures provided under Directive 2000/29/EC. For widespread HOs (i.e. that could be defined as RNQPs) that may still require phytosanitary management measures provided under Directive 2000/29/EC, the introduction of thresholds of tolerance could be considered (i.e. making a new Annex for RNQPs in the Directive). These could be regularly reviewed on the basis of surveillance and PRA updates. For widespread HOs (RNQPs) that do not require the management measures provided under Directive 2000/29/EC, the transfer to the S&PM Marketing Directives could be considered.

In conclusion, the results of the evaluation indicate that the major issue on the appropriate positioning of RNQPs is the current overlap between the two sets of legislation (Directive 2000/29/EC and the S&PM Directives) rather than inconsistencies, and that a mechanism should be in place to allow careful consideration for transfer of eligible RNQPs between the two sets of

Directives. An analysis of options for the appropriate positioning of RNQPs and recommendations are provided in section 5.1.4.

3.2.3 Conclusions on performance of the classification system

The evaluation has examined the following aspects of the current classification system:

The current approach for listing HOs in Directive 2000/29/EC (several Annexes with lists for which a range of measures are foreseen, 250 HOs in total) is based on historical approach of EU MS, therefore reflects MS and EU historic priorities on risks. Although the number of listed HOs as such is not an issue for effective management at MS CA level in terms of imports from third countries, there is need for revising the lists (reviewing the approach to Annexes I and II in particular), and for considering prioritisation of HOs that are of EU-wide concern (e.g. in the context of pathway analysis for import inspections, or for intra-EU surveillance measures); especially as concerns HOs occurring on EU territory. If greater prioritisation is needed, then this could be based on criteria to be developed, and the general survey has already pointed in the direction these could take. The scope for prioritisation is explored further in relation to options for the future to ensure better prevention and to maximise the cost-effectiveness of current measures and resources (in particular for import inspections and for intra-EU surveillance, sections 5.2 and 5.3 respectively).

Additions to the lists of the Directive, on the basis of PRAs, are constrained by current data availability and methodologies and this delays process for listing new HOs. Longer term, the EU FP7 funded project PRATIQUE is expected to support the development of generic methodologies with a view to improving PRA availability on a systematic basis and more proactively (before risks emerge). In the meantime, the use of fast-track risk analysis to speed up the adoption of measures (particularly in emergency situations), as well as improving cooperation between all bodies currently involved in PRAs (EFSA, EPPO, MS CAs, stakeholders where possible) should be considered.

More generally, major limitations of the current approach are found to be the lack of horizon scanning and the lack of efficiency in dealing with emerging risks. Approaches to overcome these issues are explored further under the options for the future in sections 5.2 (prevention at import) and 5.4 (emergency action) respectively.

Secondly, the approach followed for the positioning of Regulated Non Quarantine Pests (RNQPs) was examined. The question is raised because in the EU, two sets of legislation currently cover the range of regulated pests: the Plant Health Directive 2000/29/EC and the Marketing Directives for Seeds and Plant Propagating Material (S&PM). In conclusion, the results of the evaluation indicate that the major issue of concern is the current overlap between the two sets of legislation rather than inconsistencies, and that a mechanism should be in place to allow careful consideration for transfer of eligible RNQPs between the two sets of Directives. Consequently, an analysis of options for the appropriate positioning of RNQPs and recommendations are provided in section 5.1.4.

3.3 Surveillance provisions

This section summarises the findings of the evaluation on the CPHR performance to date, taking into consideration EQ 6 (area B) of the ToR.

EQ6: What provisions exist in Member States for general surveillance for the presence of listed organisms, non-listed organisms, and organisms for which emergency measures are in place, in relation to pest status, and how are they implemented?

The aim of surveillance is to monitor the emergence and evolution of new risks so as to provide early warning. Surveillance in the field of plant health can be distinguished into: a) general monitoring, b) import monitoring, c) export monitoring and d) area-wide monitoring (more details are provided in Annex I, Theme I).

General surveillance is currently carried out entirely on a voluntary basis. The only obligations established at EU level are in the case of emergency and control measures, and in protected zones (PZs).

3.3.1 Compulsory surveillance

The CPHR specifies that surveillance is compulsory in protected zones, under certain emergency measures and control measures as follows:

- Article 2(1)(h) of Directive 2000/29/EC requires that MS shall conduct regular and systematic surveys for the presence of the organism in respect of the protected zone that has been recognized. The implementation of the PZ system is being discussed in Section 3.6.
- Emergency Commission Decisions and control measures Council Directives provide that MS shall conduct official specific surveys for the presence of HOs in the EU. The implementation of these Directives is being discussed in Section 3.7.

The list of mandatory surveillance plans is defined in the relevant legislation, as follows:

Table 3-4: List of obligations for mandatory surveillance in the MS

Emergency measures		**Requirement for establishment of an official survey programme**
Emergency measures against *Thrips palmi* as regards Thailand	Commission Decision 98/109/EC	NO
Emergency measures against *Phytophthora ramorum*	Commission Decision 2002/757/EC	YES (Article 6(1)) Reporting by Dec. 1st of each year
Emergency measures against *Diabrotica virgifera*	Commission Decision 2003/766/EC	YES (Article 6(1)) Reporting by Dec. 31st of each year
Emergency measures against Pepino mosaic virus *	Commission Decision 2004/200/EC	YES (Article 4)
Emergency measures against Pinewood nematode	Commission Decision 2006/133/EC as last amended by Decision 2009/420/EC	YES (Article 3(B) and Article 4)

Emergency measures		**Requirement for establishment of an official survey programme**
Emergency measures against *Dryocosmus kuriphilus*	Commission Decision 2006/464/EC	YES (Article 5(1)) Reporting by Dec. 31st of each year
Emergency measures against *Rhynchophorus ferrugineus*	Commission Decision 2007/365/EC	YES (Article 5(1)) Reporting by Feb.28st of each year
Emergency measures against Potato spindle tuber viroid *	Commission Decision 2007/410/EC	YES (Article 3(1))
Emergency measures against *Gibberella circinata*	Commission Decision 2007/433/EC	YES (Article 5(1)) Reporting by Dec. 15st of each year
Emergency measures against *Anoplophora chinensis* (Forster)	Commission Decision 2008/840/EC	YES (Article 4) Reporting by April 30st of each year
Emergency measures for import		
Emergency measures against *Pseudomonas solanacearum* (Smith) as regards Egypt	Commission Decision 2004/4/EC	Not appropriate. The emergency measures pertain to import from Egypt,MS have to check and also carry out random sampling and testing.
Emergency measures in respect of certain citrus fruits originating in Argentina or Brazil	Commission Decision 2004/416/EC as amended	N.A.
Community control measures		
Community control measures for potato wart disease	Council Directive 69/464/EEC	NO
Community control measures for potato cyst eelworm	Council Directive 69/465/EEC [will be repealed by Council Directive 2007/33/EC (in force as from 1/7/2010)]	YES
Control of carnation leaf-rollers	Council Directive 74/647/EEC	NO
Community control measures for potato ring rot	Council Directive 93/85/EEC as amended.	YES Article 2.1
Community control measures for potato brown rot	Council Directive 98/57/EC as amended	YES Article 2.1

* No longer formally required in legislation, but agreement with MS that reporting will continue

Source: compiled by FCEC, on the basis of the relevant legislation

The notification to the FVO of results of annual surveillance related to emergency and control measures is an annual obligation of MS. Data on reporting by MS (notifications of the results of surveys in PZs) confirm that the majority of MS report the findings for the PZs established in the country to the Commission annually, whereas for some countries this is subject to a very discontinuous trend and in the case of one country there has been no reporting activity in the last years for several HOs. These issues are further explored in section 3.6.

With regard to mandatory surveillance requested by emergency and control measures, data compiled by the FVO[103] confirm that not all MS annually report to the Commission on the surveys conducted, or do not perform mandatory surveys at all. Experts' interviews also suggest

[103] The FVO compiles annually tables on the survey results notified by the MS. This has historically been done by the FVO, although it is not an element of FVO's mission.

that figures on resources invested in surveillance reveal that there is not a harmonized approach concerning the relative importance attached to surveillance.

Table 3-5: Overview of reporting of mandatory surveillance results by MS

HOs	Year	Number of reporting MS
Emergency measures against *Thrips palmi* as regards Thailand	n.a.	n.a.
Phytophthora ramorum	2004	23
	2005	23
	2006	23
	2007	24
	2008	26
Diabrotica virgifera	2005	21 MS out of 22 concerned 1 MS did not notify the EC of the results. 1 MS did not carry out the survey for 2nd consecutive year.
	2006	20 MS out of 23 concerned 4 MS did not notify the EC of the results.
Pepino mosaic virus	2007	24
	2008	25
Pinewood nematode	2005	20
	2008	26
Dryocosmus kuriphilus	2008	Public gardens: 19 out of 23 concerned Nurseries: 15 out of 19 concerned Orchards: 7 out of 12 concerned
Rhynchophorus ferrugineus	2007	21
	2008	22
Potato spindle tuber viroid	2007	24 MS reporting, of which 20 carried out survey
Gibberella circinata	2008	Nurseries: 22 Demarcated forest sites: 12 out of 17 Forest including parks, gardens etc: 22
Anoplophora chinensis (Forster)	2008	17
Emergency measures for import		
Emergency measures against *Pseudomonas solanacearum* (Smith) as regards Egypt	n.a.	n.a.
Emergency measures in respect of certain citrus fruits originating in Argentina or Brazil	2006	21 out of 25 concerned
Community control measures		
Community control measures for potato wart disease	n.a.	n.a.
Community control measures for potato cyst eelworm	n.a.	n.a.
Control of carnation leaf-rollers	n.a.	n.a.

Source: Annual reports on mandatory surveys' results, compiled by DG SANCO – F.4

In addition the number of MS reporting on the surveillance carried out in connection with the Community control measures on potato brown rot and ring rot are provided below. Surveillance reporting in the context of these two measures is the most thorough in the EU (in terms of consistency from year to year and MS coverage, as well as reporting contents).

Table 3-6: Overview of reporting of mandatory surveillance for potato diseases

													Number of reporting MS, 1994-2008	
Community control measures for potato ring rot														
1994	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**
12	14	15	15	15	15	15	15	15	24	24	23	25	27	27
													Number of reporting MS, 1995-2008	
Community control measures for potato brown rot														
1995	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	
12	14	15	15	15	15	15	15	24	24	24	25	27	27	

Source: Annual reports on mandatory surveys' results, compiled by DG SANCO – F.4

With regard to the obligation of notification to the Commission of the survey results, the general survey has addressed the question of reporting delays, with the majority of MS indicating they report within the legal deadline, but nearly a third of MS indicating they exceed the legal limit. Most of the interviewees commented that the timing for reporting is often seen as too short. According to MS CAs, the deadlines that have been defined in the legislation do not allow all them to gather all the required information in the given period of time and especially in MS with decentralized administration, where information has to be collected from the different regions and compiled by the NPPO before submission to the FVO.

General survey results

Q2.5.a Extent to which MS have established surveillance/monitoring programmes required by EU legislation

Surveillance and monitoring programmes required by EU legislation (for PZs and in relation to Community emergency measures) are implemented fully by the majority of MS (22 out of 24 CAs) and partly by 2 MS.

Q2.5.a Speed of reporting survey results to DG SANCO

The majority of MS CAs (17 out of 25) report results within the legal deadline, whereas 7 report within 1 month after legal deadline and one MS reports more than one month after the deadline.

Furthermore, the general survey and the interviews identified several issues linked to the implementation of these mandatory surveillances plans as follows:

- Although it is recognized that surveillance measures for HOs covered under Control Directives are harmonised (e.g. Control Directives on potatoes), several reported examples show a lack of uniformity in the implementation of surveys. In case of emergency measures, no protocol on how to set-up a survey for a given HO is given. It is up to MS to define and implement the measures and this results in variable and different protocols. For example, in the case of *Diabrotica* it has been observed that the trapping density is very different across MS[104]. In the case of surveillance for potato measures, there are differences in the sampling method and the results are highly dependent on sampling. A large majority of interviewees consider that more guidance is needed on this; the EU survey protocol for PWN is indicated as an example given to MS on what surveillance plans are needed and how these should be drafted. EU wide protocols should be defined whenever possible;

[104] DIABR-ACT Action Plan

- There are differences in institutional and financial capacities between MS. HOs that are not present in MS have not generally been actively monitored and it may be the case that these organisms are in fact present. While inspection costs on the field or for import consignments are transferred to private operators (traders, growers, farmers), surveillance costs are mainly borne by NPPOs. Splitting tasks and costs between the private and public sectors may be possible, but there would need to be some kind of incentive for producers.
- Although since 2000 there is legislation on compulsory surveillance for emergency measures and PZs (to verify that the organism is not present), there is no Community financing and no way for the Commission to require MS to put the resources in to do this. Although most MS carry out monitoring in emergency cases and PZs (as the above data and feedback from the general survey demonstrate), the intensity of the effort is so variable that in some cases it appears that some surveillance programs are put in place merely to fulfil a formal obligation rather than to identify HOs. This impression is reinforced by the fact that some MS consider some surveillance plans to be useless. For example, in the case of one of the visited MS maize acreage is limited and crop rotation is used on nearly 100% of the acreage and therefore there are no risks of *Diabrotica* spreading. Because the surveillance plan is mandatory, it is implemented at the lowest possible cost. An improved approach, therefore, would be surveillance based on risk according to individual MS (as currently the case in the MS indicated in the above example);
- The reports being produced annually by the FVO are considered of value but some lack of reporting has been observed, apart from the fact that if a MS does not have hosts for a particular HO it should not report. Additionally, survey reports are not harmonised (with the exception of data collected on brown rot and ring rot). There is no obligation on reporting format and therefore these reports are not actually being used by MS CAs officials.

3.3.2 Other surveillance programmes

As regards other programmes of general surveillance, 20 MS CAs indicated the HOs for which this activity is in place in their country (Q 2.6 of the general survey); the following observations can be made:

- Surveillance programmes are MS specific: the majority of combinations 'HO - type of plant/crop' subject to surveillance appear to be of particular concern to individual MS, probably depending on the significance of the threat that the surveyed HOs represent for the economic or environmental interests of the area surveyed.

- A number of HOs are more widely surveyed across the Community, such as for instance *Potato stolbur phytoplasma, Xanthomonas (campestris and fragariae), Monilinia fructicola, Phytophthora kernoviae, Tilletia, Anoplophora glabripennis, Liriomyza, Tuta absoluta, Meloidogyne chitwoodi, Plum pox virus, Tomato spotted wilt virus.*

The general survey results do not provide further explanation on the methodology (protocols, frequency, etc) followed for such surveillance. From the interviews of MS CAs, it appears that differences exist between MS also at this level. Some MS provide good examples of general surveillance practice, and their position is that surveillance should be reinforced. The involvement of private operators in surveillance programmes is also very variable among MS.

Currently, the general approach appears to be that if an organism is not allowed in to the EU, then it is not present in the EU, but this may not in fact be the case. Under the current legislation, MS cannot be obliged to carry out surveillance for HOs other than those covered by the PZ and emergency and control measures: there is no Community financing and no means for the Commission to require MS to put the resources into this. The lack of funding for this activity is in the view of some MS a clear lack of incentive for applying any type of general surveillance.

In the forestry sector general surveillance (targeting the broader environmental and biodiversity indicators, but also including certain phytosanitary aspects) was considered to have achieved a fairly harmonised level across the EU, as it was regulated and financially supported up to 2006[105]; however, there has been no further follow up, and now MS only receive support for projects on an ad hoc basis. Although the surveillance aimed at identifying general problems on the state of EU forests, nonetheless it provided a systematic record, as every 4-5 years MS were supposed to provide detailed surveillance information and data. Although more general than the surveillance required for monitoring plant health, if the programme had continued it would have been useful also for this purpose. It appears that the networks created under this action continue to exist, and there may be scope to explore any synergies that could be developed with the more specific surveillance required in the context of the CPHR.

The effectiveness of phytosanitary measures greatly depends on the continuous exclusion of HOs or, if an introduction has already occurred, on early identification and quick response in the period between the introduction and the first notification of the presence of the organism. This is one of the key elements for an effective strategy. The perceived variation in scope, contents and methodology of the surveillance programmes in the MS suggest that there is significant scope for more generalised and harmonised surveillance programmes across the EU, at least for priority HOs. In order to effectively enforce this requirement on MS, potentially EU co-financing should also be considered.

The need for global monitoring of the phytosanitary status in the EC territory was stated in the 2008 "Council Conclusions of the Review of the EU Plant Health Regime"[106]. Given the limited resources of NPPOs at MS level, two ways to achieve this objective were indicated:

- Formalising plant health monitoring networks (with the inclusion of the stakeholders concerned); and,
- Formalised system of phytosanitary precautionary surveillance.

With regard to these two points, of particular interest would be the case of one MS (France), where a process of organization of a surveillance system with substantial stakeholder

[105] The action taken was the Forest focus (Council Regulation 2152/2003 and Commission Regulation 1733/2006) – which was a joint action between the Commission (DG ENV) and the UNC ICP forest. It was a follow up of earlier legislation and action managed by DG AGRI.

[106] Council of the European Union. Review of the EU Plant Health Regime – *Council conclusions.* Press release 2906th Economic and financial affairs/budget, 21 November 2008.

involvement is on-going. The system[107] was based on the outcome of a large consultation and has – among others - the aim of reducing the use of Plant Protection Products (PPPs) by half in the next 15 years. To meet this objective, amongst other measures, the establishment of a more robust general surveillance system is foreseen, in order to reduce the pressure of pests on agricultural and non-agricultural areas, and therefore the amount of PPPs likely to be required to protect these areas. The main objectives of the surveillance programme are: the early detection of regulated HOs that are not yet present in the territory; the close monitoring and control of already present regulated HOs in parts of the territory; and monitoring of key non regulated pests and diseases that may have important economic impacts in the territory. Private operators are involved in a type of cost-responsibility sharing scheme. The financing of this surveillance scheme has not yet been fully developed, but it appears to fit in the orientation of the new law on modernization of agriculture, to enter into force in 2010, which obliges private operators and farmers to report any plant health problems and HO findings.

Involvement of stakeholders and, more broadly, of the general public is also promoted in other MS (e.g. in the UK last month press reports indicated a whole range of IAS that should be reported by the general public to the competent authorities).

3.3.3 Reporting and notification of findings

According to Art. 16 of Directive 2000/29/EC, each MS has to immediately notify the Commission and the other MS:

- Of the presence on its territory of any listed HOs (or of the appearance in part of its territory in which their presence was previously unknown of any of the HOs listed in Annex I, Part A, Section II or in Part B or in Annex II, Part A, Section II or in Part B);
- Of the actual or suspected appearance of any not listed HOs.

The Directive also states that the MS shall take all necessary measures to eradicate, or if that is impossible, inhibit the spread of the HOs concerned and inform the Commission and the other MS of the measures taken.

General survey results
Q2.6. b. Within what timeframe does the plant protection organisation in your country usually notify outbreaks and findings of new organisms resulting from surveillance/monitoring to the Commission and the Member States?
The majority of MS CAs (17 out of 25) report findings >1 week, 8 MS report within 2 days – 1 week

Reporting of notifications of outbreaks and findings to the Commission is done by mail, fax or e-mail to DG SANCO and is posted on CIRCA for information to the other MS. EUROPHYT is not used and is not designed to be used for outbreak notifications under Article 16(1) and (2)[108].

It is rather difficult, therefore, to collect evidence of the timing of notification from MS to the Commission in cases of outbreaks or new findings. As the general survey results show, the

[107] "S*urveillance biologique du territoire*"

[108] The details required and system of internal interception notifications and outbreak notifications were never given the legal basis foreseen under Articles 12(4), second subparagraph and 21(6) and (7) respectively.

timeframe is longer than requested in the legislation. Interviews with experts confirm this point, indicating that notifications of outbreaks and new findings generally are subject to consistent delays, and that there is significant variability among MS. There have been cases in the past where MS have notified the Commission with severe delays (from one month to the range of years in one or two cases) and therefore delaying the possibility of taking actions to avoid the spread in other MS of the HOs discovered in the territory, and to take appropriate actions for eradication. Furthermore, it is noted that the obligation to report is crucial also for the commitments of the EU vis à vis trading partners, as the EU has committed, in some FTAs, to report on pests within a certain timeframe. The EU reporting systems should therefore support this obligation.

Notwithstanding best practices in notification, there are cases where delays have been important, as illustrated by the examples below:

Table 3-7: Time delays in notification of findings, selected recent examples (2009/10)

HO	Reporting country	Time of finding	Time of notification
Anoplophora chinensis	MS1	December 2009	January 2010
	MS2	6 July 2009	25 August 2009
	MS3	Survey 2008	4 February 2009
Anoplophora glabripennis	MS2	28 August 2009, 2 September 2009	2 December 2009
	MS3	24 June 2009	10 July 1009
Dryocosmus kuryphilus	MS4	28 May 2009	13 July 2009
Gibberella circinata	MS5	3 August 2009	16 November 2009
Plum Pox virus	MS6	3 June 2009	1 July 2009
	MS6	October 2008	January 2009
Citrus Tristeza virus	MS7	5 November 2008	20 December 2008

Note: Information on the dates of findings is not always available in the notifications document; therefore this table is by no means exhaustive with respect to the outbreaks occurring in the selected year.

Source: FCEC, based on reports available in CIRCA

Notification of outbreaks and new findings appears to be conducted in a rather unsystematic way and with considerable delays in certain cases (even after taking into account the time required to perform the requested analysis). Some experts also indicate that MS do not notify all outbreaks.

It is agreed by most of the parties consulted during the evaluation that the system of notification needs improvement. In particular, as early detection of risks and a pro-active approach to new risks are elements which are considered crucial to improve the regime, the instruments of notification is considered important (from MS to the Commission), as well as the involvement of persons/organizations other than CAs (from stakeholders to MS).

The notification system for the early detection and communication of risks should be improved through an improvement of the existing EUROPHYT. As explained above, this information is currently missing in the EUROPHYT database, which instead could be used as a monitoring tool to report more systematically on the evolution of outbreaks, following a uniform format. MS

would thus save time by focusing on notifying only relevant information. In the view of an expert, the experience gained through RASFF would help in further developing the existing system, for instance envisaging two types of alert reporting (alerts of new risks or high risks/alerts of low risks or risks that occur regularly) with different reporting times.

It is also suggested that greater access to information should be provided to stakeholders. At present there is considerable reliance on reports from the CAs to keep the industry up to date, leading to significant delays in the communication of information that is crucial for early warning and response by all parties, or even total communication failure in some cases. An electronic notification system is also advocated by stakeholders.

3.3.4 Conclusions on performance of surveillance system

Surveillance is currently compulsory only in the case of emergency, control measures and protected zones. The degree of application of the mandatory surveillance is variable by HOs, and systematically undertaken only for the potato diseases. Procedures for surveys are not harmonised at EU (with the exception of PWN) and there is request from several parts for a greater harmonisation of protocols and reporting formats.

Notification of findings is not done within the legal requirements in the great majority of cases. This has hindered the possibility for early action against HOs, and delayed communication of information to CAs and stakeholders. There is agreement on the need to introduce a quicker system for notification of findings and outbreaks, which could be developed within the current EUROPHYT and serve for rapid communication, possibly to all parties involved (public and private) and also as a database.

With regard to general surveillance, this is carried out by some MS for certain HOs, according to national priorities and following different procedures and reporting standards. This affects the extent to which comprehensive information on the spread of HOs on the EU territory is available, thus leading to delayed transmission of information on HO findings, delayed response to outbreaks, and less effective and efficient eradication measures. In this context, involvement of private operators has been limited, despite the importance of stakeholder involvement in early action. The view of the majority of those consulted during the evaluation is that an effective system of surveillance needs to involve the full network of actors in this field.

There is general agreement about the importance and need of more and intensified surveillance, and support for introduction of compulsory general surveillance at EU level for priority HOs, although views on the process and criteria to be used for the identification and selection of HOs to be subject to such surveillance, as well as the scope and method of the surveillance, are diverging. The introduction of surveillance on a compulsory basis is associated with general support for introduction of EU co-financing for this measure.

The options for the future of the EU surveillance system are explored further in section 5.3.

3.4 Import regime

This section summarises the findings of the evaluation on the CPHR performance to date, taking into consideration EQ 7 (area C) of the ToR.

EQ7. How is current import regime implemented by Member States, how effective is it and what are its critical success factors?

The effectiveness of the current import regime, as implemented by the MS, is examined by analysing the following elements:

- Notifications of interceptions;
- Efficacy of the system in dealing with non-compliance;
- Cooperation with Customs and consistency and interoperability of nomenclature and IT systems;
- Functioning of the reduced-frequency checks system for imports of end products;
- Functioning of the system of derogations, including derogations for scientific and breeding material;
- Use and usefulness of the additional declaration on the phytosanitary certificate and of Annex VI of the base Directive;
- Functioning of identity and PH checks at the place of final destination (PoD) instead of the point of entry (PoE) and fulfilment of minimum requirements at the PoE;
- Need for further development of electronic certification;
- Need for measures addressing passenger transport;
- Need to enforce capacity building in TCs;
- Effectiveness of emergency measures.

A description of the current import restrictions and requirements relating to the import of plants and plants products is provided in **Annex 1 (Theme 2)**.

3.4.1 Analysis of notifications of interceptions

In case of interceptions of material non-compliant with plant health requirements, as laid down in Article 13c(8) of Directive 2000/29/EC, the responsible official body shall inform the Commission and the NPPO of the third country of origin or consignor country, within two days[109], via a notification to the EUROPHYT system. This common database is being used for the notification/storing of all data regarding interceptions in the normal trade flow. The reason for the interception must be provided, including for example incomplete formalities or the detection of HOs. The Commission may then study the case with a view to taking measures to prevent further similar occurrences.

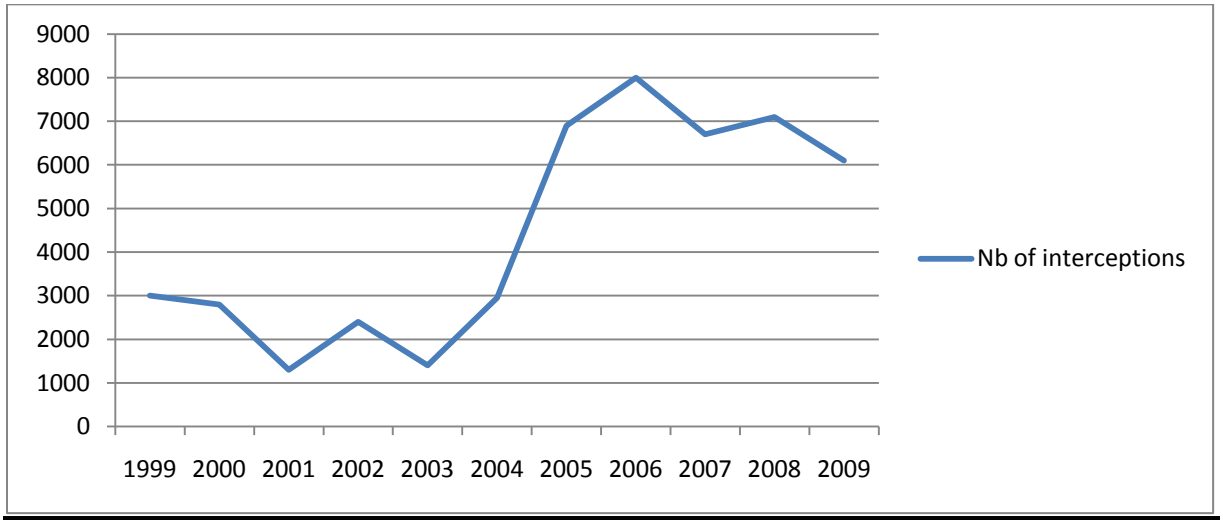
The following Figures and Tables present an overview of the notifications as recorded in EUROPHYT to date. EUROPHYT records notifications of interceptions both at import point and

[109] From the moment that the final diagnosis has been made.

after clearance for trade within the EU; the majority of the interceptions presented below have been on imports from third countries.

The total number of interceptions as recorded in the EUROPHYT database significantly increased during the 2004-2006 period to reach a peak in 2006. This can certainly be explained by the accession of 10 NMS in 2004. Since then a decrease of more than 20% has been observed, moving from about 8,000 to 6,000 notifications from 2006 to 2009. Prior to 2004, there had also been a similar pattern of decrease in the number of interceptions per year as that observed during the 2006-09 period. EUROPHYT records notifications of interceptions both at point of import and after clearance for trade within the EU; the majority of the interceptions recorded to date have been on imports from third countries.

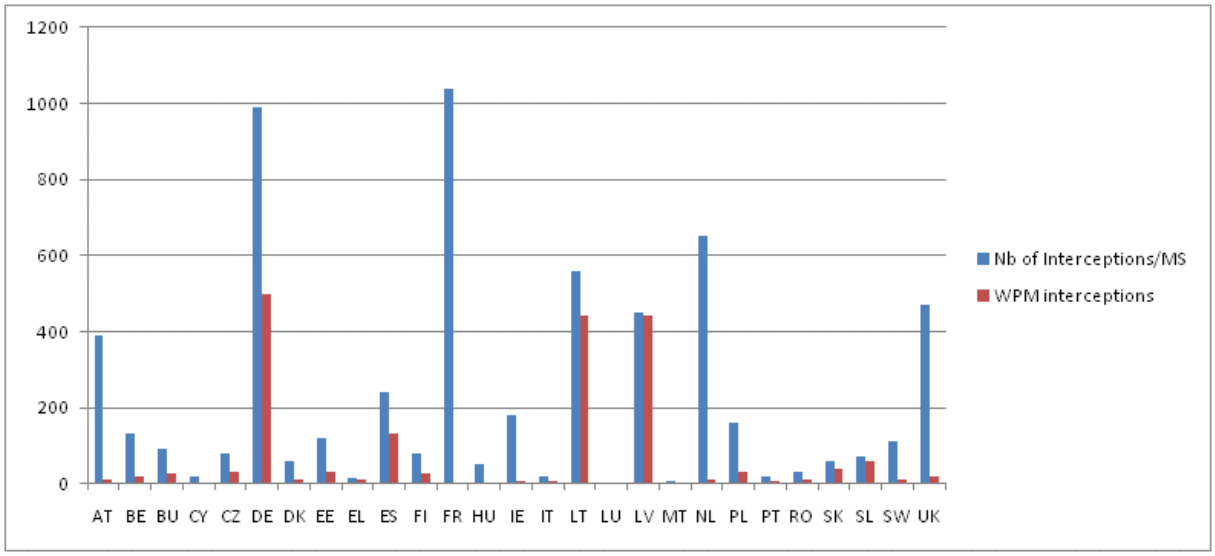
Figure 3-7: Number of interceptions recorded in EUROPHYT (1999-2009)



Note: These statistics are based on declared data in EUROPHYT and may not present the full picture of the situation in cases where MSs have not been notifying every year e.g. CZ, IE, and IT.

Source: Compiled by FCEC based on EUROPHYT data and FVO analysis

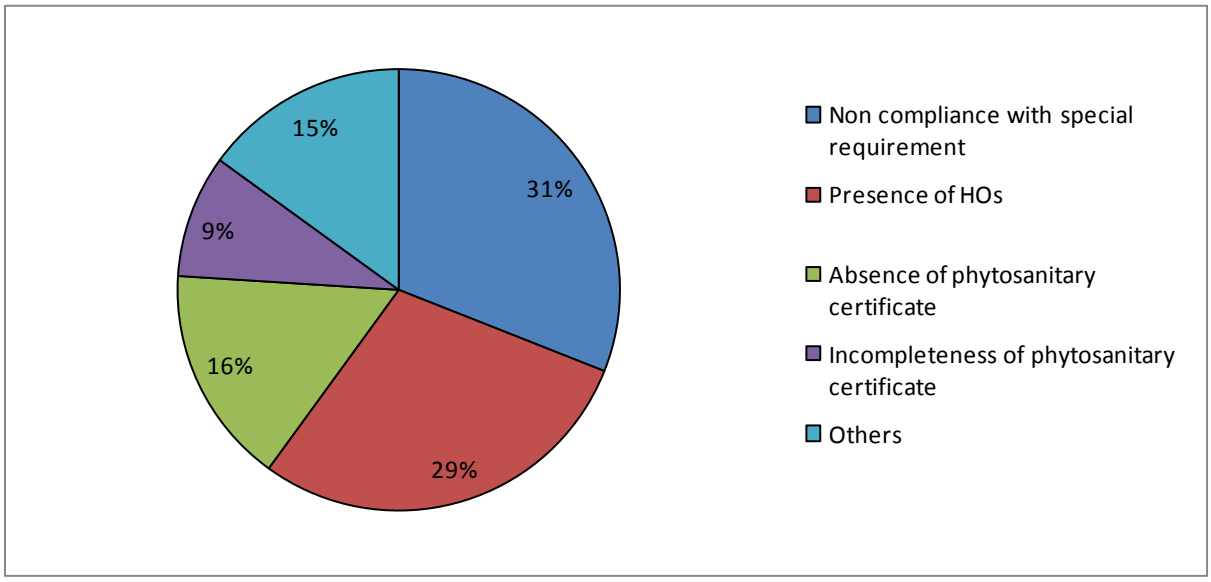
Figure 3-8: Number of interceptions recorded in EUROPHYT per MS and per major type of consignment (2009)



Source: Compiled by FCEC based on EUROPHYT data and FVO analysis

A large majority of the 2009 interceptions were notified by seven MS including two NMS (FR, DE, AT, NL, UK, LT and LV). FR and DE alone contribute more than 35% of the total number of interceptions notified to EUROPHYT. The high figures for LT and LV can be explained by the fact that these two MS are major traders with East European third countries, e.g. Russia and Belarus, and therefore a large number of consignments are entering the EU via these two NMS, with the large majority of interceptions being consignments of WPM coming from Russia. Several interviewees have commented that the number of interceptions regarding consignments of WPM has been increasing significantly from Russia and the USA, while at the same time decreasing from India and China since 2005.

Figure 3-9: Main reasons for interceptions, as recorded in EUROPHYT (2009)



Source: Compiled by FCEC based on EUROPHYT data and FVO analysis

The main reasons for interception are non-compliance with special requirements (31% of the total number of interceptions in 2009, of which 95% are for WPM), followed by the presence of HOs in the consignment (29%), and the absence or incompleteness of phytosanitary certificates including problems with additional declarations (16% and 9%, respectively). These four reasons account for 85% of interceptions in 2009. An analysis of data on the reasons for interceptions over time shows that the significance of these four reasons has been quite constant.

The analysis of the data on interceptions due to the presence of HOs demonstrates that these mainly relate to the presence of insects in the consignments.

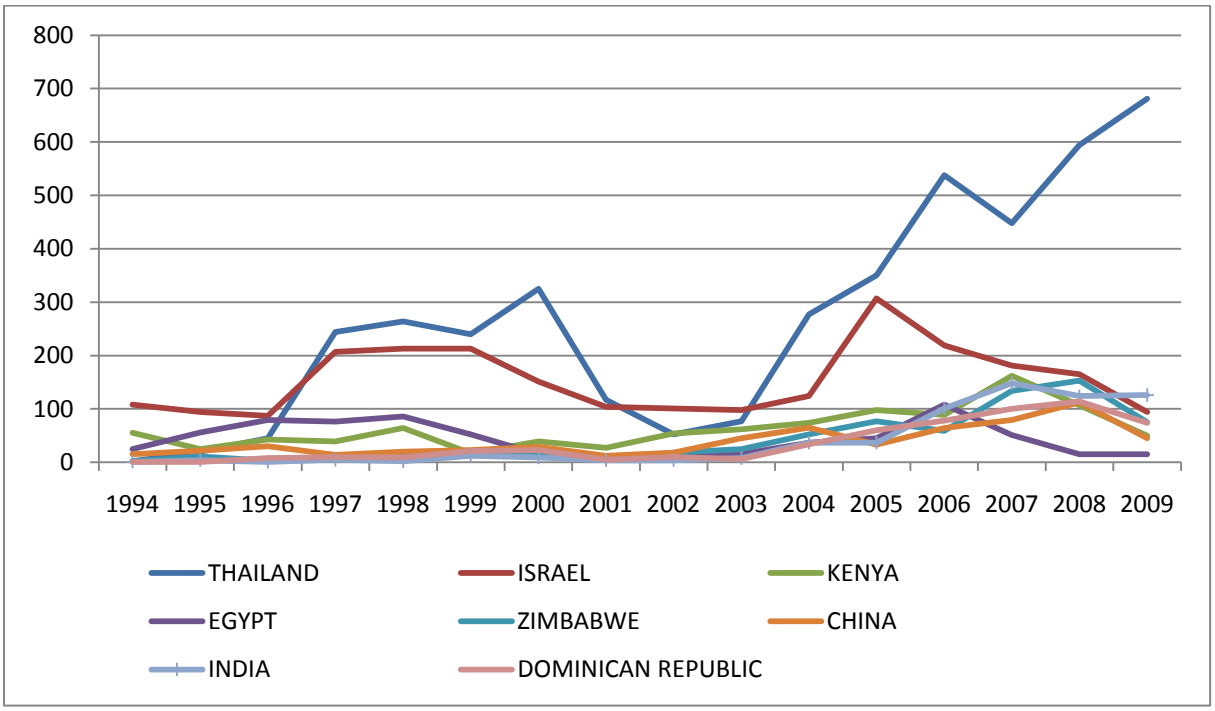
Table 3-8: Key categories of intercepted HOs, as recorded in EUROPHYT (2009)

Types of HOs	No of interceptions
White Flies (Bemisia)	243
Fruit flies	296
Thrips	306
Leafminers	318
Spodoptera/Helicoverpa	104
Others	276

Source: Compiled by FCEC based on EUROPHYT data and FVO analysis

It is noted that 30 HOs were intercepted through consignments for the first time in 2009, of which some are known to be already present on EU territory e.g. *Tuta absoluta.*

Figure 3-10: Country of export related to interceptions due to presence of HOs, as recorded in EUROPHYT (1993-2009)



Source: Compiled by FCEC based on EUROPHYT data and FVO analysis

Thailand is by far the most significant country of origin regarding interceptions due to the presence of HOs from third countries, representing more than 60% of the total number of interceptions in 2009. An analysis of data over time demonstrates that the actual number of interceptions from Thailand has grown continuously since 2003[110].

The analysis of data on interceptions due to the presence of HOs for the key third countries that account for the majority of interceptions with HOs demonstrates that the majority of interceptions concern certain commodities.

Table 3-9: Interceptions with HOs from third countries, by commodity, 2005-2009

Country	Commodity (living plants)	Number of interceptions with HOs
Thailand	cut flowers and branches with foliage	420
	fruit & vegetables	2222
	Total	**2767**
Israel	cut flowers and branches with foliage	639
	fruit & vegetables	224
	Total	**1004**

[110] This was one criterion for the inclusion of Thailand in the selection of third countries to review under this evaluation (Annex 2).

Country	Commodity (living plants)	Number of interceptions with HOs
Kenya	cut flowers and branches with foliage	289
	fruit & vegetables	173
	Total	**536**
Dominican Republic	fruit & vegetables	457
	Total	**457**
India	fruit & vegetables	363
	Total	**447**
China	fruit & vegetables	122
	bonsai (intended for planting)	79
	Total	**290**

Source: compiled by FCEC based on EUROPHYT

The notification of interceptions in EUROPHYT is generally seen as an extremely useful tool by both MS CAs and stakeholders. The majority of MS CAs have indicated that the notification requirement has been effective in preventing the introduction of HOs into the Community, although this view is shared by only half the stakeholders who responded to the survey (Q 3.1.i):

General survey results
Q3.1.i Extent to which the notifications of interceptions in EUROPHYT have been effective in preventing the introduction of HOs into the Community:
23 out of 26 MS CAs and 8 out of 15 stakeholders consider that the notifications of interceptions in EUROPHYT have been effective (3 MS CAs and 7 stakeholders do not know).

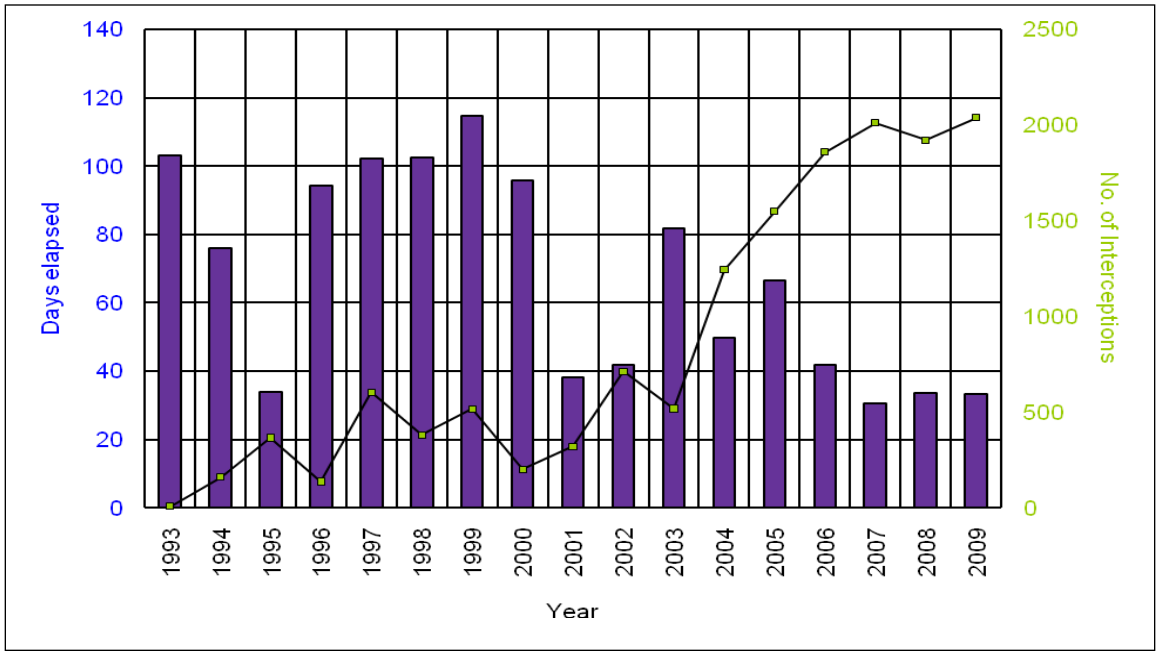
The evaluation identified mainly positive, but also some negative, findings on the usefulness and effectiveness of the EUROPHYT system.

The key positive finding is that, for a large majority of interviewees, the EUROPHYT database contains valuable information to monitor new commodities that might pose a risk; it also draws attention to some countries, some type of consignments, and some companies that could pose higher phytosanitary risks than others. In most of the MS, the summary of all notifications that is prepared weekly by the FVO and published via CIRCA is being sent to border posts and to inspectors to be used as an alert system, so that inspectors can target their inspections for particular HOs, when new HOs have been notified in EUROPHYT. When MS have notified certain material, it helps other MS to further target and inspect those types of consignments.

The main negative finding, on which it was generally pointed out that there is need for improvement, relates to the delays noted in some cases in introducing notifications into the system. Most of the MS CAs reported a delay of more than the mandatory two days in notifying in about 90% of the cases (Q 3.4.a and b). In certain cases, delays in EUROPHYT notifications are significant, up to 50 days. Generally the interception has to be analysed first, resulting in a report of analysis; only then can a notification be communicated to EUROPHYT. In this process, the collection of documentation may cause delays. Moreover, the final decision of the importer on the action taken on the consignment (destruction or return to origin) may cause additional delays.

General survey results **Q3.4 Average speed of notification (introduction into EUROPHYT) for findings at import:**	
For regulated pests:	
2 days	3 MS CA out of 28
2 days to 1 week	16 MS CA out of 28
> 1 week	7 MS CA out of 28
Do not know	2 MS CA out of 28
For non-listed HOs	
2 days	0 MS CA out of 28
2 days to 1 week	11 MS CA out of 28
> 1 week	9 MS CA out of 28
Do not know	6 MS CA out of 28

Figure 3-11: Delays in notification versus number of interceptions (1993-2009)



Source: Compiled by FCEC based on EUROPHYT data and FVO analysis

The delays seem to have improved in terms of the time taken to notify. FVO reports that the average time taken to notify HO interceptions is estimated at about 40 days in 2009 compared to about 90 days in 2005. The legal obligation to notify within 2 days is however not met in any way.

In conclusion, on the basis of how the EU notifications system has been implemented during the last 15 years, the advantages, added value and usefulness of the EUROPHYT system are largely acknowledged by both MS CAs and stakeholders.

Further development of EUROPHYT to become a fully effective and user friendly platform is largely seen as needed and beneficial for plant health, and is supported by both the MS CAs and stakeholders. The improvement and development of EUROPHYT would allow this to become a more systematic support and decision-making tool for the Community, as well as enabling exporting countries to implement corrective measures.

Based on the results of the survey and interviews, a number of potential improvements to EUROPHYT have been identified by respondents, such as enhancing the user-friendliness of the system to allow general queries for specific cases (not possible at the moment), adopting a more pro-active approach that focuses on upcoming threats (some prioritisation on higher risk interceptions), providing further analysis of the notifications to MS, and completing the electronic operability of the system.

In terms of the need for some prioritisation, in particular, analysis of EUROPHYT data as such, indicates that some pathways (in particular plants for planting including ornamentals, from certain third countries) are most prevalent, indicating there is scope to adopt a more targeted pathway approach in some cases. It is noted that trade in this high risk category has expanded by more than 50% in the last decade, with EU imports of plants for planting (except bulbs) increasing from around 80,000 tonnes in 2000 to over 120,000 tonnes in 2008 (Eurostat data).

A more detailed list of the scope for improvements is provided in section 3.10.3.

3.4.2 Efficacy of the system in dealing with non-compliance

In case of non-compliance at import, one or several of the following official measures shall be taken immediately, in accordance with Article 13c(7) of Directive 2000/29/EC:

- Refusal of entry into the Community of all or part of the consignment;
- Movement, under official supervision, in accordance with the appropriate customs procedure during their movement within the Community, to a destination outside the Community;
- Removal of infected/infested produce from the consignment;
- Destruction;
- Imposition of a quarantine period until the results of the examinations or official tests are available;
- Exceptionally and only in specific circumstances, appropriate treatment where it is considered by the responsible official body of the MS that, as a result of the treatment, the conditions will be fulfilled and the risk of spreading HOs is obviated; the measure of appropriate treatment may also be taken in respect of HOs not listed in Annex I or Annex II of the Directive.

MS taking such measures must notify the Community and the other MS of any such consignments and the measures taken.

The survey revealed that both CAs and stakeholders[111] consider that the measures to deal with non-compliance imports are largely effective:

General survey results
Q3.1.j Extent to which the measures to deal with non-compliance have been effective in preventing the introduction of HOs into the Community:
22 out of 26 MS CAs and 9 out of 21 stakeholders[111] consider that the measures to deal with non-compliance have been effective in preventing the introduction of HOs (1 MS CA and 11 stakeholders do not know).

The large number of measures prescribed by the legislation in the case of non-compliance aims to provide a pragmatic solution for each specific case. The methodology for the physical control varies from one type of consignment to another and therefore the list of possible measures allows MS some flexibility to find the most appropriate solution.

While this aim largely appears to be fulfilled, there is a risk that trade objectives may override plant health objectives in the process of deciding on the most appropriate measure. Some interviewees have mentioned that in several MS the least trade-restrictive measures are applied and these are not always the most effective ones from a plant health point of view. Decisions are taken in order to facilitate trade at the cost of plant health.

One such area where problems occur is in the case of large bulk cargoes of e.g. fuel-wood. The inspection of such shipments is carried out after discharge and if non-compliance is observed through the visual check, it is too late to consider reloading the complete cargo; neither is it so simple to follow the requirements of the CPHR, for example destroying the contaminated consignment of wood.

3.4.3 Cooperation with Customs systems and procedures

This section covers issues of cooperation between the competent authorities for plant health and customs, as well as the consistency of existing nomenclature and interoperability of IT systems used in these two areas.

Customs legislation applies to all entry and exit of goods into and from EU customs territory. This is without prejudice to specific rules laid down in specific fields, including plant health. This has practical implications: often customs services are the ones first faced with a situation, but in case of specific requirements on plant health it can be the phytosanitary inspection services.

When a consignment arrives in the EU at a point of entry (PoE), its arrival is notified to the customs office of entry. Imports that arrive direct from a third country to a MS and that require the MS customs clearance must be accompanied by a Phytosanitary Certificate. These imports must be pre-notified to the Phytosanitary Inspectorate. The Inspectorate carries out a documentary check, once completed, the Inspector signs and stamps the Plant Health Movement Document. The identity and physical check of the consignments are carried out either at the PoE

[111] The large number of stakeholders that have responded 'do not know' in this case may reflect the significant presence of non-traders amongst the stakeholders that responded to the survey. Of the 10 stakeholders that took a definite position on this question, 9 have indicated the system is effective.

or at the Place of final Destination (under the required conditions, see Annex I, Volume II). Once the checks are completed the consignment can obtain customs clearance.

The word 'importation' commonly refers to the bringing of goods into a customs territory. However this term is not used to describe the customs procedure relating to the clearance of goods brought into the customs territory of the Community. The procedure allowing third country goods to circulate freely throughout the Community in the same way as goods made in the Community is called release for free circulation. From a customs point of view the release for free circulation changes the status of non-Community goods to Community goods and entails the completion of all formalities laid down for importation. The measures applicable to imports of goods subject to phytosanitary controls are referred to in customs terminology as "prohibitions and restrictions". The substantial rules for prohibitions and restrictions are laid down in specific legislation other than customs legislation. The implementation of these rules is normally attributed to an authority other than customs. However, customs contributes to the enforcement with regard to goods coming from third countries. Co-operation between customs and competent authorities is therefore important for a proper implementation of prohibitions and restrictions.

According to the general survey results, there is a need to improve cooperation between customs and plant health authorities in all areas, with a view to maximising the effectiveness and efficiency of the controls while facilitating trade:

General survey results **Q3.7 What should be done in future at EU/MS level to improve controls on the presence of HOs on imports from third countries, and possibly to facilitate trade:**
e. Improve the cooperation between plant health and customs authorities: 25 out of 26 MS CAs and 20 out of 24 stakeholders consider that cooperation between authorities needs to improve (2 stakeholders do not know). **f. Improve the link between plant health and customs nomenclature:** all 26 MS CAs and 15 out of 24 stakeholders consider that the link with customs nomenclature needs to improve (7 stakeholders do not know). **g. Improve the link between plant health and customs IT systems:** all 26 MS CAs and 15 out of 24 stakeholders consider that the link between plant health and customs systems needs to improve (7 stakeholders do not know).

Most of the interviewees during the field visits reported that the relevant EU services (DG SANCO and DG TAXUD) try to harmonise the legislation. Since Directive 2000/29/EC was adopted, not many cases of conflict have appeared and the cooperation between plant health inspectors and customs has improved considerably during the last 5 years, even if significant differences and implementation difficulties have been observed at MS level. Nonetheless, respondents commented that continuing efforts to coordinate between the competent services need to be encouraged at all levels (Commission, MS; e.g. it was suggested that any amendment to Dir. 2000/29/EC should be transmitted simultaneously to DG TAXUD, in particular those in Annex IV and V of the Directive 2000/29/EC and the emergency measures).

The initiative taken in the Netherlands, where there is a contract between the plant health and customs services for the next three years to consult each other is being seen as a strong step forward. Such collaboration exists in other trading sectors (e.g. product safety: toys).

The Commission runs an action programme for customs in the Community with the aim to support the development of a pan-European electronic customs environment which ensures that customs activities match the needs of the internal market, guarantees the protection of the financial interests of the EC and increases safety and security, the so called C2013 programme. A significant part of the Customs 2013 budget is used for the development of IT systems to be used directly by MS, but specific initiatives are also undertaken to work on the harmonisation of customs controls, through best practices and guidelines.

Interlinking of databases held by plant health authorities with IT systems used by customs could be a relevant approach, and should be further explored, as is currently done for other domains, where a project group has been created under C2013 to develop functional specifications for a possible "Single Window" between the TRACES database used by veterinary authorities and the relevant customs systems by the beginning of 2011. However, a decision whether the project would be completely or partially further pursued after the delivery of the functional specifications has not been taken at this stage. With regards to the exchange of risk related information to customs on the introduction of consignments into the EU with potential plant health hazards, there is also an agreement between the various Commission services involved that further work is needed to include targeted information into the Community Risk Information System which is subsequently transmitted to the national risk systems of MSs after transcribing into customs language. However, the technical requirements of such a project have not been defined. An example of the use of the RIF is the dissemination by the Commission of information regarding the protection measures related to avian influenza in Thailand to the customs risk analysis centres of all MSs and Candidate Countries.

Regarding IT nomenclature and the different coding systems in use, several inspection services mentioned that the customs nomenclature should allow inserting a plant health coding system, which would be of great help for inspectors. Some MS CAs responded that plant health and customs IT systems need to be linked together; it is suggested in particular, where possible, to establish a correlation between the lists of products subject to quarantine and customs nomenclature, e.g. by creating a unified database at EU level of plant and plant products with their customs codes which are prohibited and which should be subject to a phytosanitary control. Customs consider that it is difficult to go into details in a systematic way for many sectors.

The Combined Nomenclature (CN) is laid down in the Annex to Council Regulation no. 2658/87 is based on the harmonised system, which applies globally. The Integrated Tariff of the Community (TARIC = acronym for "Tarif Intégré de la Communauté") is an instrument which was created at the same time as the CN by Regulation 2658/87 (Article 2). It shows all duty rates actually applicable, as well as all tariff-related commercial and agricultural policy measures. Its structure is based on the 8-digit CN code which it extends by a further 2 digits to the 10-digit TARIC code (Article 3(3) of Council Regulation (EEC) No 2658/87[112]). Member States can go up to 20 digits but information stored centrally at EUROSTAT level is only based on the first 8 digits.

[112] Council Regulation (EEC) No 2658/87 of 23 July 1987 on the tariff and statistical nomenclature and on the Common Customs Tariff

Another area for harmonisation is the place of control. For traders it is important to have phytosanitary controls at the point of final destination (PoD), as it brings flexibility in the process. In that respect it is interesting to note that the customs perspective is to move to the approach of controls carried out at the business point (i.e. at the premises of business operators) with a pre-requisite of full registration of these premises/business operators, under the condition that prohibition and restriction measures allow for that. Therefore the two approaches seem to be complementary; provided that controls at final destination provide sufficient protection from a phytosanitary point of view (the performance to date of the system of controls at final destination is discussed in section 3.4.7.)

3.4.4 Functioning of reduced-frequency checks (imports of end products)

Directive 2000/29/EC provides for reduced frequency plant health checks for certain plants, plant products or other objects listed in Part B of Annex V, where they can be justified[113]. The system is more fully described in **Annex 1 (Theme 2)**.

In order to determine product eligibility for reduced frequency checks, the Community has developed a "Decision Tree" which is applied to each "trade" (trade = a commodity from a single country). The reduced inspection level is fixed in accordance with a formula which takes into account the volume of imports per year and the level of non-compliance recorded. At present a total of 52 products have been recommended for plant health checks at reduced frequency[114].

According to the answers of MS CAs to the general survey, 9 MS apply the system of reduced-frequency checks for imports of end products as follows:

Table 3-10: MS applying reduced-frequency checks for imports of end products

MS	End products concerned
BE	*Malus* from NZ and South Africa C*itrus* from Mexico and the USA *Pyrus* and *Prunus* from South Africa
DE	Cut flowers, wood from Russia
ES	Wood from Russia
FI	Wood products such as conifer wood from Russia Sugar maple Fruits and berries
NL	Cut flowers Fruit Vegetables
PT	All
SW	A large number of products
UK	

[113] Subject to conditions laid down in Commission Regulation (EC) No 1756/2004, and in Article 13a.2 of the base Directive.

[114] See table: list of products recommended for plant health checks at reduced levels. Updated 26-06-2009

Source: FCEC based on general survey results

The majority of MS not using this provision have indicated that, due to the small trade flow and few consignments of the commodities eligible for reduced frequency of inspections, implementation of such a provision will not be cost-effective as the additional burden would be too high (e.g. special requirements such as implementation of reduced fees).

However, there are also a few MS that have a more fundamental issue with the system. In their view, the method of calculating inspection levels, as described above, reflects a compromise between plant health safety and labour-saving viewpoints. Therefore the current reduced-frequency provisions may entail a higher risk of HOs being introduced through non-inspected consignments. A fuller evaluation of the actual risks (including tracing the introduction and spread of HOs associated with the current system) would need to be performed to assess the effectiveness in practice of the reduced frequency system compared to the normal frequency system, for each of the MS that apply the reduced frequency system.

Additionally, consideration should be given to making the reduced-frequency checks more responsive with more frequent adjustments to levels according to pest findings and inspection levels. It may also be questionable whether the use of consignment numbers is the only criterion that should be used for evaluation of reduced-frequency checks in the future, for example quantity by weight or individual number of units (or fruit or vegetables) may also be suitable.

Finally, interviewees have indicated that the system should become more flexible, especially in terms of products eligible for reduced frequency checks. It should also be made more robust, which could improve the credibility with the more reluctant MS: for example, in the case of interceptions, it is necessary to immediately modify the control levels and not to wait for several months (to one year) as currently appears to be the case.

On the other hand, MS that have implemented the system consider that it has helped to make efficient use of the available resources and has led to an optimal trade flow with a significant cost reduction for traders. For example, in the Netherlands, big flower traders have only 5% of roses coming from Kenya checked, leading to significant cost reduction and avoidance of trade delays at the inspection level.

General survey results:

Q3.2 Extent to which the reduced frequency checks is applied in MS for import of end products:

8 out of 26 MS have applied the system.

Are you satisfied with the reduced frequency checks system, as currently applied by MS?

8 out of 26 MS CAs and 8 out of 22 stakeholders are satisfied with the reduced frequency checks system (11 stakeholders do not know).

Q3.1.o Extent to which the reduced frequency checks system has been effective in preventing the introduction of HOs into the Community:

9 out of 26 MS CAs and 8 out of 23 stakeholders consider that the reduced frequency checks system have been effective in preventing the introduction of HOs (10 MS CA and 12 stakeholders do not know).

In terms of the effectiveness of the controls under the reduced frequency checks system, it is noted from our interviews at Commission and MS level that in some cases the actual number of controls increased with the introduction of reduced frequency checks. This may suggest that MS were not previously prioritising sufficiently on risk.

In conclusion, MS that have applied the system (8 MS) are satisfied with the reduced-frequency checks system, whereas the others (20 MS) do not consider the approach suitable, based on their national specificities, and do not intend to use this option in the future. Controls should be adjusted more rapidly to the level of risk. Certain product categories such as fresh produce and some types of cut flowers may be less risky, reduced frequency can apply, and it may also be possible to apply the system in trade of higher risk material if the pathways of introduction and movement to final destination of the products are established (e.g. in the case of conifer wood destined for the paper and pulp industry).

3.4.5 Functioning of the system of derogations

Directive 2000/29/EC includes provisions for derogations in certain cases and for certain types of plants and plant products, provided that there is no risk of introducing or spreading HOs. The derogations, which include exemptions from certain import and documentation requirements or certain prohibitions, are generally limited and concern specific cases, including the following: for trials and scientific purposes and for work on varietal selection of plants and plant products; products produced and traded in a MS's immediate frontier zone with a third country; small quantities intended for use by the owner or recipient for non-industrial and non-commercial purposes; some goods in transit. The full list of the derogations is provided in **Annex 1 (Theme 2)**.

Based on the results of the general survey, these possible derogations are widely used, although over half of MS CAs and stakeholders consider the implementation of the derogations could present a potential phytosanitary risk:

Table 3-11: MS using derogations from import requirements or prohibitions

Derogation	Number of MS using this derogation (% of the answers collected via the survey)
Commission Derogation Decisions (Directive 2000/29/EC Article 15(1) with alternative imports requirements (including system approach))	13 (50%)
Imports from TCs for which a specific status for HOs is recognised at Community level	12 (46%)
Scientific and breeding material (Directive 2008/61/EC)	26 (100%)
Small quantities for non-commercial purposes (including passenger transport)	22 (85%)

Source: FCEC based on general survey results

General survey results
Q3.3 Extent to which the implementation of Community derogations present a potential phytosanitary risk:
12 MS CA out of 23 and 6 stakeholders out of 10 consider that the implementation of the derogation measures present a phytosanitary risk. (3 MS CA and 11 stakeholders do not know).

About half of the respondents to the survey (MS CAs and stakeholders) consider that derogations present a potential phytosanitary risk in terms of their current implementation and have commented as follows. A potential risk always exists; for example, import derogations for ware potatoes from Egypt (for which a large number of comments were also received in the interviews) means a high risk of spreading HOs but these derogations are still in force; some HOs have been repeatedly found in bonsai plants from Japan imported under derogation, according to reports of MS. For derogations regarding small quantities not used for commercial purposes, it has been reported that small quantities carried by passengers can still carry pathogens, as was the case in the outbreak of *Citrus tristeza closterovirus* and in the spreading of *Aculops fuchsiae* (fuchsia gall-mite) in the EU. For derogations regarding transit consignments, where no phytosanitary certificate is required in some cases, this could also pose a problem.

One area where it seems that there are less concerns is in the case of derogations for breeding/scientific and sampling material, which are reported to be working well. The main reason for this specificity is the fact that this type of material is being used by professional scientists and/or plant breeders who are concerned by the phytosanitary status of this type of material. However, MS are applying this derogation in different ways (e.g. France requires inspection and disinfection of small samples which may have a negative impact on germination and on the scientific tests intended to be performed with these seeds) and therefore further harmonisation is required according to the seeds industry.

3.4.6 Use and usefulness of additional declaration and special arrangements (Annex VI)

Additional declarations to the phytosanitary certificates may apply for some of the plants, plant products or other objects listed in Part A section I and Part B of Annex IV of Directive 2000/29/EC, for which special arrangements are in force pursuant to Article 13(1). The purpose of the declarations is to specify which special requirements out of those listed as alternatives in the relevant positions in the different parts of Annex IV have been complied with. This provision is described further in **Annex 1 (Theme 2)**.

From both the general survey and the interviews, it can be concluded that the system is working sufficiently well, and no particular problems were noted. The majority of both CAs and stakeholders consider the additional declaration to have been effective in preventing the introduction of HOs in the Community, which points to the use and usefulness of the current system in this respect. The only negative comment noted was the fact that additional declarations may vary from origin to origin and this could pose a problem in the amount of information that is available to enable authorities to check that the appropriate special requirements are fulfilled (e.g. the case of wood consignments from Russia).

General survey results
Q3.1.m Extent to which the additional declaration on phytosanitary certificate has been effective in preventing the introduction of HOs into the Community:
18 out of 26 MS CAs and 12 out of 23 stakeholders consider that the additional declaration has been effective in preventing the introduction of HOs (5 MS CA and 8 stakeholders do not know).

Annex VI specifies plants and plant products to which special arrangements may applied (this provision is described further in **Annex 1 (Theme 2)**. Only four Member States reported (general survey, Q3.7) that they apply special arrangements for the import of plant products (concerns four categories of products for which the phytosanitary risk may develop while in storage, as specified in Annex VI), as follows:

- IT: specific requirements regarding import of dry cereals and vegetables;
- DE: options to inspect stored products, which is partially used;
- IE: importers should notify the Department 48 hours in advance of the intended arrival of any regulated material.
- BG: minimal equipment on Border Inspection Posts;

This situation illustrates that this option is not widely used by MS and therefore it can be concluded that it is only useful in a very limited number of cases (in the general survey, 2 out of 3 stakeholders that were aware of this provision noted they were satisfied with it). During the interviews, MS have not indicated that they will further use this possibility in the future, and no further comments have been provided by stakeholders.

3.4.7 Functioning of checks at the place of final destination

Import controls are mainly done at point of entry PoE[115], but under certain conditions outlined in Commission Directive 2004/103/EC, identity and plant health checks (but not documentary checks) can be carried out at the point of destination (PoD). The system is more fully described in **Annex 1 (Theme 2)**.

For checks to be carried out at the place of destination, the agreement of the plant health authorities responsible both for the PoE and the PoD is necessary; the plant health authorities must have previously approved an importer for this purpose on the basis of certain guarantees;

[115] The concept of point of entry (PoE)is different from the Border Inspection Posts (BIPs). MS did not want to follow the BIP approach in plant health due to the extensive volume and complex nature of trade flows in plants and plant products (large number of consignments; many product groups; complex trading flows), leading to difficulties in implementing an efficient logistics system. Therefore, minimum criteria for import controls at PoE were introduced to gain in flexibility. In the case of a PoE, it is up to MS to decide how/where they will do phytosanitary checks. The PoE where phytosanitary controls are to be carried out could be in a customs area inside the country or at the border. BIPs are under the territorial authority of customs, at the border only. According to Directive 2000/29/EC, a point of entry (PoE) shall be considered to mean: The place where plants, plant products or other objects are brought for the first time into the customs territory of the Community: the airport in the case of air transport, the port in the case of maritime or fluvial transport, the station in the case of railway transport, and the place of the customs office responsible for the area where the Community inland frontier is crossed, in the case of any other transport.

and, consignments must be issued a 'plant health movement document' for movement to the indicated destination and may only be released after satisfactory examination.

For non-EU goods in transit, the identity and plant health checks may be made by the official body at PoD, if certain rules are met (cooperation with customs and traceability of the goods from PoD to PoE are important in these cases).

From the general survey results, it is clear that for the large majority of MS CAs and stakeholders controls have been effective in preventing the introduction of HOs into the Community, whether carried out at the PoE or the PoD. However, in the case of the controls at final destination, it is noted that a large number of CAs have responded 'do not know', possibly indicating that they are less certain of the effectiveness of controls at PoD compared to controls at PoE.

General survey results

Q3.1 Extent to which the following plant health procedures and requirements for commercial import of plants and plant products have been effective in preventing the introduction of HOs into the Community:

Reasons	MS-CA	Stakeholders
a. Fulfilment of minimum requirements for PoE and BIPs [115]	18 out of 26 (6 do not know)	11 out of 23 (10 do not know)
b. Documentary checks at border	21 out of 25 (3 do not know)	13 out of 23 (8 do not know)
c. Identity checks at border	22 out of 26 (4 do not know)	12 out of 23 (8 do not know)
d. Plant health checks	19 out of 26 (4 do not know)	13 out of 23 (6 do not know)
e. Possibility to perform identity and PH checks at PoD	14 out of 24 (7 do not know)	10 out of 23 (7 do not know)
f. Identity checks at final destination	15 out of 25 (10 do not know)	12 out of 23 (8 do not know)
g. Plant health checks at final destination	15 out of 26 (9 do not know)	12 out of 23 (8 do not know)
n. Plant Health movement document (for checks at final destination)	15 out of 26 (7 do not know)	11 out of 23 (8 do not know)

In general, the procedures for import control are reported to be effective at PoE but interviewees have provided examples showing controls have not been fully effective, as follows.

Certain cases were reported, where phytosanitary certificates have been falsified before control checks at border checking points. In case of non-compliance identified at border point, it is not so simple to act in line with the requirements of the Directive, by for example destroying contaminated plants and products (especially in the case of wood packaging material and pallets). According to several interviewees the reliability of the phytosanitary certificate depends significantly on the country of origin. It does not necessarily guarantee that the exporting country meets the Community import requirements.

Plant health checks are much more effective when symptoms of HOs are visible during the inspections. Detection of latent infection remains difficult, even when samples for laboratory analysis are taken. For example *Rhynchophorus ferrugineus* was introduced from Egypt to Spain and *Dryocosmus kuriphilus* was introduced to Italy from a third country. Additionally, when

samples are taken, it may take several days or weeks before the results are available, leading to logistic issues, as often there is not enough space and equipment to store consignments while awaiting the results of laboratory testing. Therefore, for some specific plants in or on which latent diseases may be present (particularly plants for planting), the need for more extensive post-entry inspections may be justified.

There is significant concern that lack of traceability from final PoD back to PoE could in theory pose a problem, due to the complexity of trade patterns, where only controls at final destination are in place (consignments in transit). Some MS commented that this was a problem and called for better direct communication between national CAs to address this. Conversely, it has also been mentioned that checks at PoD should be reduced in situations in which there are regular controllable trade flows (e.g. imports of wood by Finland/Sweden from Russia for paper industry, always arriving by the same train route).

For traders it is important to have phytosanitary controls at the final PoD to avoid logistic issues slowing down the trade, and the possibility of having controls at PoD does not *per se* reduce the severity of the controls, although several interviewees indicated they are not sure how the rules are applied at PoD.

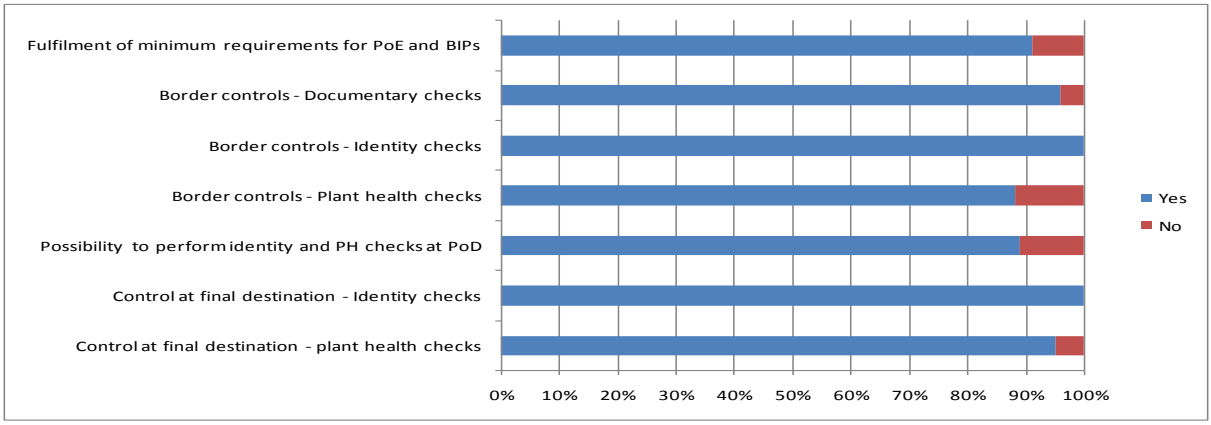
Interviewees have observed that the inspections that are done by customs and PH inspection services are excessively focused on local/regional or national issues and not sufficiently dedicated to pests or diseases of EU-wide relevance. For example, when an inspector from a given MS checks trucks coming from a third country, they make an inspection based on their own priority MS issues only, even if the final destination of the consignment is intended to be another MS where plant health issues are different. This issue may create a degree of laxity in import control. However, a focus on national HO problems is not surprising, given MS' need to prioritise in the context of resource constraints.

The effectiveness of border controls between MS is also perceived to be variable. This is due to a widely reported lack of harmonisation in inspection methods and procedures. However, the lack of harmonisation is widely attributed to a problem of implementation of plant health import controls by MS, and not to the CPHR regime as such, although greater clarity in the base Directive would improve the situation and may result in more harmonised approaches across MS. For example, it was widely reported that there is need for more precise specifications on which goods need to be controlled to fulfil the provisions of Annex I of the base Directive, and which goods might be eligible to add (on a precautionary basis) to the list of goods specified in Annex II.

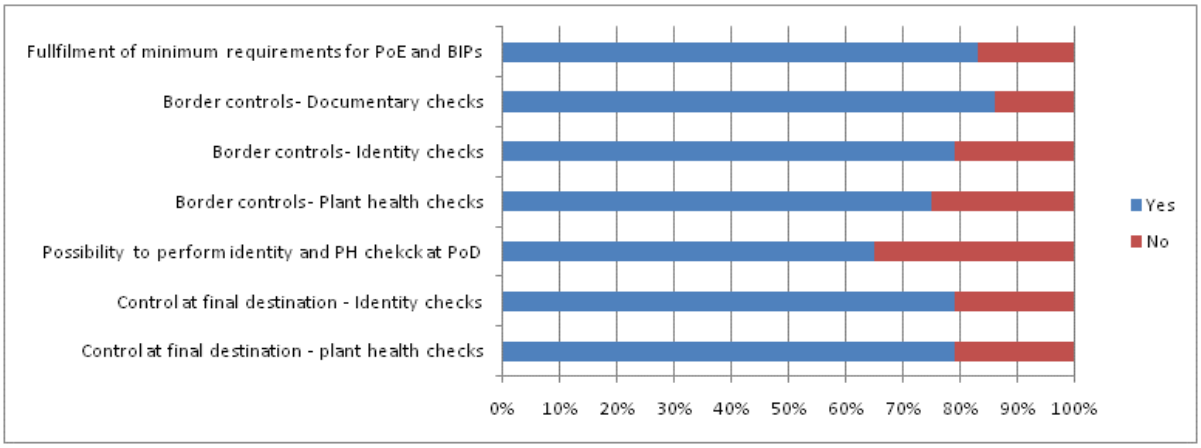
These shortcomings may be explained by the fact that there is no pan-European information-sharing process between customs and PH inspection officers and that best practices are not shared across MS. A higher level of harmonisation of import inspection, as well as better communication between MS inspectorates, would contribute to a higher level of protection of the Community and would avoid any potential for trade distortions.

Figure 3-12: Effectiveness of import procedures and requirements in preventing the introduction of HOs into the EU, controls at PoE and at PoD

The view of Competent Authorities:



The view of stakeholders:



Note: only 'yes' and 'no' answers considered

Source: FCEC based on general survey results

3.4.8 Need for further development of electronic certification

Plants, plant products and other objects (listed in Part B of Annex V) must be accompanied by a phytosanitary certificate (PC), issued by the NPPO of the exporting country. Phytosanitary certificates should be issued conforming to the models set out under the IPPC Convention. Article V.1 of the above-mentioned Convention states that the contracting parties of the IPPC "*shall make arrangements for Phytosanitary Certification*".

Electronic phytosanitary certification means the issuance/issuing of phytosanitary certificates in electronic form by the certifying exporting authorities, through publication via a website, via a file loaded to a server which can be accessed securely by importing authorities, or by electronic transfer (e.g. e-mail or over a secure network). At present most phytosanitary certificates are

exchanged on paper, although provision for electronic certification is included in the IPPC (Art.V.2) and in ISPM No. 12 Guidelines for phytosanitary certificates (2001).

The Directive 2000/29/EC also indicates in Article 13(1)(ii) that "[...] *electronic certification may be recognised, provided that the respective conditions specified in implementing provisions are met*." However, several other obligations on imports (e.g. obligation to stamp the PC when refusing a consignment at import) mean that electronic certification cannot in practice be used as this obligation cannot be fulfilled without the paper document.

In 2005, an International Commission on Phytosanitary Measures (ICPM) Working Group on Electronic Certification was established to formulate policy recommendations regarding electronic certification. This WG identified benefits of electronic phytosanitary certification as follows[116]; phytosanitary certificates:

- enhance levels of security against fraud or misuse;
- improve fast and reliable communication directly between NPPOs;
- improve readability and consistency of certificates;
- enhance communication on import progress (tracking of import decisions, notification of non-compliance);
- ease downloading and integrating data into the existing systems;
- allow data checking to be independent of physical location and time; and
- enhance management of phytosanitary import systems (e.g. management of sampling regimes, risk based inspections and the collection of statistical information).

Several countries have already started to implement such electronic systems and lessons can be learnt from their experience, as discussed during the 2009 NAPPO[117] meeting, summarised as follows:

- Electronic exchange of data between NPPOs is significantly more efficient and secure than paper phytosanitary certificates;
- Considerable investment is required to deal with non-standardised data requirements;
- Agreement on technology and method of implementation is critical between parties;
- A strong bilateral approach is required to ensure that tightly coupled systems are developed;
- Contracting parties should agree on rules of engagement up-front (i.e. dealing with updates to the systems, notification of system outages, handling support issues, etc.);
- A transition period is essential (suggest at least 3 months be allowed).

The NL is a leading country in the development of these types of tools. It has developed a tool called CLIENT which is being used for exports. The NL is a large trader of plants and plants

[116] FAO- ICPM (2006) - Report of the working group on electronic certification – Agenda Item 12.7 of the provisional agenda

[117] Electronic Phytosanitary Certification Workshop Ottawa, Ontario - Canada - May 19-21, 2009

products and more than 300,000 PCs are produced every year by the NL authorities leading to the need to establish a computerised system for this task.

A large majority of respondents to the surveys are in favour of further developing the electronic phytosanitary certification for the reasons that have already been listed above. Stakeholders have further commented that electronic certification facilitates trade by reducing administrative burden and paper work and that it fits into logistics for trade.

General survey results
Q3.9.n (CAs) and Q3.7.n (stakeholders):
Extent to which electronic certification should be further developed:
20 MS CA out of 25 and 17 stakeholders out of 24 consider that electronic certification should be further developed (3 MS CA and 7 stakeholders do not know).

However, even if the benefits are well understood and accepted by the large majority of the actors, a series of limitations and difficulties have been reported in the surveys and during the interviews as follows:

- Setting up electronic certification seems to work rather well today because only a limited number of countries are engaged in the approach, on a case by case basis using bilateral agreements. Difficulties of synchronisation of IT systems may appear when more countries are developing this approach;
- There is a question of how to develop multilateral agreements in this field;
- EU legislation allows for electronic certification for import but this does not apply to export, which are under the responsibility of the individual MS. Therefore MS can start electronic certification on their own and no approval of the EU is needed. Collaboration between MS is, however, required to secure harmonisation;
- A digital signature is needed for determining the authenticity and integrity of the electronic certificate;
- Contingency planning is required to ensure that disruption to trade is minimal if the IT system is down;
- The principle of electronic certification is good and widely recognised but implementation might be more difficult. Moreover, some MS might not have the financial capacity to set it up and therefore the cost and level of organisational changes required for such implementation could act as a barrier to the uptake of electronic certification for many countries.

In conclusion, the outcomes of this evaluation are in line with the Council conclusions of December 2008 on the safety of imported agricultural and agri-food products and compliance with Community rules[118], which stipulated and stressed that "*concerning harmonization of procedures and coordination between inspection services, it is important to continue to improve information technology systems and make procedures secure (in particular electronic certification)".*

[118] 2917th AGRICULTURE and FISHERIES Council meeting Brussels, 18 and 19 December 2008

3.4.9 Need for measures addressing passenger transport

Article 13b(3) of Council Directive 2000/29/EC allows derogation from obligations of inspections in the case of "*small quantities of plants, plant products, foodstuffs or animal feeding stuffs as far as they relate to plants or plant products, where they are intended for use by the owner or recipient for non-industrial and non-commercial purposes, or for consumption purposes*" (**Annex 1, Theme 2**).

This section examines the extent to which measures need to be introduced to address passenger transport, as is the case in several countries such as Australia and the USA when considering international passengers.

In the view of some interviewees, the Directive implicitly includes the control on passengers' transport, as Annex 5b does not specify quantities. The derogation laid down in Art. 13b(3) exempts MS for carrying out these checks on passengers for small quantities intended for consumption or non-commercial purposes. The large majority of MS apply this exemption; however, some MS, such as the Netherlands, perform random checks on specific flights from countries of origin considered to be more at risk. Plant health inspectors join the customs and food safety inspectors, to perform sample inspections on specific flights from certain high risk third countries for interception of Annex 3 items. The customs perform a first control, and if plant health material is found, the plant health inspectors intervene. This procedure was indicated to apply also in Italy, Latvia, the UK and Belgium, where passenger controls are carried out by the Plant Protection Service when requested by Customs.

There is growing concern among MS on the risks associated with passenger transport and therefore the need to reconsider the application of such derogation. Many international passengers arriving in a country do not see any risks in bringing in plants and plant products. However, as reported by several interviewees, examples exist of the introduction of HOs into the EU through passengers, and a potential risk always exists. For example, small quantities of plant material transported by passengers can carry pathogens as was the case with *Citrus tristeza closterovirus.* Another example that was mentioned during the interviews is the case of introduction and spread of *Aculops fuchsiae*, that was apparently introduced into the EU via plant material collectors: the PRA for this HO lists among the likely pathways of introduction the "*Inadvertent transport on cuttings shared between amateur gardeners and Fuchsia enthusiasts*" and states that "*the initial finding of A. fuchsiae in Brittany on plants in private collections led to the belief that it entered Europe by exchange of plant material between growers* (Streito, *et al.*, 2004), *and it seems likely that this happened in Germany also* (Euro-fuchsia News, 2007) (source: CSL PRA for *Aculops Fuchsiae*, 2007).

The results of the general survey show that the majority of the MS advocate the introduction of measures to address passengers' controls. In particular, plants, seeds and propagating material are considered as risky materials (also cut flowers are included in the risky items).

General survey results
Q3.9.p (CAs) and 3.7.p (stakeholders):
Extent to which measures to address passenger transport should be included in the CPHR

17 out of 26 MS CAs and 5 out of 24 stakeholders consider that measures to address passenger transport should be included in the CPHR (2 MS CAs and 12 stakeholders do not know).

The MS advocating such measures consider that the introduction of passenger controls would confer benefits in increased phytosanitary protection, including through increased public awareness. The example of the US is given, where the introduction of border controls has apparently resulted in more awareness and information of citizens about the risks. The costs of such measures will depend on the level of inspections that are put in place in airports or other points of entry. It is suggested that general prohibition could be introduced, within the existing passenger control systems (therefore with no increase in costs), with a clear differentiation between plants for planting, seeds, and end products.

In the animal health field, strict rules are in place since 2002 to prevent the introduction of serious animal diseases[119] through personal consignments of milk, meat or their products. In particular, Commission Regulation (EC) No. 206/2009[120] regulates the transport of personal consignments of products of animal origin of a non commercial character, or small consignments sent to private persons and ordered remotely (for example, by mail, by telephone or via the Internet) and delivered to the consumer. The legislation forbids the transport of meat, milk and their products, with the exemption of specific cases[121] and foresees provisions for enforcement of these rules and for raising public awareness. In particular, provisions include the organization of controls at EU entry points, also on a a risk based approach, and including the use of effective detection aids, the destruction of personal consignments found to be in breach of the rules, and mechanisms to ensure liabilities for costs or penalties. Furthermore, legislation lays down provisions to ensure that information is provided by MS to travelers and to the general public (including provisions for transport operators to make use of existing means of passenger communication). To this aim, the European Commission produced in 2002 (and updated in 2009) full size posters in 35 languages for display at EU entry points[122]; this measure is highly advocated by MS in order to raise awareness in a harmonized manner.
Finally, MS CAs and other interviewees expressed a growing concern for other sources of possible introduction of HOs with the development of e-commerce via the Internet. An increasing trade in plants, including seeds, bulbs and plant products are ordered via the web and

[119]One of the most dangerous diseases that could be potentially introduced into the Community is foot and mouth disease (FMD). The European Food Safety Authority (EFSA) has evaluated the risk of introduction of FMD into the Community. That evaluation clearly shows that the introduction of meat and meat products and of milk and milk products are potential ways for the FMD virus to enter into the Community.
[120] COMMISSION REGULATION (EC) No 206/2009 of 5 March 2009 on the introduction into the Community of personal consignments of products of animal origin and amending Regulation (EC) No 136/2004
[121] These procedures do not apply to the movements of animal products between the 27 Member States of the EU, or for animal products coming from Andorra, Liechtenstein, Norway, San Marino, and Switzerland.Transport of such products up to 10 kg is allowed from Croatia. the Faeroe Islands, Greenland or Iceland,; specific categories of food (e.g. infant food, pet feed) under certain conditions and up to 2 kg, fishery products up to 20 kg or the weight of a fish if higher (no restrictions from Iceland and Faeroe Islands); passengers are allowed to bring up to 2 kg or certain animal products such as honey, live oysters, live mussels and snails.
[122] A specific awareness campaign also took place during the European Veterinary Week 2008 (10-16 November 2008) organised in partnership with the Federation of Veterinarians of Europe. During the Veterinary Week, there were actions in all major EU airports, ports and border crossings to ensure that the message was conveyed effectively to travellers by different means. In particular, posters in 34 languages were displayed, to ensure that passengers were aware of the new rules and the reasons behind them

shipped via regular mail. This is the case for exotic plants that are increasingly in fashion in the EU and are suspected of potentially carrying new HOs. Consideration should be given to this issue, with a view to possible measures similar to those foreseen in the animal health sector under Commission Regulation (EC) No. 206/2009.

3.4.10 Need to enforce capacity building in third countries

During the evaluation, several interviewees (MS CAs and stakeholders) indicated that third country trading partners experience various difficulties in exporting to the EU, based on perceptions that the EU legislation is difficult/complex to understand and to comply with.

A large majority of the respondents to the surveys, both MS CAs and stakeholders, consider that further enhancement of capacity building is needed in Third Countries, with a view to improving phytosanitary controls at source (country of origin).

General survey results
Q3.9.q and 3.7.q Extent to which capacity building in TCs should be further developed to improve controls on the presence of HOs on imports from TCs, and possibly to improve trade
18 out of 26 MS CAs and 20 out of 24 stakeholders consider that capacity building in TCs should be further developed (1 MS CA and 3 stakeholders do not know).

Under the "*Better Training for Safer Food*" (BTSF), a programme of courses has been on-going since 2006 for third country officials[123]. The programme also aims to encourage the exchange of information and development of new professional relationships between participants. Training in plant health controls was established in 2007 and extended to cover the African continent in 2009. In its first three years, 2006-2008, BTSF trained around 8,000 participants from almost 150 countries. So far, the BTSF coverage of plant health rules has been relatively limited compared to the other areas covered by the programme (animal health and food/feed safety) and focused on the EU (in 2008, the first year of BTSF application in the plant health field the training was provided to EU MS). However, the scope of activities is continually broadening and participation levels are gradually increasing.

Capacity building in third countries is very useful for several reasons as follows:

- To improve MS confidence in guarantees provided by third countries: training provided to trading partners has a positive impact in terms of improved quality and efficiency of work, networking capacities and exchanging views to solve problems, leading to building relationships based on confidence;

[123] BTSF is a programme providing training to EU and third country officials responsible for ensuring that EU food and feed safety, animal health and welfare and plant health rules are applied. In order to help EU trading partners to better understand the EU regulations and the related procedures, as well as to improve their food safety systems, the EU launched the BTSF initiative in 2005, with the aim of complementing training programmes operating at a national level in trading partner countries. In providing this training, the Commission aims to ensure that the control authorities of trading partners have a full and uniform understanding of EU rules in these areas, so that food and feed put on the EU market meets the high safety standards expected.

- To prevent third countries from setting unrealistic and not science-based import requirements: training results in a better understanding of the rationale of the EU Plant Health regulation, leading to improved liaison between professionals and experts from other countries, to exchange information and share opinions, with the consequences that import requirements are more realistic and in line with the objectives of EU exporters;
- To improve the understanding of and compliance with EU requirements: training programmes are very useful learning tools to enhance in a significant way the knowledge of the staff in charge of official controls regarding plant health issues. They contribute to an up-to-date knowledge of the relevant EU legislation in the countries trading with Europe and offer a comprehensive approach to compliance with specific requirements, as well as to carrying out controls more in line with EU standards. The in-depth understanding of successful practices and approaches developed in other countries is also much appreciated and valuable in terms of fostering the adoption of common strategies.

All these potential advantages of capacity building may lead to a reduction in the number of interceptions over time and therefore create cost-savings for EU and MS inspection bodies. Additionally, reduced-frequency checks may be applied for certain plants and plant products coming from countries which have been involved in this type of training.

It is therefore recommended that more capacity building is provided to third countries, including via the increased provision of BTSF training on plant health to third country trading partners, particularly in cases of repeated interceptions.

3.4.11 Effectiveness of emergency measures

Article 16(2) of Directive 2000/29/EC provides for MS, where there is an imminent danger of introduction or spread of HOs, to temporarily apply any additional protective (emergency) measures generally to certain commodities or imports ("safeguard clause"). Such measures have to be reviewed by the Standing Committee on Plant Health (SCPH) and adopted for general application in the EU or revoked through comitology. Where the risk comes from consignments of plants, plant products or other objects originating in third countries, MS must immediately take action to protect the territory of the Community from that danger, and inform the Commission and other MS. Additionally, the Commission may also adopt provisional emergency measures on its own initiative.

For example, following the first confirmation of *Phytophthora ramorum* in a nursery in April 2002, the UK introduced emergency legislation in order to control imports of susceptible material from the USA and to require notification of susceptible material being moved within the UK. After discussion in the SCPH, EU legislation was introduced through Commission Decision 2002/757/EC. This extended control throughout the EU on susceptible material imported from the USA and introduced a plant passport regime for movement of *Rhododendron* and *Viburnum* spp. within the EU. This regime includes requirements (relating to inspections and eradication/quarantine procedures at the place of production) that have to be fulfilled before material can be moved. There also was a request for MS to undertake official surveys.

A large proportion of respondents to the survey consider that the Community emergency measures system should be improved and its implementation strengthened.

General survey results

Q3.9.r and 3.7.r Extent to which the Community emergency measures system should be improved

22 MS CA out of 25 and 14 stakeholders out of 24 consider that Community emergency measures system should be improved. (1 MS CA and 7 stakeholders do not know).

Q3.9.s and 3.7.s Extent to which the Community emergency measures system should be strengthened

23 MS CA out of 26 and 12 stakeholders out of 25 consider that Community emergency measures system should be strengthened. (1 MS CA and 10 stakeholders do not know).

The major criticism concerning the current system, as reported during the interviews, is the fact that adopting EU-wide emergency measures on imports does not occur fast enough. The time for approval of emergency measures in the EU after interceptions or when a MS notifies a risk is far too long. The time needed for discussions at the SCPH to take decisions is too long and several interviewees have reported that it can take several years before decisions are reached, by which time it may be too late to take effective action.

In addition to the problems posed by the legislation and delays in procedures for the adoption of emergency measures as such, a large majority of interviewees have reported further significant delays and shortcomings in MS implementation of the required measures. These appear to be due mainly to the following reasons:

- First, because the subject is highly technical the legislation has to remain quite vague on the measures to be applied as it is impossible to insert precise management measures applicable everywhere in the EU, leading to delays by MSs in further defining and implementing the technical measures. National emergency measures can be applied on the basis of a 'fast-track PRA', as well as WU emergency measures. Limiting factors to short term responses are the Commission's resources to draft the Decision, and implement the required internal procedures. . Such problems were identified, for example, in the case of emergency situations caused by *Rynchophorus ferrugineus* (Red Palm Weevil) and *Anoplophora chinensis*[124].

- Secondly, political considerations may delay correct implementation of measures, thus distracting from efficient risk management. When measures are likely to raise strong opposition from the public, politicians are reluctant to implement (for instance, measures to cut otherwise asymptomatic trees that have been part of the landscape for decades, e.g. old palm trees for *Rynchophorus ferrugineus* or susceptible species for PWN). In addition to

[124] The first outbreaks of *Rynchophorus ferrugineus* were reported in the mid 1990's but during the first 10 years the damage appears to have been quite limited; when signs of severe damages emerged, the pest was already widespread and eradication much more difficult. Another similar example *Anaplophora Chinensis* imported from China, after apparently no preventive measures had been taken in China, so there was no indication how control could be achieved; it then first appeared in Italy, but as no measures were effectively taken no further knowledge was gained; when it appeared later in the Netherlands it was considered an important threat but the opportunity to gain knowledge had in the meantime been lost.

public sentiment, such measures may have significant adverse effects on highly touristic areas, thus affecting others sectors (tourism) and the wider rural economy.

Thus there is evidence that in several cases, as described above, there have been significant delays in the adoption of emergency measures, and that the emergency measures taken may have not been those which were most appropriate, effective and efficient. In the seed sector in particular, seed traders consider there is significant confusion and delays in that emergency measures not only set requirements for phytosanitary guarantees to be provided by exporting third countries, but also add additional requirements upon importation, such as sampling and testing by the NPPO, while seeds cannot be used for processing activities during the test period.

It would be theoretically impossible to make assessments for all the HOs *ex-ante*, even if they are not already present (emerging risks), unless there is a prioritisation and only a limited set is addressed *ex ante*. Since 2006, EFSA has put in place an ESCO working group[125] to identify emerging risks. The WG focuses on specific indicators for which relevant signals can be provided to identify risks, using information derived from existing databases and other accessible sources (e.g. surveillance data). Two of the indicators relate to plant health risks (emergence of a new or exotic biological agent pathogenic to plants/food/feed crops; increased virulence of known pathogens including plant pathogens). In addition, the Standing Committee on Plant Health and EPPO provide important *fora* in the context of which emerging and potentials risks can be identified; in the case of EPPO this includes an alert list that is regularly updated with new information of plant pests which are considered to be emerging risks for agriculture, horticulture, forestry and amenity plants in Europe (see also section 3.2.1).

Improvements to the EUROPHYT system, such as those proposed in section 3.4.1, would result in a more pro-active approach that focuses on upcoming threats to inform decision-makers.

Additionally, harmonisation of the implementation of emergency measures and consistency with other MS should be sought. This would facilitate trade and assure a level playing field and would lead to a reduction of the risks of introduction of HOs by ensuring a coordinated approach to pest risk management.

3.4.12 Conclusions on performance of import regime

Overall, the consensus views from the general survey and the expert interviews and field visits are that, on the whole, the current import system works satisfactorily. The general survey results indicate that the plant health procedures and requirements, as applied during the last 15 years for commercial imports of plants and plants products, are considered to have been largely effective in preventing the introduction of HOs into the Community. Respondents were asked to assess the effectiveness of each individual procedure and obligation under the import regime, and for nearly all of these more than 80% of CAs and about two thirds of stakeholder respondents indicated that each instrument was considered to have been effective (general survey results, Q3.1).

[125] EFSA Scientific Cooperation working group.

It was also noted, however, that there is scope for improvements to be made (Q3.9), on the basis that all major pest incursions in the EU continue to take place through trade. Indeed, taking examples from recent years, the import regime in place has not prevented some HOs to enter the Community, e.g. *Anoplophora sp.*, *Rhynchophorus ferrugineus, Tuta absoluta*, *Dryocosmus kuriphilus, Gibberella circinata, Pepino Mosaic Virus, Citrus Tristeza Virus* and PWN.

In particular, a number of weaknesses or shortcomings were identified by the evaluation, as follows:

- The effectiveness of border controls between MS is perceived to be variable. Plant health checks are thought to be excessively focused on regional/national plant health issues rather than pests of EU-wide relevance, which is not surprising given MS' need to prioritise in the context of resource constraints. It is indicated that this problem could to some extent be addressed by Community training (e.g. BTSF), networking development between inspectors, and the development of general guidelines at Commission level for the drafting by MS of more uniform specific guidelines on import controls[126];
- Delays in EUROPHYT notifications are significant, up to 50 days in certain cases. This, combined with the fact that many notifications are for minor infringements in terms of paperwork, is leading to limitations in the extent to which the system can be used as a risk analysis tool, and results in its limited use for risk based inspections at MS level;
- Analysis of EUROPHYT data indicates that some pathways (in particular plants for planting including ornamentals, from certain third countries) are particularly prevalent, indicating the scope for a pathway approach in some cases;
- For some specific plants on which latent diseases may be present (particularly plants for planting), the need for more extensive post entry inspections and/or introduction of obligations for destructive sampling has been identified;
- Current implementation of derogations is considered to present a potential phytosanitary risk, in particular those regarding small quantities not used for commercial purposes (see also passenger transport below), and regarding transit consignments - it may therefore be opportune to review the system of derogations in these cases;
- There is widespread concern that a lack of traceability from Point of (final) Destination back to Point of Entry could in theory pose a problem due to the complexity of trade patterns where controls at final destination are in place (consignments in transit);
- The use of reduced frequency checks is very variable between MS: the majority of MS (18 out of the 26, Q3.2) have not used the possibility of conducting reduced frequency checks; where, however, this option has been taken (8 MS) it was considered to have been effective. This mixed view of the system was confirmed by the interviews and field visits, with MS that apply reduced frequency checks strongly in favour and those that do not apply them generally mistrustful of their ability to work effectively. The limited use of reduced

[126] There exists already a harmonised vademecum for import controls prepared by the Commission, but it has not been kept up-to-date for about a decade. In the past (15 years ago) the Inspectorate within the Commission (ex – FVO) prepared vademecums by sector (for fruits, forestry inspections, for plant products etc.). These never received an official status and were applied to a limited extent. Although there is some interest now, the current resources at DG SANCO/FVO do not allow the fuller development of such guidelines.

frequency is not necessarily a weakness as such, but it suggests that some MS may not be prioritising inspection according to risk possibly leading to a weaker focus on risk areas.;

- There is scope for improvement and strengthening Community emergency measures, in particular with a view to reducing delays and enhancing effectiveness and efficiency;
- Third countries have difficulty in understanding EU requirements through the reading of legislation and perceived lack of uniform interpretation between MS' inspection services, and there is further scope for enhancing understanding through existing initiatives including via the BTSF training programme;
- Cooperation between plant health and customs authorities needs to be enhanced, *inter alia* to promote nomenclature and IT system interoperability;
- Lack of sufficient traveller awareness of the phytosanitary risks or private imports poses significant risk in the absence of any measures on passenger transport and divergent policies and practices of MS in this area (passenger transport controls, passengers' personal luggage allowance);
- Often underlying the above shortcomings there is a lack of sufficient staff resources and training for authorities at all levels, which are needed to ensure full and satisfactory implementation.

It is also noted that the EU is the largest food importer in the world. In the context of the significant expansion in trade volumes and change in trade patterns (new products and sources of supply), the EU is faced both with increasing and emerging risks of introduction of HOs. These trends, which have already been witnessed in the last decade, are occurring in the context of reduced administrative and financial resources at MS level for inspections.

The options for the future of the import regime are explored further in section 5.2.

3.5 Intra-Community movement

This section summarises the findings of the evaluation on the CPHR performance to date, taking into consideration EQ 8 (area D) of the ToR.

> *EQ8: How is the current intra-Community movement regime implemented by MS, how effective and useful is it and what are its critical success factors?*

The plant passport (PP) system was introduced with the completion of the Internal Market in 1993 and it aimed at harmonizing the phytosanitary conditions for movement between and within MS of live plants and plant products. It is a system based on the principle of prevention at source. The standardised PP document[127] is an official label, the purpose of which is to provide evidence that the provisions related to plant health standards and special requirements are satisfied (Art. 2(f) of Directive 2000/29/EC). To this end, the PP specifies that the material

[127] Commission Directive 92/105/EEC of 3 December 1992 establishing a degree of standardization for plant passports to be used for the movement of certain plants, plant products or other objects within the Community and establishing the detailed procedures related to the issuing of such plant passports and detailed procedures for their replacement, amended by Commission Directive 2005/17/EC.

originates from a registered and officially inspected place of production[128]. Any producers of the material listed in Annex V, Part A of the base Directive must be listed in an official register and are subject to inspections by the NPPO services during the growing period and immediately after harvest; any material moving out from registered holdings must be accompanied by a PP. For imported material, the phytosanitary certificate is replaced by a PP when consignments are cleared by customs services. A more complete description of the current rules relating to intra-Community movement of plants and plants products is provided in **Annex 1 (Theme 3)**.

This section examines the implementation of the various provisions under the intra-Community movement[129], including: the functioning of the plant passport (PP) system in general; the extent of the need for harmonization of the PP document; the functioning of the producers' registration system and the functioning of the authorization system for registered nurseries to issue PPs; the use of the PP as a phytosanitary traceability tool and the relevance of establishing such traceability; and the provisions for small producers for local markets and professional versus final consumption use.

3.5.1 Functioning of the plant passport system in general

For a large majority of respondents to the general survey the plant passport provisions and their implementation have been largely effective in ensuring the free circulation of plants and plant products (Q4.1.b). Some impediments to trade have been reported by stakeholders, particularly in relation to the plant passport (PP) document and in the case of issuance of PPs by the NPPO in MS where this task has not been delegated to authorised registered holdings under NPPO supervision.

On the other hand, the survey response strongly indicates that the performance of the current system is less satisfactory when considering the effectiveness of the plant passport provisions and their implementation for preventing the spread of HOs in the EU (Q4.1.a). The majority of both MS CAs and stakeholders consider that the current system has not been effective for preventing the spread of HOs, as is highlighted in the figures below.

General survey results
Q4.1.a Extent to which the plant health rules for intra-Community trade have been effective for preventing the spread of HOs:

Provisions	MS CA	Stakeholders
Overall system	9 out of 25 (2 do not know)	17 out of 25 (3 do not know)
Plant passport (PP) document	9 out of 26 (3 do not know)	12 out of 23 (9 do not know)

[128] Commission Directive 92/90/EEC of 3 November 1992 establishing obligations to which producers and importers of plants, plant products and other objects are subject and establishing details for their registration; and Commission Directive 93/50/EEC specifying certain plants not listed in Annex V, part A to Council Directive 77/93/EEC, the producers of which, or the warehouses, dispatching centres in the production zones of such plants, shall be listed in an official register.

[129] The effectiveness of the protected zone plant passport has been analysed in section 3.6 and is therefore not repeated here. Also, the analysis of the official plant health movement document for re-export and of the intra-EU phytosanitary communication document for transit is presented in section 3.8.

Issuing PP document by operators under NPPO supervision	12 out of 26 (4 do not know)	11 out of 22 (10 do not know)
Issuing of PP document by NPPO	13 out of 26 (4 do not know)	10 out of 23 (11 do not know)

General survey results
Q4.1.b Extent to which the plant health rules for intra-Community trade have been effective for ensuring the free circulation in plants/plants products:

Provisions	MS CA	Stakeholders
Overall system	24 out of 24	17 out of 25 (7 do not know)
Plant passport document	22 out of 26 (3 do not know)	14 out of 23 (8 do not know)
Issuing PP document by operators under NPPO supervision	22 out of 25 (2 do not know)	12 out of 22 (9 do not know)
Issuing of PP by NPPO	18 out of 25 (3 do not know)	10 out of 22 (11 do not know)

As a result, a significant number of MS CAs (17 out of 26, 2 do not know) do not consider the plant passport system provides sufficient guarantee that plants and plant products are safe to move within the EU. Stakeholders hold a more positive view (12 out of 26, 9 do not know believe it provides a sufficient guarantee).

In 2005 the FVO produced an overview report on the implementation of the PP system in the MS[130]. The present evaluation has identified a number of issues reported during the survey and interviews/field visits, which confirm the earlier FVO findings. These relate to problems in implementation and harmonization between MS, and can be summarized as follows:

- Various problems arising from the diversity in PP formats and variation in information provided and application, between and even within MS (more details in the following section), which makes the tracing of relevant phytosanitary information particularly onerous;
- The PP system does not cover all plants and plant products which could pose phytosanitary risks and can be moved within the EU. Some HOs are only regulated on a limited number of host plants – the limitation can be that the controls are only on plants moving to another commercial grower or only where it is considered there is a greater risk (e.g. in the case of *Liriomyza trifolii*). Significant gaps therefore exist in the system, due to the fact that not all host plants are considered.
- The number of species to be covered by the PP has been increasing over time. The initial list that is inserted in Council Directive 2000/29/EC has been expanded by subsequent Commission Directives. This approach and the lack of a consolidated document lead to considerable difficulty in following up on what is the exact situation on species for which PP obligations apply;
- When registered holdings produce PP documents without following a standard format, inspectors and producers receiving the material find it difficult to identify all the relevant information.

[130] FVO Report (2005) Overview report of the results of a series of missions carried out in Member States in order to evaluate the implementation of the plant passport system. It covered the results of the missions carried out in 17 MS (BE, EL, DE, DK, IT, SE, SK, UK, NL, PT, FR, SI, CZ, PL, HU, LV, ES).

The general concept of the PP system is considered useful and well defined, but its implementation is questioned by most MS CAs. The main criticisms have been that the system has not prevented the spread of some HOs e.g. *Phytophthora ramorum, Dryocosmus kuriphilus* or *Rhynchophorus ferrugineus*, to which PPs apply, and this is confirmed by the fact that there are regularly notifications of interceptions during intra-Community trade. Also, due to latent infections and the limited number of inspections of registered establishments (required only at least once a year), the non-presence of HOs cannot be guaranteed with sufficient reliability.

The main reason explaining the above dysfunctions relates to the lack of capacities of NPPOs to carry out plant health checks due to shortages of staff and other resources. In MS where resources are available and enough attention has been given to the PP system, implementation was found to be more effective and in compliance with the relevant legislation. In some MS, the delegation to growers has created a very uneven situation depending on the level of knowledge of business operators, leading to the conclusion that the system has lost some credibility and is today perceived as a purely administrative task with insufficient plant health focus.

In terms of the coverage of plants and plant products to which the PP should apply, it has been proposed that, as is done for the listing of HOs, a discussion and decision platform should be established to regularly update the list of species to be covered by the PP. The Annex WG could be a very well suited platform for this mission. Currently there are considerable differences in view among MS whether or not all host species which are a potential host for a given HO should have a PP.

Several interviewees have indicated that risk analysis is usually insufficiently detailed and does not include up-to-date surveillance details, documentation of trade pathways within the EU or considerations of the potential economic impacts of a given threat. Therefore the intensity and frequency of PP checks are usually based on the cultivation pattern of specific crops and not on the potential phytosanitary risk *per se*. Resources should be devoted to areas and species that pose a high potential plant health risk or where there is uncertainty of the risk. It has also been indicated that the PP system does not use PRA proportionately. Requirements are the same throughout the EU and are not flexible enough to consider local/regional conditions and specificities at MS levels.

General survey results

Q4.2 Extent to which the PP system sufficiently takes into account risk analysis

6 out of 26 MS CAs and 8 out of 25 stakeholders consider that the PP system takes into account risk analysis. (5 MS CA and 10 stakeholders do not know).

Additionally a large number of interviewees have indicated that the PP does not always take into account the risk posed by plants for planting that are exempted from any inspections and from the PP system. Exemptions of the PP obligations for "small producers" and for "final consumption use" are analysed in the last chapter of this section.

Another exemption related to farm-saved seed (FSS) has been reported by the interviewees as creating potential gaps in the system. Farm-saved seed is seed that is multiplied by the farmer on his/her own holding for further planting on their own farm (seed cannot be sold to third parties).

This category of seed is inspected but only visually. In the case of seed potatoes, these visual inspections cannot identify latent diseases that may be present in the potatoes. Therefore this exemption creates a potential reservoir of diseases. However, as FSS are not sold to third parties, the spread of diseases through this exemption is limited as long as the percentage of FSS remains quite low.

3.5.2 Harmonisation of the plant passport document

The plant passport (PP) document is standardised at EU level according to the rules in Commission Directive 92/105/EEC, which defines the format that should be used (for specific types of products, official agreed marks other than a label may be decided through comitology). The plants, plant products and other objects which accompany the PP[131] are listed in Annex V, Part A of Council Directive 2000/29/EC; this includes mainly plant products and a limited number of seeds[132].

The evaluation results indicate that there are significant problems with the lack of harmonisation between MS, in terms of the format of the PP document as well as the application of the rules concerning the information contained in the document and its attachment on products. This makes access and the use of the information provided by the plant passports very difficult and raises significant concerns on the use of the plant passports as a phytosanitary guarantee, thus undermining the overall credibility of the system. The failure of the PP to provide sufficient guarantees is so significant that it is considered to be the main weakness of the current system.

General survey results

Q4.3.a Extent to which the plant passport is sufficiently harmonised

Only 2 out of 26 MS CAs and 7 out of 24 stakeholders consider that the PP is sufficiently harmonised. (1 MS CA and 10 stakeholders do not know).

Q4.3.a Extent to which the plant passport is easily readable and understandable when issued in other MS:

Only 3 out of 26 MS CAs and 5 out of 25 stakeholders consider that the PP is sufficiently harmonised. (10 stakeholders do not know).

The comments received during the survey, interviews and field visits, confirm the findings of the 2005 FVO review of the PP system, indicating a continuing lack of progress to address the various shortcomings highlighted at the time. These can be summarized as follows:

[131] The plant passport has to be attached to them, to their packaging or to the vehicles transporting them.

[132] Seeds listed in the same Annex also require a PP certifying that they fulfil the special requirements, although the documents issued in accordance with EU provisions applicable to the marketing of officially certified seeds can be considered to all intents and purposes to be plant passports, where they provide the requisite evidence of compliance with the above requirements. According to Commission Directive 2005/17/EC, this is the case for: tubers of *Solanum tuberosum L*. intended for planting (the official label defined in Annex III to Council Directive 2002/56/EC may be used in place of a plant passport); seeds of *Helianthus annuus* L. (the official label defined in Annex IV A to Council Dir. 2002/57/EC may be used in place of a plant passport); seeds *of Lycopersicon lycopersicum* (L.) Karsten ex Farw and *Phaseolus L*. (the official label defined in Annex IV A to Council Dir. 2002/55/EC may be used in place of a plant passport); and seeds of *Medicago sativa L*. (the official label defined in Annex IV A to Council Dir. 66/402/EEC may be used in place of a plant passport)

- Several formats of PP exist even within a given MS and as the information is often in a national language it is difficult to find and to understand when material circulates across MS. The required information is spread through the document and sometimes scattered on several pages;
- Some producers place the required PP data directly on the package, the label is adhesive and therefore it is difficult to keep a copy at the premises for the required legal period of one year;
- Some MS use only the invoice or other relevant trade documents as PPs, leading to difficulties in extracting the PP information from the trade related information;
- When the PP consists of an official label and an accompanying document, too often the official label is not made of appropriate material and not attached to the plants, to their packaging or to the vehicles transporting them as required by Article 10(2) of the basic Directive and Article 3(2)(h) of Commission Directive 92/105/EC.

It would appear that the content of the plant passport is considered as adequate, but the layout and presentation needs to be harmonised in order to facilitate readability and easy recognition of the information contained therein and to ensure that all necessary information is included. It was also indicated that the PP document needs to be separated from any other information that is accompanying the consignment, and especially the trading documents, in order to allow fast and reliable identification of the phytosanitary requirements.

The majority of the interviewees consider that the EU Commission should define and propose a unique format and a standardised lay-out to avoid having to use one unique language. Examples from each MS should be published on CIRCA.

Some interviewees indicated that, where possible, synergies need to be sought with the documentation required under other regulatory obligations. For example, when the PP obligations are combined with obligations for certified plant propagating material and material belonging to the Conformitas Agraria Communitatis (CAC) in common documents the system appears to work better.

3.5.3 Functioning of the producer registration system

According to Art.5 of Directive 2000/29/EC, producers, importers, collective warehouses and dispatching centres must be registered[133] and the name and details of the operator listed in an official register, managed by the NPPO; each operator shall be identifiable through an individual registration number. Official inspections are carried out in the registered establishments in order to ensure that products are not contaminated by HOs as listed in Annex I and Annex II (and that seeds listed in Annex IV part A meet the special requirements), with the exemption of the movement of small quantities for local markets (see section 3.5.6.).

[133] Art. 5, third subparagraph of Council Directive 2000/29/EC requires registration for producers of plants, plant products and other objects listed in Annex V, Part A to Council Directive 2000/29/EC and for seeds listed in Annex IV part A; art. 6 establishes that: with effect from 1 June 1993, MS shall provide that producers of certain plants, plant products or other objects not listed in Annex V, Part A, specified through comitology, or collective warehouses or dispatching centres in the production zone, shall also be listed in an official local, regional or national register and that they may at any time be subjected to inspection.

The survey results indicate that MS CAs are sufficiently confident in the implementation of the producer registration system in terms of ensuring both phytosanitary risk prevention and free trade. However, stakeholders are more sceptical in terms of the benefits of the current registration system, although overall they appear to be satisfied with its implementation (Q 4.4.a). These findings were confirmed during the interviews and field visits.

General survey results
Q4.1.a Extent to which the plant health rules for intra-Community trade have been effective for preventing the spread of HOs:

Provisions	MS CA	Stakeholders
Registration of producers, collective warehouses and dispatching centres	21 out of 25	11 out of 23 (10 do not know)
Inspection of above.	21 out of 25	12 out of 24 (8 do not know)
Official checks (occasional and regular checks by official services)	19 out of 25	13 out of 23 (9 do not know)

General survey results
Q4.1.b Extent to which the plant health rules for intra-Community trade have been effective for ensuring the free circulation in plants/plants products:

Provisions	MS CA	Stakeholders
Registration of producers, collective warehouses and dispatching centres	21 out of 24 (2 do not know)	11 out of 23 (10 do not know)
Inspection of above.	22 out of 25 (3 do not know)	11 out of 22 (10 do not know)
Official checks (occasional and regular checks by official services)	22 out of 26 (3 do not know)	12 out of 23 (10 do not know)

A key criticism of those that are more critical of the current registration and inspections system is the adequacy of the frequency (at least one a year) and the level (at least visual observation) of the inspections performed by the NPPO services in registered establishments. In particular, several interviewees have indicated that this is viewed more as a formality rather than as a real guarantee of the compliance of business operators with plant health rules.

To perform the task of official inspections, MS inspection services should have access to the relevant products at all stages in the production and marketing chain, and to the records kept by registered business operators. The 2005 FVO report highlights that all MS considered in that review (17 in total) had a national or regional database of registered establishments, which, in most cases, was electronically available and accessible to plant health inspectors.

The registered producers are subject to certain other obligations (laid down in Article 2(2) of Commission Directive 92/20/EC): in particular, they should immediately notify the responsible official body of any unusual occurrence of HOs, symptoms or any other plant abnormality; and they should keep records of all product movements through their premises. The 2005 FVO report indicates that these obligations were not fully respected by registered establishments, mainly due to a lack of awareness among producers or a lack of inspections but also for reasons of impracticality (e.g. keeping a detailed plan for glasshouses with a high turnover of plants).

Despite these positive findings overall on the current implementation of the registration and inspections system, with the reduction generally observed in the MS in NPPO resources, future reliability may be at risk. For example, most MS have been unable to provide detailed guidelines to registered producers on the implementation of the system, due to shortage of staff and resources.

3.5.4 Functioning of system for registered nurseries to issue plant passports

The PP is prepared by the responsible official body in the MS and may be issued either by the responsible official body directly or – under their control – by the registered producers/private operators authorised to do so under NPPO supervision. Nearly all MS have delegated the issuing of PPs to private operators under NPPO supervision. Only BG, RO and PL have reported that they have not implemented this option, as it is considered that the registered producers are not sufficiently prepared to issue PPs.

Registered producers have to apply for an authorisation to issue PPs and the responsible official bodies retain the obligation to ensure that certain conditions are fulfilled and certain functions (e.g. issuing of replacement passports). In some MS a visit before registration or before authorization for issuing PPs is also carried out, even if not required by the legislation.

The possibility of sanctions exists in the system: in case inspections made on the premises of registered operators find the presence of HOs, the passport is not issued[134], the activities of the producers are partially or totally suspended (until the risk is eliminated) and official measures are taken (including: product treatment; movement under official control to zones where the plant materials and HOs do not present additional risk; movement to places of industrial processing or destruction). However, it is not clear (there is no evidence) as to whether these are actually applied.

The evaluation has found that stakeholders are by and large satisfied with the current implementation of the system for delegation of PP issuing under NPP supervision; however the majority of MS CAs do not consider that the system provides sufficient guarantees at present.

General survey results

Q4.5. (CAs): Is the authorisation system for registered nurseries to issue PPs under NPPO supervisions functioning properly and reliably?

14 out of 26 MS CAs (2 do not know) consider that the system functions properly and reliably.

Q4.4.b (stakeholders): Extent to which the stakeholders are satisfied with the current implementation of the provisions authorizing registered producers to issue plant passport under NPPO supervision

All stakeholders (16 in total) are satisfied with the current provisions authorising registered producers to issue plant passports under NPPO supervision.

During the interviews, stakeholders highlighted the significant advantages of the current system of delegation of issuing of PPs under official supervision as follows:

[134] Art. 11 (2) of Directive 2000/29/EC provides however that it can be issued for parts of the products, if there is no risk of spread of HOs for the part concerned.

- Flexibility as regards planning and logistics for producers and traders, as they do not have to rely on official services to get the paper documents and to organise their day-to-day activity;
- Cost-effectiveness, as the issuing of PPs can be optimally integrated in the daily activities rather than being delayed awaiting official documents;
- Reduction of overlapping activities in cases where the PP is associated with the S&PM certificate (e.g. seed potatoes).

For CAs the major issues are linked to the understanding of the system. Larger companies that are used to issuing a large number of PPs know the system quite well, but this is not the case for all smaller companies, even if they are sufficiently informed on the requirements. In these cases, the real purpose of the PP is unclear to operators mainly because the origin of the plant material so easily disappears in the marketing chain between MS. Additionally, registered nurseries are not always aware which plant species need a PP and therefore they provide PPs to plants which are not covered by such requirements. At the same time, the NPPO is not always informed about the species that are present at the premises of registered operators. These elements conjointly lead to a degree of dysfunctionality within the current system.

CAs interviewed have also reported that some obligations related to record keeping are not performed satisfactorily, as the private operators consider that they will do their "paperwork" later and finally this is not properly done until they are inspected.

In the case of issuing of replacements PPs, only the CA should be competent to do this according to the legislation; this is not currently the case as this task is mostly delegated i.e. in cases where replacement PPs are used, these are prepared by the registered holdings and not by the NPPOs as required by the legislation. This point is also highlighted in the 2005 FVO report. Producers generally use the normal PP instead of the replacement PP mainly because they are not fully aware of the obligations and for practical reasons.

Finally, there is concern that, with the reduction of field inspections at registered nurseries, the phytosanitary status may be at risk because private operators currently have incentives to sell plant products not free of HOs rather than destroying them.

3.5.5 Traceability issues

The plant passport is an official label which provides evidence that the provisions of Directive 2000/29/EC related to plant health standards and special requirements are satisfied. The PP was never intended to be used just as a traceability tool, although there is reference to the possibility of setting up a system to trace back to origin in the base Directive (Art. 6(6)[135]). On the other hand, the list of required information and the movement of the PP document with the consignment are elements that contribute to a certain level of traceability (e.g. registration number, individual serial or week or batch number, botanical name, and country of origin or consignor country for third country products).

[135] *"[…] a system may be set so that certain plants, plant products and other objects may, if necessary and in so far as possible, be traced back to their origins, bearing in mind the nature of the production or trading conditions".*

Tracing back the origin of plant health issues may be of high interest in outbreaks, to optimise the definition and implementation of eradication plans. Tracing forward is also valuable in many situations to ensure full traceability along the production and marketing chain (e.g. in the case of propagating material, difficulties are linked to tracing the whole history of a plant)[136]. The question is whether the actual provisions and current implementation of the PP system are sufficiently reliable to achieve this goal.

The current PP system is based on the registration of producers issuing PPs, the issuance of a PP in case of plants and plant products leaving the holding, and registration of the PP documents for a period of one year for growers and traders. These elements associated with the information that has to appear on the labels are considered by most of the interviewees as being in theory a relevant approach that should lead to some level of traceability.

Most MS (13 out of 26 MS CAs – 2 do not know) and stakeholders (16 out of 26 – 6 do not know) (Q 4.2.c) that responded to the general survey consider that the PPs allow sufficient traceability for plants and plant products moving within the EU. The interviews and field visits have confirmed that both CAs and stakeholders recognise that there is a need for a complete traceability system, but several issues of the PP system as such do not allow achievement of complete traceability, as follows:

- Traceability can only be achieved if the PP obligations are fully respected. The way the PP system is implemented, as reported above can only lead to defective traceability;
- Traceability remains possible in the MS of production or origin but is more difficult in relation to products from other MS - this creates the need to refer to the authorities of those MS who could probably provide trace-back;
- Traceability is limited to one step back and one step forward, significant efforts and resources would be needed to trace back all along the complete supply chain;
- Traceability can only be fully achieved by using the PP in combination with trade documents. Quite often the main criteria assuring traceability are mentioned in the trade documents and not on the PP label and therefore traceability is achieved through commercial logistics systems instead;
- Examples given included problems with exports to Russia, concerning the transit of consignments across MS, demonstrating that traceability is limited to one step back and one step forward. In cases of outbreaks for example it is necessary to trace further back and/or forward and the current PP does not allow this degree of traceability;
- The current exemptions to the obligations of the PP, e.g. final consumption use, do not allow traceability to the retailer end-user for e.g. pot plants;
- Commercial considerations on the use of information: to avoid competition, traders prefer that buyers do not see from whom the trader buys the products, because otherwise the buyer could go to the producer directly.

There have been some discussions concerning a centralised IT database which would allow the set-up of a complete traceability system to include all data on the circulation of consignments,

[136] No reference made to tracing forward in the above-mentioned paragraph

including import into and movement through the Community as well as exports of consignments outside the Community. Such a system exists in animal health (TRACES[137]). An equivalent system in plant health could allow the electronic preparation of PPs, the electronic issuing of plant health certificates and the tracing of consignments. This system has already been presented to the Standing Committee of Plant Health and received some interest from MS. However the major issue linked to the establishment of such a system is the cost and staff required for setting-up and managing such a database, knowing that volumes of movements are much higher in plant health than animal health (this issue is discussed further in section 5.2).

3.5.6 Implementation of exemptions

3.5.6.1 Small producers for the local market

Article 6(7) of Directive 2000/29/EC exempts small producers or processors whose entire production and sale of relevant products are intended for final usage on the local market and who are not professionally involved in plant production (local movement) from the requirements for the registration of establishments, therefore from the official inspections and from the need to issue PPs.

The definitions of *"small producers"* and of *"local market"* are not established in the base Directive, but are left to the MS to decide on. Not all MS have established national rules to apply this potential exemption, as follows:

Table 3-12: MS implementation of exemptions from certain PP provisions

Type of exemption	MS where applied
MS that have established national provisions on "small producers" and "local market" to use exemption as defined in base Directive	SI, EE, DK, PT, FI, BE, UK, BG, IT, , DE, IE (wood material), MT, HU, RO, CZ, AT, PL, FR, EL
MS that have NOT established national provisions on "small producers" and "local market" to use exemption as defined in base Directive	CY, NL, SE, LT, ES, LV

Source: FCEC, based on general survey results

The analysis of national provisions shows that these are variable across MS and the interpretation of the term "local market" also varies considerably between MS.

The main reason indicated by MS for not implementing provisions to establish exemption is mainly the perception that these exemptions create a lack of clarity and make the system unnecessarily complex and less enforceable. Additionally, the risk of spread of HOs from a local market is not negligible. At the time of marketing, there is no full guarantee that the plant will be used only at the local market, Finally, when it comes to inspection, it is apparently confusing to

[137] TRACES allows the electronic exchange of intra-EU trade certificates and import documents between the CAs (customs and veterinary) in charge of animal health controls. Economic operators could be involved in drafting these documents.

have at the same physical place (e.g. a market) the same products but some from "small" or local exempted producers and others from larger producers or those outside the local market perimeter; this may lead to market distortions.

General survey results

Q4.6 Extent to which there is a potential phytosanitary risk from the current implementation of the "small producers serving the local markets" derogation

20 MS have established provisions to use these exemptions, even if 12 out of 26 MS CAs consider there is a potential phytosanitary risk from the current implementation of these exemptions (2 do not know), as these small producers are not aware of the relevant legislation that covers HOs and their control. 10 out of 24 stakeholders (9 do not know) are satisfied with the current implementation of these exemptions.

Any exemptions will involve a certain degree of risk and the issue is whether the level of risk is acceptable or not. In this case most of the MS CAs considered that the degree of risk is acceptable and therefore have applied these exemptions.

3.5.6.2 Professional use vs. final consumption use

Another exemption from certain inspection requirements is related to final consumption use (i.e. non-industrial and non-commercial purposes) of plants and plant products, provided there is no risk of spreading HOs (Article 6(5) and Article 10(2) of the base Directive).

This exemption has been implemented in the same MS as in the case of the exemption for "small producers on local markets". MS have established both exemptions, mainly for reasons of simplification.

Generally this exemption has been implemented for the same reasons as the previous exemption, although certain specificities have been reported, as follows:

- It is difficult to prevent the movement of unregulated home produced plants and plant products and any regulation to be applied to such products would lead to important burdens for inspections;
- The final consumer can always remove the plant passport when buying products in e.g. a garden centre and therefore the added value of a plant passport at this stage is very limited;
- The possibility of identifying the infected material at this stage and then eliminating it are quite low, therefore there is no reason to regulate this stage.

On the other hand, several MS have not implemented this exemption for the opposite reasons. In particular, products destined for final consumption are considered by those MS to pose a significant risk of introducing HOs to private and public gardens. In this context, garden centres can be crucial in tracking and tracing infested consignments. For example, the Danish authorities mentioned cases of *Phytophthora ramorum* and Plum pox virus found during growth inspections in garden centres in 2008 and 2009.

3.5.7 Conclusions on performance of intra-Community regime

Overall, the views received from the general survey, the expert interviews and field visits indicate that, while the intra-Community movement regime has succeeded in achieving the free circulation of goods within the Community, there are significant concerns on its effectiveness in terms of addressing plant health problems as such.

The Single Market objective has clearly been achieved given the large majority of respondents to the general survey and interviews/field visits that have indicated that the plant health rules for intra-Community trade have been effective in ensuring the free circulation of plants and plants products within the EU.

However, perceived inadequacies related to implementation of rules have meant that the achievement of free movement within the Community is felt to have, at least in part, been at the expense of ensuring plant health.

The producer registration system is generally perceived by both MS CAs and stakeholders to work reasonably well. The concerns are mainly related to the issuing of plant passports and the credibility of plant passport documents *per se*.

Although nearly all MS have implemented the option to delegate the issuing of PPs to registered private operators under official NPPO supervision, the majority of MS CAs have nonetheless expressed concerns on the functioning and reliability of the system. These concerns appear to be partly linked to the resources available to carry out the appropriate level of inspections and controls and to ensure correct implementation. On the other hand, for stakeholders, the delegation of responsibilities to issue PPs to private operators has been a major step forward in terms of facilitating trade and introducing flexibility in the current system, and indeed some impediments to trade were reported in the case of MS where this task has not yet been delegated.

The lack of uniformity in the application of the PP system is a particularly significant concern. This is associated with the lack of a standardised format for the plant passport document and divergent practices on the information contained in the document and its attachment to the products. This has led to the appearance of different type of documents by MS and even by sector within MS leading to readability issues. Plant passports are difficult to read as plant passport information is being mixed with trade information too frequently. Inspectors are often unable to understand plant passports from other MS. There is therefore perceived to be an urgent need for a harmonised plant passport format and harmonised rules/guidelines in this area.

Regarding traceability, it is noted that the PP document was not intended by the legislation to be a traceability tool, although the requirements on its contents offer certain elements of traceability. However, full traceability cannot be ensured by the PP document alone, as it is often used jointly with trade documents, and there is considerable difficulty combining the plant passport and the physical plant or plant products, particularly with smaller plants such as ornamentals. The plant passport only provides information on the previous stage in the supply chain and difficulties are being observed when there is a need to further trace back and/or trace forward. Therefore the use of the PP document for enhanced traceability needs to be examined in

conjunction with other tools (e.g. trade documents, electronic database for registration of producers etc.).

Six MS have not implemented exemptions for "*small producers serving the local market"* and for "*products destined for final consumption*" as they consider that these exemptions lead to a potential phytosanitary risk, although they also recognise that in some cases, e.g. private final consumers, it may be inefficient or ineffective to apply any type of measures. Those MS that have implemented these exemptions, even if they recognise that the potential phytosanitary risk can never be eliminated, generally consider this to be of minor importance. Generally these exemptions have been implemented in parallel for simplification.

In conclusion, the evaluation has found that, by and large, the implementation of the current PP system does not sufficiently take into account risk analysis nor does it provide sufficient guarantees that products are safe to move within the EU. In many cases, the shortcomings identified in the implementation of the current system have undermined the trust of both MS CAs and stakeholders on some of the provisions, and it is therefore considered important to restore overall credibility in the system. The above findings confirm that the situation with respect to intra-Community trade remains as challenging as highlighted in the FVO Report of 2005 on this subject[138]. These concerns are particularly acute in the case of protected zones (PZs) (see section 3.6) and call for a significant review of both systems.

The options for the future of the plant passport regime are explored further in section5.5.

3.6 Protected Zones (PZ) and regionalisation

This section summarises the findings of the evaluation on the CPHR performance to date, taking into consideration EQ 9 (area E) of the ToR.

EQ9: How is the current Protected Zones (PZ) regime implemented by MS, how effective and useful is it and what are its critical success factors?

The issues examined under this section include the implementation by MS of the protected zone (PZ) regime in the reference period (since 1993), the functioning of the protected zone plant passport ("PZ" plant passport), as well as the needs for alternative forms of regionalisation. Under the last heading, comparison is made with the Pest Free Area (PFA) principles as described in ISPM 4, assessing the extent to which further alignment is required.

[138] Overview report of the result of a series of missions carried out in MS in order to evaluate the implementation of the Plant Passport System (2005). The FVO report concluded that *"the implementation of the plant passport system cannot be considered fully adequate or appropriate in the EU, especially with regard to plant health checks and movement of regulated articles into protected zones".* The text continues, from the executive summary: *"this could compromise the internal market control system for plant health and in particular for the protected zones*". The report also concluded that "*in some areas (i.e. exemptions for local market, small producer, etc.) implementation across the Community varied substantially. Contributing to the problems in many Member States is the insufficient knowledge of the requirements of the plant passport system amongst inspectors and stakeholders"*.

According to Article 2(h) of Council Directive 2000/29/EC, a PZ in the EU is a country (or a territory within a country) where:

- One or more HOs, established in one or more parts of the Community, are not endemic or established despite favourable conditions for the HOs to establish;
- There is a danger that certain HOs will establish, given propitious ecological conditions, for particular crops, despite the fact that these organisms are not endemic or established in the Community.

PZs are therefore intended to receive special protection against the introduction of one or more HOs listed in the Annexes of the base Directive. In this context, specific protection measures afforded to PZs include:

- An additional list of HOs whose introduction into and spread within PZs is to be prevented (listed in Annexes I B and II B);
- An additional list of plants and plant products whose introduction into PZs is prohibited (listed in Annex III B);
- An additional list of specific requirements which must be met by certain plants, plant products or other objects if they are to be moved to and within a PZ (listed in Annex IV B).

Specific "PZ" plant passports are required when moving plants and plant products into PZs, and such products must reach higher plant health standards before entering these zones.

The recognition of PZ status is done through comitology procedure, where the Commission is assisted by the Standing Committee on Plant Health. MS submit a request for recognition of their territory or part thereof as a PZ, supported by the results of appropriate surveys.

To maintain the status of a PZ, MS undertake to fulfil certain requirements, including systematic surveillance and reporting to the Commission (at least on an annual basis) to demonstrate continued absence of the HO, notification of any findings, and the obligation to eradicate measures over a maximum 2 year period in case of HO findings (leading to loss of status if eradication is not achieved).

A more detailed description of the current rules relating to the EU system of protected zones (PZs) is provided in **Annex 1 (Theme 4)**.

3.6.1 Implementation of Protected Zones in the EU

The evolution and effectiveness of the PZ system, as it has been implemented by MS during the reference period is presented below.

The list of recognized PZs is laid down in Commission Regulation (EC) No 690/2008 (the 'PZ' Regulation), which replaced a number of Directives. As noted in the Regulation, the approach was changed in 2008 from Directives to Regulations in order to achieve a timely and simultaneous application by MS as well as a reduction of administrative burden.

The following table presents the evolution of the number of PZs per MS since 1992. A detailed overview of the current (2009) situation of PZs and HOs by MS covered by PZ status is presented in the Annex 1table (Theme 4).

Table 3-13: Number of PZs per MS and evolution since 1992

MS	No of PZs			
	In 1992	**In 2001**	**In 2008**	**To date**
Austria	n.a.	1	1	1
Belgium	0	0	0	0
Bulgaria	n.a.	n.a.	0	0
Cyprus	n.a.	n.a.	3	3
Czech Republic	n.a.	n.a.	2	1
Denmark	3	1	0	0
Estonia	n.a.	n.a.	1	1
Finland	n.a.	6	6	6
France	9	5	5	5
Germany	0	0	0	0
Greece	16	10	11	11
Hungary	n.a.	n.a.	0	0
Ireland	15	13	15	14
Italy	11	2	2	1
Latvia	n.a.	n.a.	2	2
Lithuania	n.a.	n.a.	1	1
Luxembourg	0	0	0	0
Malta	n.a.	n.a.	2	2
Netherlands	0	0	0	0
Poland	n.a.	n.a.	0	0
Portugal	12	8	8	8
Romania	n.a.	n.a.	0	0
Slovakia	n.a.	n.a.	2	2
Slovenia	n.a.	n.a.	2	2
Spain	11	7	5	5
Sweden	n.a.	4	4	4
UK	15	15	16	16
Total PZs / Total MS	***92/12***	***72/15***	***88/27***	***85/27***

Source: Compiled by FCEC based on Commission Regulation (EC) No 690/2008, Commission Directive 2001/32/EC and Commission Directive 1992/76/EC, and based on the survey results for the column 'To date'.

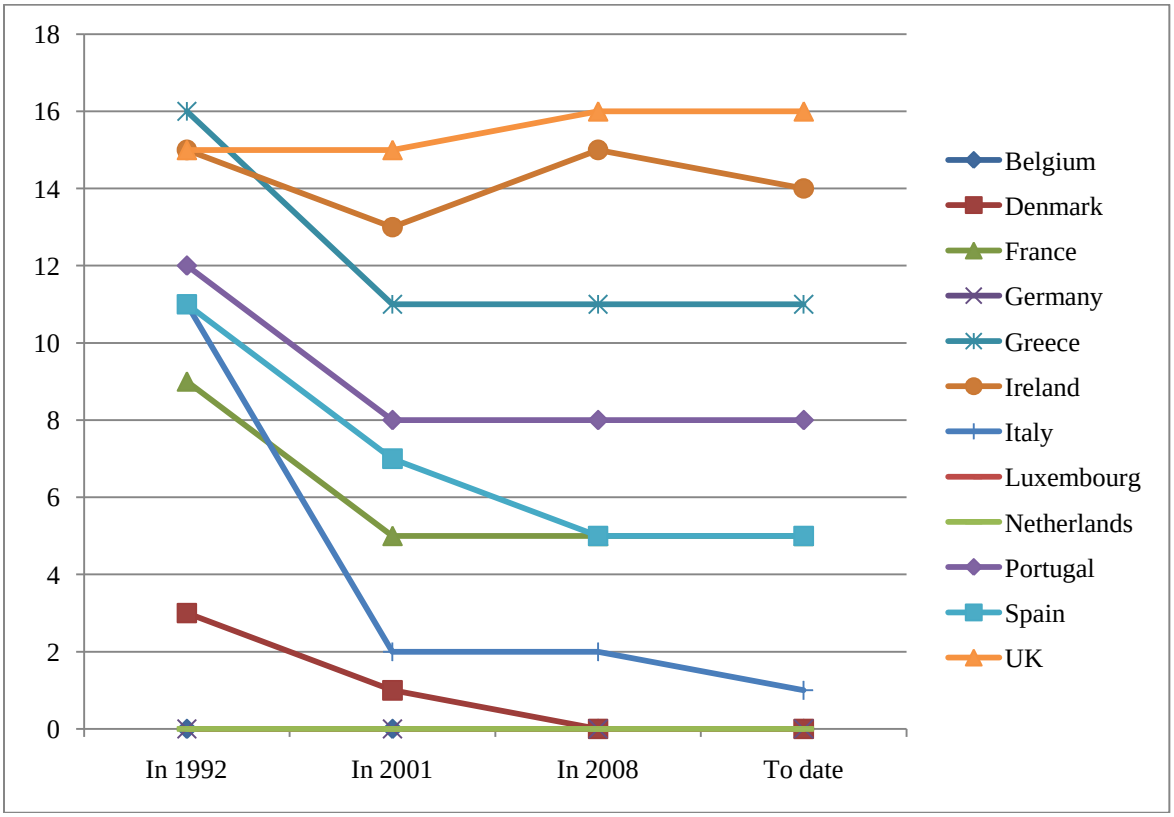
Overall, the number of PZs has decreased over the last 20 years despite the enlargement to 27 MS. When considering MS that were already members of the EU in 1992, the decrease is almost 30% (from 92 PZs in 1992 to 62 in 2009). Such a decrease can be partly explained by the fact that, at the start, if an area was free of a given HO, it was automatically defined as a PZ. Thereafter, increasing requirements in providing technical justification to prove freedom from the given HO/s, the difficulties MS had in keeping these zones free of certain HOs, and the lack of economic interest in some cases in maintaining some zones, led to PZs losing their status.

To date, eight MS have never used the PZ concept on their territory, including 4 new MS: BE, BG, DE, HU, LU, NL, PL, RO. A majority of NMS established PZs on accession to the EU but the larger NMS have not established any PZ to date. At present, 11 MS have no PZ on their territory and, as the above table shows, more than two thirds of all PZs are located in only 6 MS: UK, IE, EL, PT, FI, and FR.

The variation in rate of uptake of PZs is often seen as resulting from geographical reasons. For example IE and the UK use the concept quite widely, mainly due to their island status, while some landlocked MS (such as DE) have never used the possibility of protecting their territory via PZs.

Different MS have adopted different approaches, with some defining PZs according to administrative/legal areas, while others have based them on detailed geographical descriptions using roads, etc. as boundaries (e.g. as in UK). Both approaches are justified in particular circumstances, although interviewees have noted that these boundaries can be quite artificial in the context of adopting effective plant health management measures.

Figure 3-13: Evolution of the number of PZs in EU MS since 1992



Source: Compiled by FCEC based on Commission Regulation (EC) No 690/2008, Commission Directive 2001/32/EC and Commission Directive 1992/76/EC

In terms of the evolution of the number of PZs over time, in all MS except UK, a decrease over this period can be observed.

PZs have mainly lost their status because they became contaminated, due to the difficulty of preventing entry of contaminated plants and plant products. Additionally, in a few cases, efficient long term control measures have been developed e.g. plant varieties resistant to *Erwinia amylovora* and rhizomania, which removes the need for a PZ approach. Over the reference period, the number of PZs which have lost their status is much higher than the number of "new" established PZs, e.g. for *Erwinia amylovora* (fire blight).

The number of HOs for which PZs exist per type of HO has not been significantly modified over the reference period with the majority still pertaining to insects, mites and nematodes. Analysis of the Annexes of the PZ legislation further demonstrates that the list of HOs for which PZs exist has remained stable over the last 20 years.

Furthermore, the perimeter covered by each PZ can decrease within a MS over time. This phenomenon has occurred mainly in the case of PZs for *Erwinia amylovora* (fire blight) and the Grapevine flavescence dorée phytoplasma.

Table 3-14: Number of HOs for which PZs exist in the EU

	1992	2001	2008
Insects, mites and nematodes, at all stages of development	17	16	16
Bacteria	3	2	2
Fungi	5	3	4
Viruses and virus-like organisms	3	3	4

Source: Compiled by FCEC based on Commission Regulation (EC) No 690/2008, Commission Directive 2001/32/EC and Commission Directive 1992/76/EC

The establishment and use of a PZ has a double objective. Firstly, it is a tool to control and reduce the spread of HOs in the territory; secondly, it should provide guarantees that plants and plant products introduced into the PZs are free of the specific HO(s) for which the PZ status has been granted. Although not specifically stated in the legislation, by default, the latter guarantee should also apply to products coming from PZs. The effectiveness of the PZ system and its implementation in meeting these objectives is discussed below.

General survey results
Q 5.3*: What is the level of guarantees that the PZs in the EU are indeed free from the respective HO(s)

Level of guarantees	MS CA	Stakeholders
High	6 out of 23 (0 do not know)	0 out of 19 (9 do not know)
Low	1 out of 23 (0 do not know)	1 out of 19 (9 do not know)
Depends on MS	3 out of 23 (0 do not know)	6 out of 19 (9 do not know)
Depends on HO	3 out of 23 (0 do not know)	1 out of 19 (9 do not know)
Depends on MS and HO	10 out of 23 (0 do not know)	2 out of 19 (9 do not know)

* Q 5.2 in the case of the stakeholder q/naire

The overall feedback from the general survey and the expert interviews and field visits is that, while the general concept of PZs was in the past considered useful and effective in slowing down the spread of certain HOs, e.g. *Erwinia amylovora* (fire blight) in the 1980s, continued variations in implementation of the concept at MS level have led to a loss of credibility. This can further undermine the utility of the system as a plant health control measure.

The main reasons underlying the loss of credibility of the concept, as indicated by interviewees, can be listed as follows:

- Strictness of the PZ requirements and lack of effective enforcement at MS level;
- Complexity of using a PZ for trade purposes;
- Findings of HOs in a PZ in practice often do not lead to the loss of the PZ status.

The level of guarantees that the PZs are free from the respective HO(s) depends largely on how the PZ principles have been implemented by MS. For example, if the methods and frequency of surveillance in PZs have not been harmonized for a given HO, then the level of guarantees is likely to differ between MS. Interviewees reported several examples where MS do not meet control and reporting obligations or do not establish reliable surveillance programmes. This is also confirmed from systematic report findings: although most MS carry out monitoring in PZs, some overview reports on this (FVO reports, reports to annual meeting of the SCPH), reveal different depths of monitoring by MS.

The level of guarantees that PZs are free from specific HOs is also dependent on the biology of the pathogen. In cases in which the HO can spread naturally, maintenance of the PZ is more difficult than for HOs whose spread is strictly associated with the movement of plant and plant products. For example, transmission of *Erwinia amylovora* can occur by air, rain or by vectors (insects), and in open conditions there are more genera of host plants for this particular HO.

Respondents also observed a lack of reporting to the EU, with several examples of MS not submitting the required reports to the European Commission and to other MS. For example, Regulation (EC) No 823/2009 mentions the lack of reporting from Greece that did not notify the Commission of any results of such surveys on the presence of the HOs concerned over a period of five years[139]. An analysis of data on reports submitted by MS[140] since 2001 has shown several cases where reports are not submitted, and cites a few examples of HOs for which reports are systematically not submitted by some MS.

Several stakeholders have reported that PZs are maintained more on purely commercial/political grounds and are therefore no longer effectively serving plant health objectives, i.e. having a PZ offers an economic advantage for local growers when exporting within and outside the EU.

[139] Reg. 823/2009 gives to Greece recognition as a protected zone (with respect to those HOs) until 31 March 2010, in order to carry out survey and to notify its results to the Commission. This decision was made on the basis of information provided by Greece in March 2009, showing that the necessary legal, financial and organisational steps had been taken to carry out regular and systematic official surveys for those HOs,

[140] Notification of the results of surveys in PZs, submitted to the Commission pursuant to Article 2(h) fifth paragraph of Directive 2000/29/EC.

Traders consider that the PZs are an obstacle to trade. In practice, the logistical complexity of using specific "PZ" plant passports leads to non-respect of this obligation, using the conventional plant passport instead of the PZ plant passport (as will be discussed in the following section).

During the field visits, it was indicated that the EU is not strict enough, allowing the maintenance of PZ status in cases it should be removed, or not taking action in cases of a lack of surveillance of HOs or evidence that the area is infested by the specific HO for which the status was granted.

In conclusion, EU implementation of PZs has meant that in practice, even in the case of repeated findings of the relevant HO(s) or absence of effective surveillance and reporting, the status of PZ is maintained beyond the period allowed by the base Directive. The rule that the PZ status is lost if attempts over two years to eradicate infestation prove unsuccessful has not been fully applied, leading to the situation that several designated PZs are actually considered as to be infested. MS have argued that the loss of PZ status would lead to significant economic damage in the region(s) concerned.

3.6.2 Functioning of the PZ plant passport

Specific Protected Zone ("PZ") plant passports have to be issued to ensure that if a plant, plant product or other object has received the qualification for a specific PZ, it is recognized and moved within the EU as such. The code for the PZ is indicated on the plant passport, in conjunction with the distinctive marking 'ZP' (Zona Protecta) indicating that the said plant passport covers a plant, plant product or other object qualified for entry to a PZ.

General survey results

Q5.4 Extent to which the PZ plant passport provides sufficient guarantees that plants and plant products entering the PZs are safe for the relevant HO

8 out of 24 MS CAs and 5 out of 20 stakeholders consider the PZ plant passport provides sufficient guarantees that plants and plant products entering the PZs are safe for the relevant HO. (4 MS CA and 15 stakeholders do not know)

* Q 5.3 in the case of the stakeholder q/naire

The results of the general survey indicate that the PZ plant passport is not considered as providing sufficient guarantees that the plants and the plant products entering the PZs are safe for the relevant HO. Even though 'ZP' marking on a plant passport should normally provide sufficient guarantees, it is not sufficiently reliable without a complete traceability system that would trace back to the origin of the plants and plants products, through all their movements.
Interviewees and NPPOs reported during the interviews and commented in the survey that, too often, material accompanied by the relevant plant passport nevertheless proves to be infested, because traders are not always sufficiently aware of the specific requirements for PZs, and even operators situated in PZs do not insist that their suppliers fulfil the PZ requirements.

Due to poor awareness by both inspectors and producers, the mark 'ZP' is often seen more as an administrative formality than a guarantee that specific controls have been carried out and that relevant provisions for PZs have been satisfied. This observation confirms earlier findings of the

FVO[141]. In addition, the NPPO and sometimes even the operator do not know what the final destination of the products is at the time of the inspection.

3.6.3 Need for alternative forms of regionalisation

3.6.3.1 International standards on Pest Free Areas (PFAs)

Following Article 6 of the WTO-SPS Agreement[142], the IPPC's Committee on Sanitary and Phytosanitary Measures has recognised that "*regionalisation is an increasingly important factor in trade among all members and it can be applied regardless of a country's size or level of development*"[143] and has accepted that measures applied to regional conditions can be adapted to smaller ecosystems, part of a country, all of a country, or all parts of several countries through the Pest Free Area (PFA) concept.

ISPM No.4[144] is a standard which describes the requirements for the establishment and use of PFAs[145] as a risk management option for phytosanitary certification of plants and plant products and other regulated articles exported from the PFA, or to support the scientific justification for phytosanitary measures taken by an importing country for protection of an endangered PFA.

The establishment and use of a PFA by an NPPO provides for the export of plants, plant products and other regulated articles from the country in which the area is situated (exporting country) to another country (importing country) without the need for application of additional phytosanitary measures when certain requirements are met. Thus, the pest free status of an area may be used as the basis for the phytosanitary certification of plants, plant products and other regulated articles with respect to the stated pest(s) for export from the PFA.

Although the term "PFA" encompasses a whole range of types (from an entire country which is pest free to a small area which is pest free but situated in a country where that pest is prevalent), the requirements of PFAs are discussed in reference to three types (in each of these cases, the PFA may, as appropriate, concern all or part of several countries[146]):

[141] FVO Report – DG SANCO/8003/2005 Overview report of the results of a series of missions carried out in Member States in order to evaluate the implementation of the plant passport system

[142] Article 6 of the WTO-SPS Agreement is entitled "Adaptation to regional conditions, including pest or disease-free areas and areas of low pest or disease prevalence": It foresees that "Members shall, in particular, recognize the concepts of pest — or disease-free areas and areas of low pest or disease prevalence. Determination of such areas shall be based on factors such as geography, ecosystems, epidemiological surveillance, and the effectiveness of sanitary or phytosanitary controls".

[143] WTO proposal G/SPS/W/140/Rev.2 (2004) Draft decision on the implementation of Article 6 of the agreement on the applications of sanitary and phytosanitary measures

[144] ISPM No. 4 - Requirements for the establishment of pest free areas (1995).

[145] According to IPPC, a "pest free area" is: *"an area in which a specific pest does not occur as demonstrated by scientific evidence and in which, where appropriate, this condition is being officially maintained"*.

[146] In addition, there is the concept of 'pest-free place of production', which can be individual business operators rather than an area (as defined in ISPM 10).

1. An entire country;
2. An uninfested part of a country in which a limited infested area is present;
3. An uninfested part of a country situated within a generally infested area.

In case a country loses the status of "free from a specific pest", according to WTO rules (SPS agreement) it is not allowed to impose restrictions on consignments from third countries (quarantine), unless the same restrictions are imposed internally (the country and the Community). Particularly when exporting, recognition by the third countries of pest free areas is therefore important.

Further to Article 6 of the WTO-SPS agreement[142], in addition to the PFA concept, the IPPC has developed standards for the concept of 'areas of low pest prevalence' (ALPP, ISPM 22[147]). An ALPP is defined as an area in which a specific pest occurs at low levels and which is subject to effective surveillance, control or eradication measures. In this case, the responsibilities of an NPPO include the protection of endangered areas and the designation, maintenance and surveillance of the ALPP.

Although IPPC standards on establishing pest free areas and areas of low pest prevalence already exist as described above (ISPM 4 and ISPM 22), there are no standards as yet for the recognition of pest-free areas. The ICPM had decided to urgently develop a concept standard in the "Guidelines for the recognition of the establishment of pest free areas and areas of low pest prevalence", that would provide general guidance on the recognition process but it would not provide timelines. The specifications of this concept standard were developed by the Standards Committee at its meeting in April 2005. The IPPC also undertook a feasibility study on the international recognition of pest-free areas, to take into account legal, technical and economic factors and assess the sustainability of such a system[148]. This was triggered by the fact that there have been many problems at WTO level with country complaints that their PFAs are not always accepted by their trading partners, despite specific and clear WTO-SPS provisions in this area (Article 6). The aim has been to follow a similar approach as in the animal health sector. The OIE has applied the concept to establish internationally recognised PFAs for four animal diseases and results are positive although trade barriers have apparently not been completely removed[149].

3.6.3.2 The EU approach to regionalisation

Protected Zones (PZs) are a form of regionalisation, which allows the EU and MS to apply quarantine measures for protection from certain HOs, by ensuring that products entering the PZ are free from these HOs and that there is effective surveillance and control within the PZ. The PZ area is therefore 'protected' from introduction by stricter phytosanitary measures than adjoining areas.

[147] ISPM No. 22: R*equirements for the establishment of areas of low pest prevalence* (2005).

[148] Report of the Open Ended Working Group to Undertake a Feasibility Study on the International Recognition of Pest Free Areas, Chiang Mai, Thailand, 14-18 July 2008.

[149] Ralf Lopian: Feasibility of the international recognition of pest free areas. Discussion Paper for the ICPM Open-Ended-Working-Group, Chiang Mai, Thailand, 14-18 July 2008.

The EU approach to regionalisation, primarily involving PZs, is not seen as adequate by a large majority of MS CAs responding to the general survey, on the grounds that it is extremely difficult to effectively implement the concept.

General survey results

Q5.5 Extent to which the EU approach for regionalisation, primarily involving PZs, is adequate

7 out of 24 MS CAs and 3 out of 18 stakeholders consider the EU approach for regionalization, primarily involving protected zones is adequate. (7 MS CAs* and 12 stakeholders do not know).

* The large number of 'do not know' in this case is due to divergence of opinion within the organisation

A significant majority of respondents to the general survey are in favour of the EU PZ principle more closely reflecting the IPPC (PFA) concept (ISPM 4). However, it is also noted that there is significant confusion over the PZ and PFA concepts and that, strictly-speaking, the two concepts are not necessarily alternatives and they could apply in parallel. In particular, the PFA concept (section 3.6.3.1) is aimed at guaranteeing exports from the PFA for a specific HO (i.e. no need to fulfil requirements of importing countries when exporting from a PFA), whereas the PZ concept in mainly aimed at guaranteeing protection from a specific HO on imports from non PZ areas (i.e. need to fulfil requirements when importing into the area from other parts unless products are coming from a PFA).

Beyond the above distinction in aim between the PFA and the PZ concepts, implementation is generally similar, in that both require extensive surveillance and have similar provisions in case of findings. In both cases, the status is maintained in case of finding, as long as the outbreak is "under eradication" and supporting evidence justifies it.

General survey results

Q5.6 Extent to which the PZ principle should more closely reflect the Pest Free Area principle of ISPM No. 4

16 out of 24 MS CAs and 4 out of 20 stakeholders consider that the PZ principle should more closely reflect the PFA principle. (6 MS CAs and 15 stakeholders do not know)

The following advantages of brining closer the EU's PZ principle with the IPPC PFA principle were listed by interviewees during the evaluation:

- More clarity and uniformity. The way PZ principles are applied today discriminates between PZs with outbreaks and non-PZs with low pest prevalence;
- In some cases, exports from the PZs, and the EU more generally, to third countries would be facilitated, as moving closer to an international standard would iron out current confusion in third country trading partners over the PZ concept, thus leading to greater acceptability of exports[150];
- There is a strong perception that the PFA approach is purely based on scientific evidence before considering and granting the status.

[150] According to some interviewees, both within the EU and in the selected third countries, the terms protected zone and pest free area may cause confusion in importing countries, thus making it more burdensome for an EU exporter to explain the pest status of a product.

In terms of disadvantages, the following main points were mentioned:

- Moving to the PFA principle may lead to further fragmentation and additional obstacles to free movement of regulated material within the EU;
- Moving to the PFA concept would involve reinforced surveillance, additional sampling, etc., for which the resources and funding are currently lacking. The demand for high statistical significance of sampling to demonstrate complete freedom is therefore an important constraint in the application of the PFA principle. This leads to concern that the PFA concept cannot be properly applied, it may even lead to weaker enforcement than is the case at present with PZs;
- Implementation of the PFA concept is also dependent on NPPO interpretations of the ISPM guidelines and thus often contested in the international trade context; therefore the potential trade advantages of moving to an international concept (as noted above) may be less significant than expected.

The credibility issue (vis à vis third countries) is not unique to the EU PZ system. In the WTO SPS and IPPC context, these are common and relatively frequently occurring problems and are due to a relatively wide interpretation of the current IPPC guidelines on the recognition of PFAs. To address these issues, the IPPC established an open-ended working group to examine the feasibility of international recognition of PFAs. The WG has undertaken a survey on international implementation of PFA system[148], which shows divergent approaches and rules on PFA implementation across countries.

These issues are discussed further in relation to options for the future under section 5.6.

Alternative regionalisation concepts could be considered in some cases, such as the establishment of demarcated infested zones or establishment of buffer zones to prevent the spread of HOs from one area to another. Demarcated areas and buffer zones have already been introduced into the CPHR through Commission Decisions on emergency measures.

It is clear that plant health issues are different for different areas/MS and that control measures appropriate for one area/MS may not be so for others. Climatic and geographic differences also need to be considered, in order to take appropriate regionalised risk management actions.

The "citrus case" and the Western corn rootworm *Diabrotica virgifera* may be good examples supporting regionalisation and the possibility to adjust measures in line with regional risks. For citrus, a North-South barrier or buffer zone for instance might be considered, to protect MS in the North where there is no commercial cultivation of citrus trees and therefore no phytosanitary risk of the relevant HOs, but which have strong commercial interests in import and trade in citrus plant products. In this case, the South where the risk of disease is higher and the impact might be serious, exclusion measures might be required. This would however infringe on the fundamental CPHR principle of the free movement of plants and plant products in the EU, because regionalisation for citrus fruit cannot be achieved without re-establishing intra-EU border controls. For *Diabrotica*, the establishment of a buffer zone between the contaminated area (the eastern part of the EU) and the non-contaminated zone (the western part of Europe) may lead to

the consideration of two regions for which the disease and HO management objectives would be specific.

However, respondents reported many disadvantages and constraints linked to implementation of a regionalisation concept, as follows:

- Regionalisation could only be implemented with some form of internal control on movement within the EU, which would lead to the reintroduction of border controls. These are not consistent with the single market principles and would therefore be politically unacceptable[151];
- Implementation of such a concept could be very complex as regionalisation would need to be applied on a case by case basis. Additionally, in case of regionalisation, traceability would have to be fully applied in order to correctly target and track plant and plant products and HO(s) movements. Today there is no tool establishing traceability within the EU, and the plant passport system is not intended or considered suitable in its current form for this purpose (as demonstrated by the weaknesses of the implementation of the plant passport provisions as well as the fact that not all species need to be accompanied by a plant passport);
- The idea of regionalisation raises the concern of potential additional administrative burden, which would require internal EU checks, and therefore this is probably neither an acceptable nor a viable solution;

The implementation of one or another regionalisation concept is linked to the fundamental question of who should bear the major burden of plant health measures. In case of outbreaks of a regulated HO, the burden is principally on the MS where the outbreaks occur, but the solidarity regime ensures support from the other MS via EU co-financing. In the case of PZs, those MS who apply the PZ conept bear the costs of surveillance to ensure the absence of the relevant HO and have the benefits of the free status (less costs for pest control; export facilitation). Suppliers in other MS bear inspection costs for being able to move plant material to the PZs. The fairness of the distribution of administrative and financial burden between MS largely depends on the balance between infested and non-infested countries. When the outbreak of a HO is confined to a single MS, the other MS will expect all costs to be borne by that MS (except for solidarity co-financing). However, when a MS wishes to be recognised as a PZ while all others are already infested, other MS will also have to bear some costs under the current system; this is therefore currently considered as an unfair distribution of costs and benefits by those MS that bear such costs in relation to certain PZs that are of unique benefit to other MS. . The attribution of costs and benefits should moreover be considered in terms of its impacts on the effective management of HOs which occur in one part of the EU (through imports or natural spread) but may possibly be most relevant and damaging for another part of the EU. Therefore, in any system, a fair balance needs to be struck, possibly on a case-by-case basis, between the distribution of costs and benefits over infested and non-infested MS, and the consequences of potential infestation for the EU as a whole, taking into account liability aspects, incentives, feasibility and proportionality.

[151] It is noted that regionalisation applies in the animal health sector, but the organisation of internal inspections and controls is different in this sector while advanced animal identification and traceability systems are in operation.

3.6.4 Conclusions on performance of the PZ system

The overall conclusion that emerges from this evaluation is that, while the concept of Protected Zones (PZs) is generally considered to be useful and effective in slowing down the spread of certain HOs, continued persistent variability in the implementation of the concept at MS level has led to loss of credibility, hence undermining the usefulness of the system as a plant health measure.

PZs should be technically justified and the justification needs to be transparent. Despite significant progress in that direction in recent years, the general perception continues to be that PZs are not designated only on technical grounds but that significant commercial/political considerations continue to be present. The evaluation has found that these concerns are largely linked to an on-going debate on the cost and benefit distribution of the current implementation of the PZ system. Moreover, the distribution of costs and benefits is generally assessed from the perspective of individual MS or regions, largely ignoring the cost-benefit distribution of the current system of PZs for the EU as a whole. From a narrow (individual MS) perspective, PZs are seen to offer an economic advantage for local growers in the PZ areas when exporting from the PZ, but to result in additional costs for traders in the non-PZ areas to prepare and check that correct documentation is attached to the plants and plant products imported into or moving through the PZ.

Many of the problems of PZs have come from MS failure to apply the agreed measures, and are not due to flaws in the concept *per se*. There is evidence of MS failure to carry out surveillance and report the results; as well as evidence of certain failures in the correct implementation of the PZ plant passport system ('ZP' marking) as this creates additional administrative and financial burdens for traders. As a result, due to implementation problems, the principle is no longer giving sufficiently reliable guarantees that the PZs are free of the targeted HO(s).

The consensus view is therefore that controls should be strengthened and legislation fully enforced (e.g. surveillance and reporting obligations) to restore the credibility of the PZ concept. In this context, options to pursue further the IPPC PFA concept, which is the approach followed internationally, could also be explored. The two concepts could potentially be applied in parallel. It is noted, however, that the credibility issue (vis à vis third countries) is not unique to the EU PZ system; in the WTO SPS and IPPC context, these are common and relatively frequently occurring problems with the application of the PFA concept.

Alternatively, regionalisation concepts could be considered, e.g. *Diabrotica virgifera* may be a good example of the need for a concept that uses definitions of demarcated infested zones and pest-free zones. However, this approach should be restricted to limited cases and not be widely adopted , to avoid excessive complexity in the implementation of plant health measures.

Ultimately, a critical success factor for the application of any regionalisation concept will be to ensure a fair balance between the distribution of costs and benefits at MS level and for the EU as a whole. This will need to be determined on a case-by-case basis, considering infested and non-infested MS, and the consequences of potential infestation for the EU as a whole, taking into account liability aspects, incentives, feasibility and proportionality.

The options for the future of the PZ system are explored further in section 5.6.

3.7 Control and emergency measures for outbreaks and new findings

This section summarises the findings of the evaluation on the CPHR performance to date, taking into consideration EQ 10 (area F) of the ToR.

EQ10: How are the current provisions for control and emergency measures implemented by MS, how effective are they and what are their critical success factors?

A series of measures are currently in place for the control and eradication of HOs, and for emergency situations, and these relate either to organisms listed in the Directive and/or to non-listed ones.

It is compulsory for MS to notify findings of HOs listed in Directive 2000/29/EC (Annexes I and II), that are found for the first time on its territory (new findings) or that have already been found previously (outbreaks). Article 16 of the Directive sets out the notification requirements in this case. MS must notify the Commission and other MS in writing. The MS must then take measures to eradicate or, if not possible, to inhibit the spread. The Commission and other MS must be informed of these measures.

If an HO which is not listed in the above Annexes appears, or is suspected to have appeared for the first time on the territory, the MS must notify the Commission and other MS in writing. MS should carry out a (possibly fast track) pest risk assessment (PRA). For organisms considered 'injurious', both the finding itself and the 'emergency' measures taken to eliminate/eradicate the HO should be notified to the Commission; the measures must include action to prevent the risk of the HO spreading to other MS. The Commission discusses the national emergency measures taken by the MS in the Standing Committee on Plant Health (SCPH), with a view to a decision concerning harmonised EU measures; following this, national measures have to be rescinded or amended. EU emergency measures remain in place until rescinded (i.e. HO is eradicated or no longer controllable) or until the HO is included in the Directive.

If a third country consignment is considered to pose an imminent danger in terms of the introduction of listed or non-listed HOs, MS shall take measures to protect the Community territory, and inform (notify) the Commission of these measures. For consignments not coming from third countries, the MS must inform the Commission and other MS of the measures it would like to see taken, and may take temporary additional safeguard measures as long as the Commission has not adopted any specific measures.

A more detailed description of the current rules relating to control and emergency measures is provided in **Annex 1 (Theme 5)**.

3.7.1 Implementation of control and emergency measures

Emergency measures have so far been taken by comitology (i.e. decided at the level of the SCPH). The list of emergency measures, as it currently stands, covers a range of HOs as follows:

List of emergency measures (Commission Decisions):

	HOs	Emergency measure
1	*Thrips palmi* as regards Thailand	Commission Decision 98/109/EC
2	*Phytophthora ramorum*	Commission Decision 2002/757/EC
3	*Diabrotica virgifera**	Commission Decision 2003/766/EC
4	Pepino mosaic virus	Commission Decision 2004/200/EC
5	Pinewood nematode (PWN)	Commission Decision 2006/133/EC as last amended by Decision 2009/420/EC
6	*Dryocosmus kuriphilus Yasumatsu*	Commission Decision 2006/464/EC
7	*Rhynchophorus ferrugineus*	Commission Decision 2007/365/EC
8	Potato spindle tuber viroid	Commission Decision 2007/410/EC
9	*Gibberella circinata*	Commission Decision 2007/433/EC
10	*Anoplophora chinensis*	Commission Decision 2008/840/EC
11	*Pseudomonas solanacearum (Smith) Smith* as regards imports from Egypt	Commission Decision 2004/4/EC
12	Certain citrus fruits originating in Argentina or Brazil	Commission Decision 2004/416/EC

* In addition, for *Diabrotica virgifera*, the Commission released a containment programme in a form of recommendations (not mandatory) to MS (Commission recommendation 2006/565/EC)

When eradication of a regulated HO is not possible, MS are required to take all necessary measures to at least contain it. The HOs which may be targeted by specific control measures are either listed in the base Directive Annexes I and II (HOs found within the Community for the first time, or HOs found in MS where their presence was previously unknown), or other HOs previously unknown to occur in the Community, which are not listed specifically in the base Directive but which are of potential economic importance.

To date, five control Directives exist, mainly for the potato sector (four in total) and a fifth Directive is on control measures related to carnation leaf-rollers. Control Directives are being used only when HOs occur in some parts of the Community.

List of control measures (Council Directives):

	HOs	Control measures
1	Potato wart disease	Council Directive 69/464/EEC
2	Potato cyst eelworm	Council Directive 69/465/EEC (will be repealed by Council Directive 2007/33/EC (in force as from 1/7/2010)
3	Carnation leaf-rollers	Council Directive 74/647/EEC
4	Potato ring rot (*Clavibacter michiganensis ssp. sepedonicus*)	Council Directive 93/85/EEC
5	Potato brown rot (*Ralstonia solanacearum*)	Council Directive 98/57/EC

The evaluation results indicate that emergency measures (Commission Decisions) are generally preferred over control measures (Council Directives), largely because of the decision-making process in each case. Control Directives are very detailed and need more time to prepare and to pass through the current legislative process which involves the Council, compared to emergency measures that are taken through comitology (i.e. at SCPH). Furthermore, any modifications to the Directives require the approval of the Council, and since the entry in force of the Lisbon

Treaty in Dec. 1, 2009 co-decision Council and Parliament, and therefore delay the process. Only their technical annexes can be modified through comitology[152].

The vast majority of the organisations consulted by the evaluation consider that the CPHR has only partly been successful in preventing the entry, establishment and spread of the HOs in the EU, mainly because several difficulties have been experienced in defining and implementing official measures for the eradication and containment of HOs.

General survey results
Q6.1 (stakeholders): Extent to which, during the last 15 years, the CPHR has been successful in preventing the entry, establishment and spread of HOs in the MS:
22 out of 24 MS CAs and 23 out of 26 stakeholders consider that the CPHR has been only partly successful in preventing the entry and the establishment of HOs in the EU.

In particular, the control and emergency measures are only partly considered to have been effective in achieving the objectives for which they have been set, with nearly a third of MS CAs and stakeholders considering the measures not to have been effective in eradicating the targeted pests (emergency measures) or in containing/reducing the targeted pests (control measures):

General survey results
Q6.6*: Extent to which, during the last 15 years, the EU emergency measures have been effective in eradicating the targeted pests, and the EU control Directives have been effective in containing/reducing the respective pests:
11 out of 26 MS CAs (9 do not know) and 10 out of 25 stakeholders (8 do not know) consider that the EU emergency and control measures have been effective**.

* Q 6.6 for CA q/naire and Q6.5 for stakeholder q/naire
** the large number of 'do not know' responses reflects divergence of opinion within the organisations, while in the case of stakeholders it may also be due to the fact that the measures are specific to some sectors and may have therefore not been relevant for some of the stakeholders that responded to the survey

The situation has to be analysed case by case, taking into account mainly the biology of the HOs and the agro-climatic conditions of the region in which the HO occurs. Interviewees stressed that several biological factors (e.g. life cycle of the given HO, optimal flying period, preferred hosts and minor hosts, and effect of population density of the pest or host), which are specific to the location of the outbreak, are critical for determining the outcome, effectiveness and efficiency of an eradication programme.

The effectiveness of the emergency and control measures in reaching their objectives for each specific HO has been rated as follows by respondents to the general survey (Q6.6):

Table 3-15: Effectiveness of emergency and control measures by HO*

[152]As discussed in section 2.7, the definition of the legal framework to replace the Comitology procedure is currently on going and it is therefore not possible at the time of redaction of this report to discuss implications of changes brought about by the Lisbon Treaty.

		CAs			Stakeholders		
		Eradicated	Controlled	Spreading	Eradicated	Controlled	Spreading
Emergency measures							
	Thrips palmi	87%	86%	0%	100%	100%	0%
	Phytophtora ramorum	38%	87%	35%	14%	86%	83%
	Diabotrica virgifera	21%	93%	81%	0%	0%	100%
	Pepino mosaic virus	67%	89%	27%	25%	83%	0%
	Pine wood nematode	83%	100%	17%	14%	71%	67%
	Dryocosmus kuriphilus	63%	90%	30%	0%	0%	100%
	Rhynchophorus ferrugineus	63%	92%	50%	0%	0%	75%
	Potato spindle tuber viroid	77%	100%	0%	67%	100%	0%
	Gibberella circinata	60%	100%	20%	0%	0%	100%
	Anoplophora chinensis	67%	100%	0%	67%	86%	67%
Control measures							
	Clavibacter michiganensis ssp. sepedonicus	69%	16%	29%	20%	86%	50%
	Ralstonia solanacearum	45%	100%	18%	25%	100%	67%
	Potato wart disease	75%	100%	10%	20%	100%	67%
	Potato cyst nematode	18%	95%	44%	0%	67%	100%
	Carnation leaf-rollers	33%	71%	0%	0%	100%	0%

* Percentage of respondents to the general survey who answered 'yes' (rather than 'no') to Q 6.6

Source: FCEC, based on general survey results

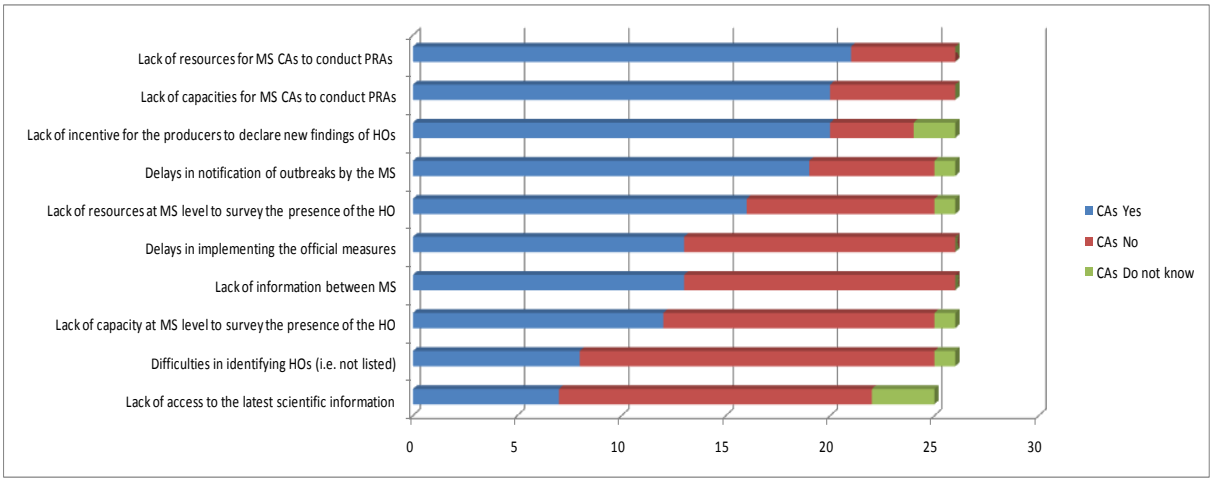
The most important difficulties in implementing measures to eradicate or control HOs include (according to both MS CAs and stakeholders) the delays in notification of outbreaks, the lack of incentives for producers to declare new findings, and the lack of sufficient information exchange/ communication between MS. Beyond these elements, the CAs and the stakeholders tend to attach varying significance to other difficulties, for example the lack of capacity/resources to conduct PRAs and to survey for the presence of the HO at NPPO level is noted more by the CAs and less by the stakeholders.

General survey results

Q6.3 What difficulties have been experienced in defining and implementing measures for the eradication and/or control of HOs:

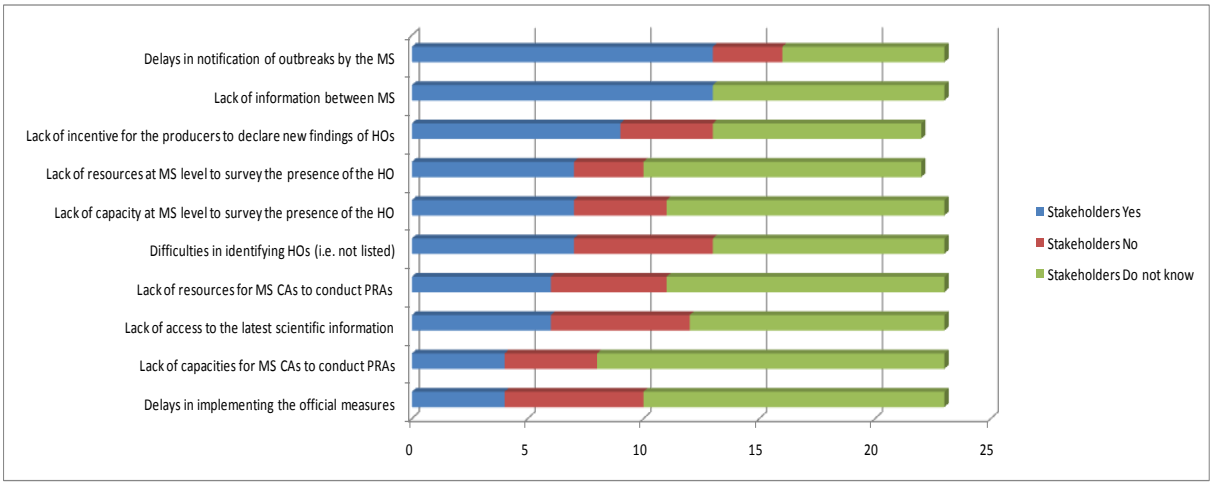
	CAs			Stakeholders		
	Yes	No	Do not know	Yes	No	Do not know
Lack of access to the latest scientific information	7	15	3	6	6	11
Difficulties in identifying HOs (i.e. not listed)	8	17	1	7	6	10
Lack of capacity at MS level to survey the presence of the HO	12	13	1	7	4	12
Lack of information between MS	13	13	0	13	0	10
Delays in implementing the official measures	13	13	0	4	6	13
Lack of resources at MS level to survey the presence of the HO	16	9	1	7	3	12
Delays in notification of outbreaks by the MS	19	6	1	13	3	7
Lack of incentive for the producers to declare new findings of HOs	20	4	2	9	4	9
Lack of capacities for MS CAs to conduct PRAs	20	6	0	4	4	15
Lack of resources for MS CAs to conduct PRAs	21	5	0	6	5	12

Figure 3-14: Difficulties in defining & implementing measures to eradicate or control (CAs)



Source: Survey results (Q6.3)

Figure 3-15: Difficulties in defining & implementing measures to eradicate or control (stakeholders)



Source: Survey results (Q6.3)

In terms of NPPO capacity to implement the measures, it is noted that while for stakeholders the main difficulty is the lack of resources and capacity to survey for the presence of HOs, for MS CAs the main difficulty is the lack of resources and capacity to conduct PRAs (although the lack of access to the latest scientific information is also an issue in this case).

The lack of incentives in the current system for private operators and growers to report the presence of new findings is clearly identified by both MS CAs and stakeholders. Producers mainly fear the severity of potential phytosanitary measures and potential damage in the production/trade, although the variation in producer perception and attitude is noted. For commercial operators the short term commercial profit/- interest of individual companies appears to generally weigh above the longer term interest of society and governments to ensure plant health. This is clearly illustrated by the following examples:

- A problem with an HO such as *Anoplophora* or PWN is that these appear more in areas of wider public interest rather than production areas as such. They are therefore of lesser economic impact to individual stakeholders, hence it is more difficult to create incentives for individual private operators to act. In such cases there may also be strong public opposition to taking effective measures against the HO on economic grounds linked to potential losses for the wider area where the outbreak occurred (e.g. cutting trees in a tourist area in a MS);
- By contrast, in other cases such as for Dutch elm disease in forestry the fear of a repeated incident acts as an incentive to notify;
- In the case of *Diabrotica*, stakeholders are afraid to report an outbreak to the authorities as this may mean that their product is destroyed if found to be infected or that an area will be delimited and production prohibited. This means significant losses for producers and even more risks of going out of business). Similar examples are noted in other commercial sectors.

A compensation scheme would strengthen the incentive to notify. The FCEC Evaluation of the solidarity regime in 2007 reports that:

> "*To cover the losses to producers, various MS have developed national support schemes. Considering the 24 MS having responded to the survey, 12 have developed a public or ad hoc compensation scheme funded by provision in the State budget, 1 has developed a public scheme fully funded by the compulsory fees of the producers, 1 has developed a private scheme taken over by a public scheme and 1 has developed a private scheme. In 7 MS, no support scheme exists or the possibility exists in the legislation but is not applied in practice*."[153]

For the majority of the interviewees, the existing solidarity regime is not seen as providing an incentive for stakeholders to notify, but rather as an incentive for CAs to notify, as the delays in notification are taken into consideration in the evaluation of the dossiers[154]. A dossier may not be accepted for solidarity funding if it is proven that the MS waited too long to notify. The main justification for this perception is the fact that producer losses are not considered as eligible costs by the solidarity regime and that cases of natural spread are not subject to co-financing.

[153] This includes the private insurance scheme in the NL for the potato sector (PotatoPol) or another example within the Spanish law; operators can be paid some compensation if their crops are infected, however this compensation is paid whether the operator notifies or not.
[154] It is noted that, prior to 1997, there was no solidarity funding, so no financial incentives for MS to notify.

Another concern is linked to the fact that producers/growers/farmers may not be able to identify the plant health problem and recognise the disease. However the majority of the interviewees consider that the level of education of farmers is generally increasing, even if highly variable across MS and business sectors.

Delays in notification by MS CAs have also been reported as being an issue. The evaluation has found that this is inextricably linked to the availability of sufficient capacities at MS level to deal with the situation and the implementation of any potential measures that will need to be taken. When a new HO outbreak occurs, the MS has to notify the Commission and then set up an eradication/containment plan. However, this obligation does not take account of the technical and economic capacity of the MS to support effective implementation of the plan. If core capacities are lacking, the MS may prefer to delay notification, or not to notify the new HO in an attempt to avoid creating new problems that may threaten trade. The lack of capacity at MS level can therefore lead to non compliance with the notification obligation as described in Article 16 of the base Directive.

Stakeholders have also highlighted during the interviews the lack of resources at MS level to effectively survey for the presence of HOs. The surveillance programs in each MS consist of the mandatory programmes defined in the emergency and control measures, the surveys that have to be established in the Protected Zones, and in some MS some additional surveillance plans defined at MS level and based on regional or national plant health issues (implementation of surveillance is discussed in section 3.3). Interviewees indicated that when resources are cut, the first activity to be reduced is surveillance, and this is not really reflected in the number of surveillance plans but in the level of intensity of the surveillance undertaken. For example, the intensity of traps to capture *Diabrotica* beetles will be reduced in order to cut down on costs.

The key conclusion from the above analysis is that notifications on the identification of new HOs in a given zone and presence of unknown and not (yet) listed organisms is delayed by the absence of incentives to notify for: 1) the farmers/growers to the NPPOs; and, 2) the NPPOs to the EC. Given the ineffectiveness of the implementation of these provisions, in many cases (as also discussed in section 3.3.3), when the EU receives notification of outbreaks or new findings, the pest is already quite well established and emergency measures are taken too late to achieve optimal usefulness and effectiveness.

3.7.2 Emergency preparedness

The evaluation has also addressed the level of emergency preparedness of MS and the Community, taking into consideration the effectiveness of the emergency interventions, the instruments available to the Commission and MS for rapid intervention against outbreaks and new diseases, and the availability of up to date contingency plans.

The previous section has clearly illustrated the inadequacy of the current approach in terms of adoption and implementation of the emergency measures to deal in a timely and effective manner with emergency situations. Clearly, some of the instruments available today for the Commission and MS are targeted in the right direction, including the requirement to notify outbreaks and to take measures at MS level first (before harmonised measure can be considered

for the Community). However, even where such instruments are available, implementation is often constrained by factors such as the availability of capacity and resources.

A large majority of interviewees indicated that one approach to overcome this problem would be to develop a Community emergency team to assist the Commission in supporting MS in phytosanitary matters relating to certain plant pests. Such a team has already been developed in the area of animal health (Commission Decision 2007/142/EC[155]). Such a team would foresee the provision of: 1) scientific, technical and managerial on-the-spot assistance as regards the surveillance, monitoring, control and eradication of the diseases; 2) specific scientific advice on suitable diagnostic methods and epidemiological investigations; 3) specific assistance to ensure coordination among the concerned services, at national and Community levels.

Contingency plans are also been seen as effective instruments for rapid intervention against outbreaks of new HOs. These contingency plans could include available information from the Commission, EPPO publications and would be based on the latest scientific evidence. In addition to standards on Phytosanitary Measures which provide relevant guidance for eradication actions to NPPOs, EPPO has drafted standard *Generic elements for contingency plans (PM 9/10 (1))* that should help NPPOs to draft pest-specific contingency plans for important pests.

The preparation of a contingency plan is very important in order to be able to respond rapidly to an outbreak situation, in particular when this requires cooperation between many parties. The EPPO standard describes 12 essential elements to be addressed in a contingency plan[156]. Drafting a contingency plan is helpful for a quick and effective response and nowadays many countries are drafting contingency plans for important pests. These also in themselves serve to increase awareness and cooperation amongst all stakeholders through the process of developing the plans. Many uncertainties for successful eradication remain however due to biological, economical and logistical factors. It is very important to identify the most critical factors for successful eradication and develop tools to support decision-making before and during the eradication process.

[155] Commission Decision 2007/142/EC establishing a Community Veterinary Emergency Team to assist the Commission in supporting MS and third countries in veterinary matters relating to certain animal diseases.

[156] These elements (EPPO standard *Generic elements for contingency plans)* are:

- background information (biology of the pest, symptoms, detection, pathways, etc.);
- initiation of plan when the pest is detected and information which should be gathered at this stage
- official actions on presumptive diagnosis
- official actions to eradicate after final confirmation
- review of measures in case of prolonged action
- completion of statutory action considering the reliability of verification
- command structure (at strategic, tactical and operational level)
- stakeholder consultation
- internal communication
- external communication and value of awareness campaigns
- testing and training of personnel
- evaluation and revision of contingency plan

For the majority of the interviewees, one major difficulty with the adoption of emergency measures is that a PRA is needed, which ideally requires cases within Europe to determine appropriate control measures (e.g. *Anoplophora chinensis* imported from China - this issue is also discussed in section 3.4.11). Thus the main difficulty is linked to the knowledge of the HO and its behaviour in the European context, and lack of timely reporting action may accentuate the time delays.

The effectiveness of emergency measures experienced with e.g. PWN, red palm weevil and *Diabrotica virgifera* demonstrates that emergency measures do not work when they are adopted too late. For eradication to be effective, radical measures have to be taken from the start, however, this requires that timely actions are taken. Interviewees have reported that too often the development of PRAs takes too much time due to resources and capacity limits in the different MS, and it therefore takes too long to establish the probability and level of risk.

When new findings occur, instead of leaving emergency PRAs to MS, it might be preferable to have a Community wide emergency PRA (fast track EU PRA) [157]as a starting point, which could be linked to a 3-5 years development program to complete the first draft with biological, epidemiological and economic data. A 'fast track PRA' could be done by relying on existing evidence (e.g. EPPO, MS PRAs). The problem with PRAs carried out by MS is the limited scope of the PRA from an EU viewpoint. Most MS complete a PRA focussing on the scope of risks in their territory. Additionally, experts should be listed and funding granted to secure coordination and delivery in the development of a more complete assessment. Following the PRA approach on a more systematic basis would imply dedicating more resources to the body that would be in charge of this task (the PH Panel of the EFSA are currently in charge of conducting PRAs).

Most of the interviewees and the majority of the stakeholders consider that MS should more actively share information about their experience concerning the eradication campaigns, that will allow other MS with similar problems to learn from their experience and then react faster and more effectively. For example, the EPPO workshop organised in February 2009 in Nova Gorica (SI) on eradication, containment and contingency plans is being seen by most of the interviewees as a positive approach to exchange information and ideas between MS. Regular similar workshops should be organised.

A major point coming out of the interviews is that the current legislation focuses too much and too long on eradication measures, even in cases of advanced spread and where natural spread has been shown to constitute a major factor[158]. This has been explained by the fact that moving to control measures may necessitate the development of Council Control Directives, which is considered too long a process. In such cases, it is considered more appropriate to accept that – at least for a determined period of time - eradication is a 'lost' cause and to tailor measures for containment. Although the availability of eradication plans is useful in the early phases of outbreak to slow down the spread of this type of HO, it is considered they should be more rapidly replaced by containment measures as spread advances.

[157] This is already the case for emergency measures.

[158] The effectiveness of the CPHR to stop natural spread, including the emergency measure taken in the case of PWN and *Diabrotica virgifera*, has been assessed in section 3.1.1.

Although emergency measures are quicker to adopt and more flexible as legal instruments (in that they can be adopted and modified at the level of SCPH, thus more swiftly), ultimately Control Directives, such as those adopted in the potato sector, have demonstrated their value as a more effective containment approach. As mentioned in the introduction of this section, the overall view from the general survey, confirmed by the expert interviews and field visits is that the CPHR has been partly successful in preventing the entry, establishment and spread of HOs in the EU. In the case of the potato diseases, however, the control measures taken are considered to have been largely effective.

Control measures for potato seed are being seen as largely effective; in particular the measures for bacteria ring rot (*Clavibacter michiganense* ssp. *sepedonicus*) and brown rot (*Ralstonia solanacearum*). The effectiveness of these measures is unequivocally and consistently demonstrated by the improvement in the reduction of the number of outbreaks, year on year. Interviewees have reported that critical success factors for these measures are deemed to have been:

- The adoption and implementation of very strict measures swiftly after the outbreak, with strict provisions in the infested fields and refined methods for analysis procedures, and movement restrictions (these apply for 4 years). For example, the Control Directive on brown rot has been quickly established (within 1 year).
- The adoption and implementation of very strict measures for imports (e.g. Egypt). Potato brown rot is considered by the interviewees as being the strictest piece of import control legislation the EU has in place. Imports of Egyptian seed potatoes are prohibited but there is a derogation for ware potatoes and currently with six interceptions of lots in one season the market is closed for the remaining part of that season.
- The application of common procedures through Control Directives including detailed obligations with very little freedom for interpretation leads to harmonisation. The detail of measures to be taken and the stringent features are an important element of success;
- The fact that this is a commercial crop and therefore producers/growers and industry are concerned and economically motivated to act;
- An integrated approach to the control of quarantine diseases at the level of the complete plant production chain is facilitated in case of potatoes compared to the majority of other crops. The seed potato chain is highly integrated and rather limited in terms of the number of actors present in this supply chain. Additionally this supply chain involves actors with rather similar interests;
- The potato supply chain can afford to pay for all inspection and testing costs as the value of the crop is rather high;
- As the supply chain and number of actors are quite limited in potatoes, communication and coordination between stakeholders (growers, seed producers, traders and NPPOs) have helped to streamline the process.

All MS and the vast majority of stakeholders agree that the CPHR needs to be revised to focus more on prevention and early action, which is considered to remain the most cost-efficient approach for plant health management:

General survey results
Q6.7* Extent to which the CPHR regime should be revised in order to have more focus on prevention and early action:
All MS CAs (25) and 23 out of 27 stakeholders (1 do not know) consider that the CPHR regime should be revised in order to have more focus on prevention and early action

* Q 6.7 for CA q/naire and Q6.6 for stakeholder q/naire

The main arguments justifying this position can be summarized as follows:

- Once a given HO enters the EU it is difficult to stop it due to the free movement of goods. Therefore it is considered key to focus on preventive measures.
- Because prevention is always more effective and cheaper than subsequent eradication plans (*"prevention is better than cure*"). Emphasis should be put on prevention so that the necessary protocols and procedures are in place and action can be taken quickly if early action needs to be taken.

Interviewees have insisted on the need to strengthen the current emergency approach for outbreak measures by ensuring that emergency measures are adopted and adapted more rapidly, based on the evaluation of pest situation and evolution through PRAs that should be developed step by step. Additionally, the possibilities of prohibition of importation of some plants and some plant products under certain conditions may be needed to effectively protect the Community. Finally the creation of emergency teams within DG SANCO should be considered in order to develop a coordinated approach and action plan for dealing with emergency situations. This is currently practised in animal health and includes support from a network of experts from MS and third countries.

3.7.3 Conclusions on performance of control and emergency measures

Overall, the view from the general survey, confirmed by the expert interviews and field visits, is that control and emergency measures have been partly successful in preventing the entry, establishment and spread of HOs in the EU. This is the view of the majority of both MS CAs and of the stakeholders that responded to the general survey. Results however, tend to vary by pest and by region. The effectiveness of the measures taken tends to be specific to the HO being targeted, and therefore has to be considered on a case by case basis.

Additionally a distinction has to be made between emergency measures and control measures. While emergency measures are largely considered to have been ineffective on the basis that they are generally adopted too late (despite the fact that the legislative process as such – comitology - is relatively less cumbersome than for control measures), control measures are generally considered to have been largely effective (despite the fact that the legislative process in this case – Council approval and since Lisbon Treaty (Dec. 1, 2009) co-decision Council and Parliament - is by definition longer and less flexible, which is one reason why fewer Control Directives have been adopted). In particular the measures for bacteria ring rot and brown rot in potatoes are considered to have been most effective.

Several arguments are put forward to explain why the CPHR has not been effective in controlling and eradicating exotic plant pests:

- Lack of incentives to notify, both at the level of producers (for economic reasons) and MS CAs (for economic and political reasons);
- Delays in defining and implementing measures;
- Lack of resources and capacities to 1) implement optimal surveillance plans and to 2) conduct PRAs;
- Lack of sharing eradication expertise between MS as built up during national control and eradication campaigns.

On the other hand, the critical success factors in the case of control measures in potatoes (in particular for bacterial ring rot and brown rot)[159] can be summarised as follows:

- The adoption and implementation of very strict measures swiftly after the outbreak, with strict provisions in the infested fields and refined methods for analysis procedures, and movement restrictions (these apply for 4 years);
- The application of common procedures through Control Directives including detailed obligations with very little freedom for interpretation;
- The fact that this is a commercial crop and therefore producers/growers and industry are concerned and economically motivated to act; and,
- The fact that the potato sector is of high commercial/trade value and is highly integrated.

A fuller discussion of successes and failures of the CPHR, and their critical factors in this regard, is made in section 3.11.1.

Early prevention is considered to remain the most cost- efficient and effective approach for plant health management and several options are presented in this regard to improve the system:

- Emergency measures to be adopted and adapted more rapidly, based on the evaluation of pest situation and evolution through initially fast-track PRAs that should be further developed step by step;
- Strengthen emergency approach for outbreak measures. This could start with creation of emergency team within SANCO to develop a coordinated approach and action plan for dealing with emergency situations. This is currently practised in animal health and includes support from a network of experts from MS and third countries.

The analysis of these options for the future is presented in section 5.4.

[159] The effectiveness of the Control Directives is more questionable in the case of the other potato diseases, i.e. wart disease and in particular for potato cyst nematodes.

3.8 Export, transit and re-export issues

Provisions for EU exports[160] to third countries (TCs) have not been included in the CPHR[161], other than simply in terms of the format of phytosanitary export certificates.

Although the current Community plant health legislative framework does not cover exports from the EU, there is a framework for relations with third countries on issues of plant health in the context of SPS commitments and bilateral agreements with third countries and within the overall framework of the WTO-SPS Agreement and the IPPC. It is noted that international standards for phytosanitary measures (ISPM) exist in some trade sensitive areas, e.g. on trade in wood/wood products and certain plants.

On the other hand, third countries have requirements in place for imports from the EU, with lists of quarantine pests different from those of the Community (the import requirements and approaches of third countries are explored further in section 3.13). MS authorities are required to provide guarantees to third countries that consignments are free from the quarantine pests regulated by them and that the necessary requirements have been complied with. To this end, export inspections are in place, partly based on import inspections and plant passport inspections (supervised by the NPPO) carried out earlier in the chain. Exporting companies are responsible for meeting the requirements of third countries, while MS authorities (NPPOs) are responsible for the guarantees they provide to third country NPPOs.

Breeding, production, distribution and marketing of plants are often a very international business with complex incoming and outgoing flows of plant materials. An official movement document is not required in case of transit from a third country through MS to another third country as long as the plant materials are not imported (i.e., Customs cleared for entry to the internal market) and in absence of phytosanitary risks linked to the transport. Phytosanitary transit is governed by the Directive 2000/29/EC, in line with the IPPC (ISPM No. 7 and No. 12) which provides that governments safeguard the phytosanitary integrity of consignments under transit through their territory. As a consequence of the free movement of consignments on the internal market, such safeguard provisions in practice need to also cover the transit through the territory of other MS, until consignments leave the EU territory. For this reason, the Roosendaal Group[162] in 2007 developed a voluntary intra-Community phytosanitary communication document for transit. Some MS call for Community legislation to implement fully ISPM No. 25 "Consignments in transit".

According to the results of the general survey, the current documentation foreseen in cases of transit and re-export (official plant health movement document for re-export and of the intra-Community phytosanitary communication document for transit) have largely been effective for preventing the spread of HOs as well as for facilitating trade in plants and plant products.

[160] In the case of re-export, plant materials from third countries are imported by a MS and re-exported either from that MS or from another MS.

[161] These aspects do not forma part of the ToR for this evaluation, but their consideration has been included here for completeness.

[162] The role of this Group is described in section 2.7

With regard to re-exports, although the system is considered effective, the adequacy of the system in place is questioned by stakeholders within the sector of seeds.
In particular it has been commented that, given the number of movements associated with trade of seeds, the current system of phytosanitary (re-)export certificates is inadequate to support:

- The export of seeds produced in one MS and re-exported to a third country via another MS;
- The export of seeds originally produced in a third country, to another third country.

The difficulties are related, according to the stakeholders, to:

- The use of re-export certificate (and the copy of the original certificate) also for products where the EU does not require a phytosanitary certificate when importing seeds;
- The difficulties to obtain the EU Phytosanitary Communication document with all the required Additional Declarations for possible future re-exports; and
- The missing legal basis to use this document as copied attachment with a re-export certificate.

General survey results
Q4.1.a Extent to which the plant health rules for intra-Community trade have been effective for preventing the spread of HOs:

Provisions	MS CA	Stakeholders
Official plant health movement document linked to inspection at final destination and re-export (Dir. 2004/103/EC	15 out of 26 (8 do not know)	6 out of 23 (16 do not know)
Intra-Community phytosanitary communication document for transit (Roosendaal group)	9 out of 26 (15 do not know)	3 out of 23 (19 do not know)

General survey results
Q4.1.b Extent to which the plant health rules for intra-Community trade have been effective for ensuring the free circulation in plants / plant products:

Provisions	MS CA	Stakeholders
Official plant health movement document linked to inspection at final destination and re-export (Dir. 2004/103/EC	19 out of 26 (4 do not know)	7 out of 23 (16 do not know)
Intra-Community phytosanitary communication document for transit (Roosendaal group)	9 out of 26 (15 do not know)	4 out of 20 (16 do not know)

Although the current documentation as such does not therefore appear to cause any significant problems in re-export and transit[163], it is rather the decision-making mechanism followed by the EU and the delays incurred that are of most concern to traders.

The implementation of EU phytosanitary standards carries costs, but also benefits, for EU producers and traders (these issues are discussed in section 3.11). Furthermore, the international phytosanitary system and the application of SPS rules, both in the international and bilateral context, are currently built on mutual trust and confidence between trading partners NPPOs (this issue is discussed in section 4.2). In this context, EU legislation on imports and internal trade has an impact on the competitiveness and trade potential for EU exports of plants and plant products.

In particular:

- The fewer pests of concern to third countries are regulated within EU, and the slower the pest recognition and regulation (HO classification and listing) process, the more difficult it is for EU exporters to document that products are in accordance with plant quarantine legislation in third countries. In this context, a fast evaluation of the risk imposed by emerging pests would be useful and would make it easier for exporters to adapt to the new market situation, instead of facing emergency measures disrupting trade (e.g. Tuta absoluta, Red palm weevil);
- The terms protected zone and pest free area may cause confusion in importing countries, thus making it more burdensome for an exporter to justify the pest status of a product. Furthermore, some way of ensuring updated information on the pest status within EU, in particular pest free areas for pests not regulated within the EU but of concern to third countries, would be very useful[164].

3.9 Activities in support of the CPHR

A number of activities and initiatives which support the CPHR are in place, although these are not explicitly part of it at present. These include research and development, diagnostic capacity and the laboratory infrastructure, training, and communication and consultation for policy development and implementation.

3.9.1 Research and development and scientific advice

This section summarises the findings of the evaluation on the CPHR performance to date, taking into consideration EQ 19 (area H) of the ToR.

[163] For consignments in transit, as noted in section 3.4.7, there is some concern that lack of traceability from final PoD back to PoE could in theory pose a problem, due to the complexity of trade patterns, where only controls at final destination are in place. However, in practice, there has been no evidence that such problems have occurred. Also, as noted in section 3.4.5, there was some concern for derogations regarding transit consignments, because no phytosanitary certificate is required in some cases, but again there has been no concrete evidence of such problems.

[164] E.g. EPPO provides information on Tuta absoluta but this is not updated for the latest in the EU, and this may create more general doubts about the pest status of EU products.

*EQ19. In how far is the CPHR adequately supported by **research and development**?*

The extent to which the CPHR is adequately supported by research and development is examined in terms of: overall funding for research on plant health issues and the prioritisation of existing research; the availability of classical biological scientific expertise and innovative molecular identification and detection methods; the adequacy of scientific efforts in relation to pest risk analysis and the identification of potential impacts of emerging challenges for plant health (globalization and climate change issues); the coordination of research programmes across the EU (including via EUPHRESCO) and with third country trade partners. The current role of EFSA in terms of scientific advice is also analysed.

3.9.1.1 Overview of EU/MS research programmes and funding on plant health

Plant health research is carried out in the context of the activities of the European agriculture, horticulture and forestry industry and is aimed at protecting internal and external trade, as well as optimising EU production of healthy plants and plant products. The value of exports of fruit, vegetables, plants, cut-flowers and bulbs is estimated at €6 billion annually. In comparison, the estimated annual cost of national phytosanitary science and inspection programmes is almost €100 million, and funding of specific national phytosanitary research programmes is estimated at about €15 million. This research is necessary and has a strong impact, as it supports maintenance of national compliance with EU Plant Health legislation, i.e. diagnostic services, scientific advice, policy development and inspection activities[165]. It is also noted that plant health research activities are mainly commissioned under national MS budgets, and these account for roughly 90% of all such budgets available in the EU.

The RTD Framework Programmes have funded PLH research, the projects funded by EU FP6 and FP7 are summarized in the table below. Of these, EUPHRESCO is an ERA-Net which seeks to coordinate funding of national projects into an overall platform, and is highly relevant for this study. In addition, there are many national research programmes and projects for plant health. The already available EUPHRESCO reports cover 25 MS. Of these, 14 have significant phytosanitary programmes; 7 stated that they had no formal programme (Estonia, Greece, Hungary, Malta, Lithuania, Portugal, Slovakia), even if they supported small-scale projects. The total average annual research funding available for plant health in the MS was estimated at €15 million (based on the funding available amongst EUPHRESCO members in a recent 3-year period).

EU-funded projects in the area of plant health have mainly been on the development of specific Pest Risk Analysis (PRA) through research, or the development of diagnostic technologies (16 diagnostic projects related to statutory pests, amounting to approximately €16 million over a 12 year period; ca. 11% of the national MS expenditure[166]).

[165] A. Inman (2008) EUPHRESCO Article: plant health at risk – EU Public Service Review – Issue 15

[166] Examples since FP3 include: *Colletotrichum* diagnostics and taxonomy; *Monilinia* diagnostics; potato brown rot (*Ralstonia solanacearum*) diagnostics; potato ring rot (*Clavibacter michiganensis* subsp. *sepedonicus*) diagnostics; strawberry redcore diagnostics (*Phytophthora fragariae*); Diagnostic Protocols for specific EU quarantine pests (DIAGPRO); feasibility of an EU Plant Health Directive diagnostic chip (DIAGCHIP); on-site diagnostics (PORTCHECK); Karnal bunt (*Tilletia indica*) risks to wheat; pine wood nematode (*Bursaphelenchus xylophilus*)

Table 3-16: Main plant health research projects in FP6 and FP7

FP	Acronym	Funding scheme	Title	Period	EU financing (Mio Euro)
FP6	PORTCHECK 004B	STREP	Development of generic 'on site' molecular diagnostics for EU quarantine pests and pathogens	04-07	1.3
FP6	RAPRA	STREP	Risk analysis for Phytophthora ramorum, a newly recognised pathogen threat to Europe and the cause of Sudden Oak death in the USA	04-07	1.3
FP6	PEPEIRA	STREP	Pepino mosaic virus: epidemiology, economic impact and Pest risk analysis	07-10	0.8
FP6	EUPHRESCO	ERA-Net	European phytosanitary research coordination	06-10	2.6
FP7	PRATIQUE	SCP	Enhancements of pest risk analysis techniques	08-11	2.7
FP7	SHARCO	SCP	Sharka containment	06-12	2.9
FP7	QBOL	SCP	Development of a new diagnostic tool using DNA bar-coding to identify quarantine organisms in support of plant health	05-10	3.0

Source: DG Research

The EU has also supported plant health research through other programmes, including EU COST Actions (European Cooperation in the Field of Science and Technical Research) [167], and proposals for Networks of Excellence related to Plant Health. Indeed the EU has supported some specific research networks and expert groups such as the European Whitefly Studies Network, the EU Potato Virus Expert Group and the EU Bacterial Experts Group.

In addition, within the overall EU-funded European Technology Platforms, two platforms are potentially highly-relevant to coordination of European plant health programmes, the Forest-based sector TP[168] and Plants for the Future[169], and two platforms for which ensuring the safety and security of plants and plant products may be a reasonably high priority, Food for Life[170] and the European Biofuels TP[171].

risks (RISKBURS); risk analysis techniques, with pinewood nematode as a model (PHRAME); potato ring rot control (RINGROT); *Phytophthora ramorum* risks (RAPRA); and *Diabrotica virgifera* risk analysis and management.

[167] e.g. Action 853 - Agricultural Biomarkers for Array Technology, EU Concerted Actions (e.g. RESISTVIR; EU CROP BIOTERROR; alder Phytophthora).

[168] www.forestplatform.org.eu

[169] www.epsoweb.eu/tp

[170] http://etp.ciaa.be

[171] www.biofuelstp.eu

3.9.1.2 Prioritisation issues in plant health research

MS national budgets for phytosanitary research, science and inspection programmes are not increasing in step with the emerging threats to EU plant health. In addition to the constraints in overall funding for plant health research, there is an erosion of scientific expertise in classical fields. Research actions on plant health in support of policy decision makers need to address different fields, including techniques and practices covering a wide range of scientific disciplines such as taxonomy, biology, epidemiology, reference collections and material, sampling methods, statistics for plant health, diagnostic methods, economic effects and effectiveness of measures, and risk management.

This is recognised at EU level[172] and was reflected in the 'State of Emergency for Plant Health' declaration by the EPPO during their Council Colloquium in September 2004[173]. EPPO pointed to a growing mismatch between the expertise and science base for plant health, which is quickly eroding, and demands on staff and resources, which are rising continuously[174]. These trends are accentuated in the current economic context of diminishing global research and development budgets, where plant health competes from other fields which funding organisations might consider higher priority for research funding.

Individual MS also acknowledge the pressures on the science and research base. For example, the Agricultural Council in July 2004, the Ministers of Agriculture of the EU supported a statement by the Dutch Presidency[175] underlining the importance of protecting plant health research, and has stated that "*knowledge areas which are not in the front rank of exploitative science but which, in the longer term, are vital for underpinning sound public policy, must be defined and protected*".

The interviewees and field visits conducted during the evaluation have reported the following main reasons for decreasing R&D and base expertise:

- The critical mass of many laboratories is too small;

[172] European Council - Presidency Report, 14413/04, November, 2004 and European Commission - Presidency Note, SANCO 15479/04, December 2004.

[173] EPPO (2004) State of Emergency for Plant Health' declaration by the European and Mediterranean Plant Protection Organisation (EPPO) during their '*Council Colloquium on Scientific Services Supporting National Plant Protection Organisations*' in September 2004.

[174] "*The work of National Plant Protection Organizations (NPPOs) relies on scientific expertise, but the services providing this expertise increasingly lack staff, funds and training. On the one hand, the whole scientific basis of the phytosanitary field is quickly eroding. Taxonomy, classical plant pathology and other scientific fields which are vital for sustaining sound public policy are threatened with extinction, because they are no longer in the forefront of science priorities. On the other hand, the need for phytosanitary expertise, training and research is substantially and continuously increasing. The number and complexity of plant pest problems increases every year. New developments and new technology have to be mastered, going far beyond existing expertise. Unless urgent action is taken, indispensable expertise and scientific disciplines will irreversibly disappear, and NPPOs will be unable to do their duty."*

[175] Van Opstal, N., (2004), Can a decreasing scientific base sustain an increasing phytosanitary field?, EPPO Colloquium, EPPO Council, September 2004.

- Phytopathology and taxonomy are not popular science. Students are not interested by these types of discipline as very few modern technologies (e.g. biotechnologies, molecular tools, etc.) are being used in the plant health sector;
- Reductions of R&D budgets in the public area are leading to the need for laboratories to contract out part of the research to the private sector which tends to limit availability of results as these may be kept confidential (privatisation of research).

This reduction in classical biological scientific expertise and competences on plant pathology and HOs is a global trend and not a specific EU problem, as confirmed by several interviewees. The recognised decline in the phytosanitary area is exacerbated by several challenges as follows:

- Global trade in plants and plant products is increasing the risk of introducing new and exotic pests to Europe as the volume and diversity of trade grows and new trade pathways emerge;
- The number of quarantine plant pests, plant diseases and invasive plant species arriving and establishing in the EU is predicted to increase over the next 10 years as global trade in plants and plant products continues to expand[176];
- Climate change and global warming will lead to the emergence of new HOs entering the EU via globalised trade from countries with a warmer climate and finding increasingly suitable conditions for establishment inside the EU, or moving northward from southern Europe while changing from insignificant local problems to significant threats for the entire EU.

To some extent an improvement in the balance of available scientific expertise for plant health is targeted via the coordination of research funding efforts via the EUPHRESCO network (discussed in the following point).

As was noted by DEFRA the identification of research needs and prioritisation are generally based on a range of criteria for understanding the needs for policy, improving the outputs of the various tools and monitoring and evaluating outcomes:

[176] Waage, JK, Frase RW, Mumford JD, Cook DC & Wilby A (2005) A new agenda for biosecurity. Defra Horizon Scanning Project.

- Understanding the evidence needs for policy:
  - ✓ Understanding the context – fundamental processes and phenomena of plant and plant-pathogen biology, baselines and benchmarks for plant health and disease;
  - ✓ Development of models, methodologies and tools for rapid diagnosis, assessment of possible actions and monitoring of outcomes;
  - ✓ Developing and using the evidence base to help set targets and formulate policy;
- Improving outputs through:
  - ✓ The development and appraisal of options/solutions for plant health and disease management;
  - ✓ Optimum decisions and effective implementation through communication, engagement a consultation, to influence changes;
- Monitoring & evaluating outcomes and impacts of policy – economic, environmental, social and human health
  - ✓ Monitoring progress towards policy/programme targets;
  - ✓ Policy/programme evaluation.

DEFRA (2006) Evidence and Innovation strategy - Summary of Plant Health Evidence and Innovation needs

During the evaluation, the extent to which current R&D development in the EU (whether EU or MS funded) has addressed the right priorities was explored:

General survey results
Q8.2 Extent to which R&D development in the EU has targeted the right priorities in plant health field

	MS CA	Stakeholders (a)
EC funded research (FP programmes)		
Fully	5 out of 23	1 out of 24
Partly	13 out of 23	8 out of 24
Not at all	0 out of 23	0 out of 24
Do not know	*5 out of 23*	*15 out of 24*
MS funded research		
Fully	4 out of 23	1 out of 23
Partly	12 out of 23	5 out of 23
Not at all	4 out of 23	0 out of 23
Do not know	*3 out of 23*	*17 out of 23*

(a) The large number of 'do not know' in the case of stakeholders is justified by the relatively more limited visibility of this type of research to stakeholders.

For the majority of respondents to the general survey, research and development in the EU is considered to have at least partly or fully targeted the right priorities in the field of plant health, especially in the case of EU funded R&D.

MS CAs, in particular, have nonetheless highlighted that there is scope for further alignment of research funding to actual priorities. A clear persisting challenge in the existing situation is that the policy and legislation that underpins phytosanitary policy is determined at EU level but most of the research that supports policy development and implementation is done by MS. As stated earlier, plant health research activities are mainly commissioned under national MS budgets (accounting for roughly 90% of all such budgets available in the EU), while the policy is defined at the EU level. As a consequence, there are often differences between MS and EU priorities.

This is evidenced by the fact that national programmes are, as would be expected, usually confined to national priorities being part of larger more general national programmes and therefore there is a weak linkage between the MS scientists, research funded at national level, and the EU policy maker. This network needs therefore to be reinforced. Moreover, EU-funded research projects often act as crucial seed money for attracting national funding.

Plant health ideas and priorities for informing the scope of EU Framework Programmes are currently fed to the European Commission (DG RTD) through fairly uncoordinated means; this is either through direct approaches by MS, or from the Commission's DG SANCO, which has responsibility for plant health. However, the EU R&D Framework Programmes are able to only tackle a small number of specific needs and are not usually able to respond rapidly to changing needs and priorities, especially in emergency situations.

For the majority of respondents to the survey (10 out of 20 MS CAs and 10 out of 23 stakeholders; 8 MS CAs and 11 stakeholders do not know, Q8.3.a.5), EC funded research is considered to have only partly led to scientific responses to new challenges and in the anticipation of the future needs. This is due to the following main reasons:

- The objectives of research topics are in line with research needs but the deliverables and the newly developed knowledge is not always applicable for policy makers and end users:
- Availability of results is delayed until long after signing of the project;
- There is often inefficient and/or insufficient dissemination;
- The Research Framework Project strategy gives preference to large multi-year projects, which is not in line with the requirements of the plant health sector in terms of timing, and especially in cases where an emergency response is needed; and
- The research programmes are not sufficiently leading to the development of concrete tools for pest risk assessment and management.

The list of EU projects is regarded as covering the issues related to plant health quite well and no specific theme is considered as being forgotten by the respondents to the survey. On the other hand, there were complaints of over-focus on certain subjects.

A new project called QDETECT, focusing on 15 HOs, will perform research on detection methods for HOs on imports at border level. However, several stakeholders have reported that a great deal of effort and resource (more than €10 million since 1999) have been devoted to PWN (PHRAME, PORTCHECK, PRATIQUE, QBOL, QDETECT, EUPHRESCO), leading to a certain lack of attention for other more general/horizontal subjects e.g. early detection, PRAs, etc.

3.9.1.3 Coordination of MS research and EUPHRESCO

There is a strongly-perceived and expressed need for effective coordination of MS, transnational and EC research efforts and the funding thereof in order to ensure that strategic issues on plant health are well tackled. Funding of EC research on plant health should further develop with a focus on strategic issues with broad application in the EU. This objective is promoted by the ERA-Net EUPHRESCO project.

DG RTD is supporting the coordination of plant health research activities commissioned under national MS budgets, through EUPHRESCO. Interviewees and respondents to the survey indicated that the establishment of this network is perceived as a strong and robust step forward in the direction of establishing a coordinated EU R&D approach:

General survey results
Q3.1.i Extent to which the respondents to the survey are satisfied by the establishment of an ERA-net project (EUPHRESCO) in the plant health sector:
20 out of 25 MS CAs and 5 out of 13 stakeholders are fully or partly satisfied by the establishment of an ERA-net project (EUPRESCO) in the plant health sector. (4 MS CA and 7 stakeholders do not know).

EUPHRESCO (European Phytosanitary RESearch Coordination)[177] was an initiative of the EU Council Working Party of COPHs, and began in 2006 with funding from EU FP6. The partners include 24 national and regional plant health research funding bodies from 15 MS, Switzerland and Turkey, and other interested parties including 6 observer MS who do not have definable national plant health research programmes. The ERA-Net is due to end in its current form in 2010 but a new call for tender has been submitted to continue coordination efforts in the plant health field.

Specific objectives of EUPHRESCO are to[178]:

- Increase cooperation and coordination of national phytosanitary research programmes at EU level through networking of research activities and national programmes;
- Develop phytosanitary (statutory plant health) research policy at the EU-wide level;
- Optimise the research provision that underpins EU quarantine plant health policy development and policy implementation, in an era of increasing biosecurity threats from alien plant pests, diseases and invasive species;
- Map information on national phytosanitary research programmes;
- Establish instruments for trans-national phytosanitary research activities;
- Develop common research agendas based on shared priorities;
- Increase the capacity of European phytosanitary science and research, in order to prevent the disappearance of EU expertise in this field and maintain Europe's competitiveness in the global market;
- Improve interaction with stakeholders and industry bodies at national and EU levels;
- Establish a long-term, sustainable network that will strategically facilitate joint trans-national activities to underpin EU phytosanitary policy and science capacity.

EUPHRESCO partners are working to establish links with key research funding bodies in NPPOs in key non-EU countries, and at regional level (e.g. EPPO), in order to ensure capacity-building in plant health programmes and encourage alignment of research and strategic targets.

[177] http://www.euphresco.org/

[178] In common with other ERA-Nets, the main activities are networking, a systematic exchange of information, the development of joint activities such as common evaluation procedures and common agendas, including a strategic research agenda, the development and implementation of joint trans-national research and dissemination of results.

In addition, it is expected that the capacity-building activities of EUPHRESCO will directly lead to the setting up of new national phytosanitary research programmes in European countries where they currently do not exist, and the creation of 'best practice' guides that would benefit non-EU plant health bodies, including those that are key exporters to the EU and therefore the likely source of HOs or invasive species.

Most of the interviewees consider that the EUPHRESCO platform is the correct tool for this coordination and that it should be maintained on a long term basis. They also consider that if EU funding were to be stopped the platform would be endangered.

3.9.1.4 The role of EFSA (PRAs)

In its work, the Commission is assisted by EFSA, which since 2006 has included a Scientific Panel on Plant Health (the PLH Panel). The role of the PLH panel is to deliver scientific opinions on the risks posed by HOs, on the basis of PRAs. EFSA and its PLH panel work within EFSA's mandate to respond to requests for scientific advice from the EC, EP, and MS (Regulation 178/2002, Art. 29). So far there have been no MS requests, only through the EC (these are decided by the Commission in consultation with the SCPH). EFSA can also issue an opinion on its own initiative, on matters falling within its mission.

To date, there have been 37 peer reviews of PRAs by the EFSA PLH Panel at the request of the EU, of which 30 were of PRAs from France, submitted in 2006, concerning bananas and citrus pests from the French Overseas Department, 2 on EPPO PRAs and 1 each regarding PRAs by Spain, UK, Lithuania, Poland and South Africa. The aim has been to assess whether the organisms in question were harmful and whether they are therefore eligible to be regulated under Directive 2000/29/EC.

Apart from peer reviews of PRAs, EFSA can carry out its own PRAs (for the whole EU) and extend the scope of existing national PRAs to the whole EU territory. The scope of a national PRA could be extended to the whole EU-27 (although in view of the data required this is almost like conducting a new PRA), and an EPPO PRA may be sent to EFSA for evaluation is some MS express disagreement on its conclusions. Scientific advice can also be provided by international experts, including the EPPO. External scientific advice may also be requested for the assessment of impacts of policy options under consideration for addressing the risks.

Most of the interviewees at both MS CA and stakeholder level consider that EFSA expertise and actual mandate should play a key role in the development of EU wide PRAs and that this activity should be complementary to the EPPO and national activities, in order to maximise the availability of PRA data to support decision-making. EFSA is structured and positioned to develop robust PRAs to provide support to policy makers.

One area where there is scope for such cooperation to be sought is in the performance of economic impact analyses. The analysis of economic impacts does not fall within the mandate of EFSA, however it is an essential element of PRAs according to IPPC standards (ISPM 11 and

21[179]) and the WTO-SPS Agreement (Article 5.3 and Annex A, point 1.4), as risk is in principle characterised also by the economic impact of a pest. This cannot be addressed by EFSA as its mandate is confined to assessing the biological risk.

The reason why EFSA is not involved in the analysis of the economic impact of PRAs is linked to the principle of separation of risk assessment from risk management. EFSA risk assessments do not lead to a conclusion on whether a pest should be regulated or not. EFSA evaluates a risk but the final decision regarding the appropriate measures needs to be undertaken by the risk manager, i.e. the Commission (and MS). Regarding the management options, EFSA may possibly evaluate these in terms of their effect on the level(s) of risk, but does not evaluate them in terms of cost-effectiveness and feasibility (unless the latter is defined as technical feasibility), minimal impact or non-discrimination. In this context, the analysis of economic impact is considered to be closely related to 'acceptability of the level of risk', which is a management decision and depends on other factors including socio-economic and political considerations.

The Commission has taken the position that this function should not be included in the EFSA mandate. If an economic impact analysis is needed (e.g. because MS request it or the Commission considers that is needed for the preparation of a policy proposal) this will be performed separately (e.g. for *Diabrotica* which was conducted at the request of MS). Therefore the only economic data foreseen for inclusion in the EFSA PRAs relate to the extent of the problem and the impact on plants (volume of production, size of land potentially affected etc.) and are not expressed in monetary value[180].

During the evaluation MS have taken a balanced view regarding which organisation should be in charge in performing such type of socio-economic studies in support to policy decisions and no clear trend has emerged on how to structure this type of assessment, other than that cooperation and synergies should be sought in order to maximise the knowledge and data provided by the various organizations currently conducting PRAs (EPPO, MS CAs, research bodies).

The outputs of the EU-funded project PRATIQUE are expected to play a key role in the development of PRA methodology, by providing generic economic and modelling techniques to support the development of decision support tools for pest management. However, the

[179] ISPM No. 11 (2004): *Pest risk analysis for quarantine pests, including analysis of environmental risks and living modified organisms;* ISPM No. 21 (2004): *Pest risk analysis for regulated non-quarantine pests.* Stage 2 of the PRA, risk assessment involves an evaluation of the probability of pest entry, establishment, and spread, and of their potential economic consequences. Art. 5.3 WTO-SPS Agreement: **"***In assessing the risk to animal or plant life or health and determining the measure to be applied for achieving the appropriate level of sanitary or phytosanitary protection from such risk, Members shall take into account as relevant economic factors: the potential damage in terms of loss of production or sales in the event of the entry, establishment or spread of a pest or disease; the costs of control or eradication in the territory of the importing Member; and the relative cost-effectiveness of alternative approaches to limiting risks".* Annex A, point 1.4, Risk Assessment is defined as *"the evaluation of the likelihood of entry, establishment or spread of a pest or disease within the territory of an importing Member according to the sanitary or phytosanitary measures which might be applied, and of the associated potential biological and economic consequences".*

[180] Only the biological impact on crop production/agriculture/size and land etc. is included, but this is not expressed in monetary terms.

PRATIQUE project is still at too early a phase for concrete outcomes to be considered in this evaluation[181].

Other relevant responses from the stakeholders interviewed were:

- Availability of relevant data limits PRAs and this is considered a permanent problem;
- Development of full PRAs at EFSA takes too much time in general and this delay should be shortened;
- The PRA process *per se* is becoming increasingly complex and this could be detrimental to plant health safety in Europe. Managers and decision makers want more and more details to back up their decisions. They want to reduce uncertainties that are always present in the biological field and there needs to be a better balance between a need for more information and timely decision-making and action;
- In ISPM 5, the definition of quarantine pest is connected to the level of acceptable risk (the pest becomes subject to quarantine when the risk is not acceptable). This is left to the risk management options, which are not within the remit of EFSA because the economic factor is missing from EFSA's assessment;
- There needs to be more coordination and collaboration between all organizations involved in conducting PRAs, i.e. between the EU/EFSA, EPPO and MS. The ultimate objective remains common: phytosanitary protection within the EU. The coordination between EFSA and EPPO seems to be improving with discussions that are ongoing between these two organisations and a better communication scheme is established, and these efforts need to continue in future.

3.9.1.5 Conclusions

The number of HOs arriving and spreading within the EU is expected to increase in the coming years mainly due to globalisation trends and climate change. Against these trends, it is recognised that the R&D expertise in plant health is declining in the majority of the most important disciplines required for this sector (taxonomy, entomology, diagnosis, etc.), leading to the need to further coordinate R&D activities at EU level. In this context, the use of existing EU

[181] PRATIQUE is an EC funded 7th Framework research project designed to address the major challenges for pest risk analysis (PRA) in Europe. This project is intended to develop sustainable, integrated plant health management strategies and enhance effective policy and decision-making by better assessing and managing plant health risks. It has three main objectives:

- To assemble the datasets required to construct PRAs valid for the whole of the EU;
- To conduct multidisciplinary research that enhances the techniques used in PRA; and
- To provide a decision support scheme for PRA that is efficient and user-friendly.

The research is undertaken by scientists from 13 institutes in the EU and one each from Australia and New Zealand with subcontractors from institutes in China and Russia. It will produce a structured inventory of PRA datasets for the EU and undertake targeted research to improve existing procedures and develop new methods for (a) the assessment of economic, environmental and social impacts, (b) summarizing risk while taking account of uncertainty, (c) mapping endangered areas (d) pathway risk analysis and systems approaches and (e) guiding actions during emergencies caused by outbreaks of harmful organisms.

The results will be tested and provided as protocols, decision support systems and computer programs with examples of best practice linked to a computerized EPPO PRA scheme.

R&D programmes and funding schemes (e.g. ERA-net, networks of excellence, etc) is crucial, but currently not perceived to be sufficient.

DG RTD supports the coordination of plant health research activities commissioned under national MS budgets (which roughly account for 90% of all such budgets available in the EU), through the ERA-net EUPHRESCO. The establishment of this network is perceived to be a significant step forward in the direction of establishing a coordinated EU R&D approach and there is wide support for its continuation in future.

EFSA can contribute to the harmonisation of the framework for PRA and the identification and evaluation of risk management options. However, the role of EFSA does not encompass the economic (cost/benefit) analysis required in full PRAs according to ISPM 11 and 21 and WTO-SPS. It is therefore important to find an appropriate platform to carry out this type of analysis, which at present is provided on an ad hoc and exceptional basis through impact assessments. In this context, the outputs of the EU FP7-funded project PRATIQUE are expected to provide generic economic and modelling techniques to support the development of decision support tools for pest management. Finally there is a concern that the PRA process *per se* is becoming increasingly complex and this can inhibit timely decision-making to the detriment of effective and efficient plant health management.

Moving forward, the need to create a more permanent platform to ensure the continuity of the coordination and support of research and development in this field has been identified; this issue is explored further in section 5.8.1.

3.9.2 Diagnostic laboratories and training

3.9.2.1 Diagnostic capacity

This section summarises the findings of the evaluation on the CPHR performance to date, taking into consideration EQ 16 and EQ 18 (area G) of the ToR.

> *EQ16. To what extent is the CPHR supported by an appropriate diagnostic infrastructure, allowing for rapid and reliable diagnosis of all regulated HOs?*
> *EQ18. In how far have the CPHR requirements for appropriate training of MS plant health inspectors and diagnosticians been met and how can this be improved?*

The general survey has provided a broad picture of the current diagnostic capacity in MS:

General survey results:

7.7. Diagnostic laboratories carrying out official analysis*

a. Does the current diagnostic infrastructure allow for rapid and reliable diagnosis of all regulated HOs?

For the majority of MS (17 out of 25) and stakeholders (11 out of 24, 8 do not know) the current diagnostic infrastructure allows partly for rapid and reliable diagnosis of all regulated HOs; for 8 CAs and 4 stakeholders it does it fully.

b. Is the necessary diagnostic expertise available for all disciplines (entomology, acarology, nematology, mycology, bacteriology, virology)?

The majority of MS CAs (13 out of 25) respondents believe that the necessary diagnostic expertise is available for all the disciplines**, whereas for 6 is only partly available and for 6 it is partly available but it is threatened;

c. Is the laboratory infrastructure adequate and is the necessary equipment available?

The laboratory infrastructure is considered adequate and the equipment available by the majority of the respondent MS CAs (13 out of 25), only partly by 11 and not at all by one;

d. Are well-maintained reference collections available for all listed HOs and is future availability of these collections ensured?

Well-maintained reference collections are available for all listed HOs and future availability of these collections is ensured only partly, according to 15 MS CAs (out of 25), it is threatened, according to 7 MS CAs and not available by one MS CAs.

e. For how many listed HOs are ring-tested and validated diagnostic and detection methods available?

Ring-tested and validated diagnostic and detection methods are available for less than 50 HOs, according to 22 (out of 24, 2 do not know) MS CAs; for 100-250 HOs and for 50-100 HOs according to one MS CA respectively;

f. How many of the 250 regulated HOs can the official laboratories in your country detect / diagnose by themselves?

Official laboratories in the MS can detect/diagnose a variable number of HOs, according to 24 MS CAs responses (1 do not know):

All HOs: 3
100-250 HOs: 7
50-100 HOs: 8
<50 HOs: 5

h. Are adequate resources available?

13 out of 25 MS CAs (4 do not know) consider the resources to be adequate.

** This section of the survey was compiled by MS CAs in consultation with the relevant plant health laboratories that carry out the official diagnostic analyses in the country.*
***Entomology, acarology, nematology, mycology, bacteriology, virology.*

The number and the range of HOs listed in the Directive require a great variability of expertise for the detection and diagnosis, such as entomology, acarology, nematology, virology, mycology and bacteriology. Furthermore, big differences exist in the methodology and tools required for detection of the 250 HOs[182], i.e. virologists use modern laboratory tools, such as microbiology and molecular techniques, which have been rapidly evolving in the last decade, whereas entomologists use mostly traditional techniques such as morphology and microscope.

The need for reliable and rapid expertise in the context of the evolving challenges brought about by increased trade, and the increase in number of notifications and new HOs, raises the question

[182] Most of the listed HOs are pests (70% of Annex I and II HOs are pests) and most of the logic of CPHR is entomology in terms of diagnosis and treatment. Entomologists cannot normally cover the whole range of pests, but tend to be specialized.

of the adequacy of diagnostic infrastructures at MS level, in particular with the constraints from decreasing resources for this field and erosion of scientific expertise, as explored in section 3.9.1.

According to the general survey and expert opinion, diagnostics at EU level are fairly well developed, but there is concern about erosion of expertise in the more traditional diagnostic fields and of the underpinning taxonomic base/expertise. Concerns also exist with regard to maintenance and access to collections. Overall, scientific expertise is considered to be adequate from an EU point of view: MS CAs indicate that in case of need of expertise for particular HOs, appropriate laboratories are found in other MS. However, the available expertise at national level is highly variable between MS, and this causes some concern.

In terms of the organisation of diagnostics, MS have different approaches: there are some cases where centralisation is applied, in others (MS with decentralised administration) regional laboratories exist. In one MS, laboratory tasks are completely outsourced, partly also to other MS.

Laboratory testing can be delegated to legal persons – private or public, such as universities, research institutes or private laboratories, which may perform other than public functions. This amendment to Art. 2.1.g. of Directive 2000/29/EC was introduced by Council Directive 2009/143/EC[183], modifying earlier provisions (which allowed delegation of laboratory tasks only to a legal person charged exclusively with specific public functions under its officially approved constitution).

The organisation of diagnostics for plant health issues in the MS visited in the context of this evaluation is indicated in **Table 3-17**.

MS describe different situations and limitations at country level. Overall, the majority of MS consider that the existing capacity at national level only partially allows for a rapid and reliable diagnosis of all regulated HOs; this is mostly explained by the limited and decreasing financial and human resources. Gaps in detection capacity (in terms of methods and reference materials) are also indicated by a number of MS, with regard to rare or new HOs. The MS field visits also made this difference clear: in some cases, it was pointed out that it is increasingly difficult to find experienced experts in specific fields as expertise is eroding - experts in classical methodologies have to a large extent retired and young experts are few due to more attractive subjects using innovative biotechnological tools in e.g. medical science.

The divergence in diagnostic capacity across the EU is also due to the inherent characteristics of research on plant health which explains the difficulties in this field. As discussed in section 3.9.1, plant science is not a "self – financing area" nor a high priority compared to other scientific fields such as nanotechnology, engineering etc. Indeed, as in most research fields, funding will depend on the level of commercial interest for the application of the research outputs. In those MS where plant health is important for trade and production, the diagnostic sector appears to be highly developed, with a high volume of resources devoted to research and a clear structure and

[183] Council Directive 2009/143/EC of 26 November 2009 amending Directive 2000/29 as regards the delegation of the tasks of laboratory testing.

organisation in place. In these cases, it appears that investment in necessary skills for human resources have been undertaken to address the erosion of expertise. Additionally to public funding, other research and laboratories are funded by industry. However, only a minority of MS are in this situation. In most MS, the situation appears to be more mixed, with expertise and resources available for some HOs and competences, and limited or threatened for others.

Results of the general survey indicate that resources for diagnostics are in many cases considered limited, even with regard to HOs for which detection is possible and in terms of activities that the laboratories would technically be able to carry out. In particular, whereas the resources are adequate to carry out the laboratory diagnostic activities, a weak aspect is the development of diagnostic methods, for which funding is not always available. Some MS indicated that for certain tasks such as maintenance of collections, developing and evaluating diagnostic protocols, resources are lacking and this is seen as a problem in the context of the availability of taxonomic expertise for the discipline. Sourcing national expertise is also indicated to be problem as well as lack of advanced equipment for some HOs.

A number of MS indicated specifically the domains in which resources are lacking and many indicated that even where expertise is currently present, retirement of experts will in future pose a threat in terms of the availability of these competences. Variability also occurs among MS in terms of infrastructure and equipment, with some MS considering the current status of the national facilities adequate, and others indicating that improvements would be needed but there is lack of funding for these.

Reference collections are limited in the MS to those HOs which are frequently tested, and these collections also appear to be under threat. Also, collections tend to vary according to the discipline and to the occurrence of the HO in the country. This is an area indicated by several MS as one where cooperation and networking among MS would improve the availability; some MS already refer to other MS for reference materials that are not in their collections.

Table 3-17: Organisation of plant health laboratory tasks in the MS

Country	Laboratories (central-regional level)	Delegation	NRL for PH	Additional information
Bulgaria	The Central Laboratory for Plant Quarantine (CLPQ) carries out phytosanitary tests of imported and domestic plants, plant products, soil and other materials. There are laboratories attached to each Regional Service for Plant Protection (RSPP), where tests are carried out. The CLPQ validates positive and doubtful results of the analysis made at the RSPP Laboratories. The CLPQ is also involved in coordinating the activities at RSPP, issuing methodological guidelines for inspection and drafting monitoring programmes; it also provides instructions to staff on diagnostics and identification of pests.			
Denmark	The Danish Plant Directorate operates its own laboratory for identification of HOs.. The PH department consists of the inspection and administrative unit (providing guidance to inspectors) and the diagnostic laboratory with laboratory technicians. All work close together with 25 district PH inspectors. Its broad obligations refer to plant health monitoring, see potato certification, seed (seed health, GMO, cereal variety, seed dressing), feeding (GMO, salmonella) and plants (GMO, larch hybrids, plant health). The sole official laboratory responsible for analysing samples taken during inspections is part of the DPD.	Co-operation arrangements with official recognized scientific institutions guarantee that the full range of HOs can be dealt with. Currently, the extent to which testing is done in DK or is commissioned from an officially recognized laboratory delegated elsewhere depends on time, money, expertise, working force, as well as the source of funding for the analysis (more freedom in case of State money instead of funding through fees). Intense discussion can take place with the growers on this.	No	In their responses to the general survey, DPD has listed 19 HOs in prioritized order for which improvement is needed on the testing method in DK. Two example for which improvements are needed are 1) testing of citrus coming from South America for the absence of *Guignardia citricarpa* for which the current testing method takes 14 days, which is too long when considering this type of commodity; 2) testing of wood packages for the absence of PWN, which takes over 50 days as they do not have the required facility in DK and need to delegate to another country.

Country	Laboratories (central-regional level)	Delegation	NRL for PH	Additional information
France	The diagnostic infrastructure is currently being fully reorganised to better adapt to the present needs. A network of 19 approved laboratories became operational in May 2009. This will allow for a better distribution of tasks between routine laboratories, reference laboratories and research, giving clear tasks and responsibilities to each partner.		National Laboratory for Plant Protection (LNPV) is responsible for validating methods and for the overall direction of network	The needs for analysis are better taken into consideration by routine laboratories, with the organization that is currently being undertaken, but this does not yet cover all regulated HOs as: (1) methodological development is needed to produce diagnostic tools which can be given to routine laboratories; and (2) reagent of appropriate quality are not available to cover all needs.
Germany	There is an action plan paper on how to improve diagnostics and quality. Some laboratories are quite advanced in this area and have lab accreditation. The heads of regional services will meet on this subject soon, as some co-operation may assist efficiency here.			
Italy	Each Regional Phytosanitary Service has its own laboratory; in some cases contracted to Universities. The CRA-PAV ISZA act as NRLs for plant health issues	In peak imports period, testing is contracted to private laboratories under specific contract agreements.	The definition of a network of reference laboratories is on going. For some pests, this has already been put in place (Ralstonia Solacenearum, Citrus Tristeza Virus, Erwinia amylovora)	Adequate diagnostic capacity for listed HOs (etermination up to genus and specie); for those of new introduction rely on expertise at international level
Lithuania	The Phytosanitary Research Laboratory is a department of the State Plant Protection Service (SPPS). It provides full diagnostic and scientific support to the SPPS.	No private laboratories involved in phytosanitary matters.		
NL	One NRL and three Regional Offices in charge of carrying out initial screening and preparation of samples.		One NRL exists in the Netherlands, and it is part of the plant protection service (PD) - Department of Diagnostics in Wageningen-. It supervises the work done at the laboratories of the	

Country	Laboratories (central-regional level)	Delegation	NRL for PH	Additional information
			inspection bodies, develops new testing methods and is in contact with laboratories in other MS.	
Poland	The Central Laboratory is part of the State Plant Health and Seed Inspection Services (SPHSIS) and is the NRL for plant health issues. Regional Laboratories are responsible for examination of plants, plant products and objects. Diagnostic units of the BIPs perform some analysis of the imported materials.		The NRL conducts PH testing, supervises the regional laboratories and BIPs and verifies positive and doubtful results.	
Portugal	-	-	-	Capacity considered adequate for general surveillance but not emergencies
Spain	There are 29 diagnostic laboratories (at least one for each Autonomous Community; with the exception of Madrid which has an agreement with other laboratories)		There are 6 NRLs in Spain, one for each group of HOs (insects, nematodes, viruses for woody plant species, viruses for non-woody plant species, bacteria, fungi). NRLs perform analysis of non-routine samples, of organisms which are difficult to identify, confirmatory analysis and analysis in cases when a HO has been detected for the first time in Spain. NRLs are either universities or research centres, selected based on expertise on a national level, with the agreement of the CAs.	The diagnosis of the NRL is not legally binding, whereas the diagnosis of the CA laboratory is legally binding. If the inspection services detect something different that they have not seen before, they take samples and send them to laboratories. If necessary, the NRLs can help too. The main problem is detecting the problem as soon as possible, and not the diagnosis. So far there have been no problems with the diagnosis, either within the CA laboratory, or with the help of the relevant NRL.
Sweden	No internal laboratories competences	All laboratory activities are contracted: to two national Universities and to two	There is no true need of an official NRL in the country as volumes are too small to	

Country	Laboratories (central-regional level)	Delegation	NRL for PH	Additional information
		foreign laboratories.	afford it. Tests can either be done in another MS without any additional burden or constraints	
UK	FERA provides the bulk of scientific and diagnostic support for the Plant Health and Seed inspectorates of England and Wales. In Scotland, scientific and diagnostic support is provided by SASA and in Northern Ireland by the Agrifood and Bioscience Institutes.			

Note: covers only the MS visited under the evaluation

Source: FCEC field visits and FVO Country profiles, consulted in March 2010

Outsourcing is organised in those cases where the official laboratories do not have the capacity to detect all the 250 HOs listed in the Directive. Outsourcing is organised by several MS:

- At national level, i.e. collaboration with research institutes and diagnostic centres. This option was indicated by 8 MS;
- At international level, i.e. to laboratories of other MS (mostly to the UK and NL) or (as indicated by two MS) outside the EU, on a case by case basis. This option was indicated by 14 MS. In particular, one MS indicated that the diagnostics is contracted (since 10 years) through official tenders and that 2/4 of the contracting laboratories (responsible for the majority of the analysis) are outside the country.

For the second option, some MS indicated they use the EPPO expert database[184] as a tool to find appropriate expertise in order to submit the samples.

One MS indicated that when the routine laboratories are not able to perform the test, these are conducted by national reference laboratories (NRLs). In the past five years, several MS have created NRLs. Currently NRLs for plant health are in place in nine MS: France, Belgium and Czech Republic - where a legal basis for NRLs within national legislation is established, as well as Hungary, Italy (for some HOs), Netherlands, Poland, Romania and Spain.

One clear outcome of the survey and the interviews is the lack of cooperation and networking, among MS. It is recognised in many quarters that EU projects, in particular EUPHRESCO, have had a positive impact for networking between research bodies and laboratory experts, nevertheless it is considered this needs to be further strengthened. This point was also highlighted by some experts, stressing the fact that the main weakness for research and diagnostics at EU level is indeed a problem of coordination among the different laboratories and research units. EU projects in this field, such as EUPHRESCO, are partly directed at overcoming this problem.

The improvement of collaboration between diagnostic laboratories has been supported by EUPHRESCO through trans-national research projects which compare, validate and further develop diagnostic methods for specific pests, typically resulting in updating or production of new EPPO protocols. One of these projects for instance, DIAGPRO (Diagnostic Protocols for Organisms Harmful to Plants), focused on the development and validation of diagnostic protocols for 15 organisms of importance to plant health, among which the validation of PCR-based diagnostics for potato brown rot and potato ring rot. This should therefore enable these potentially faster, cheaper and more reliable methods to be used routinely by MS diagnostic laboratories. Another project, the QAMP project (whole genomic DNA amplification

[184] The EPPO Diagnostic capacity database provides an inventory of the diagnostic expertise available in the EPPO region (based on individual experts' own declarations of their expertise). It is searchable by laboratory and individual expert. Emphasis is given to regulated pests (i.e. pests of EPPO A1 and A2 Lists, pests mentioned in EPPO Standards PM4: *Production of Healthy Plants for Planting*), pests possibly presenting a risk to EPPO member countries (EPPO Alert List) and plants of the EPPO List of invasive alien plants. The database is not meant to include common pests which are widely distributed in Europe.

methods, funded by UK and NL partners) supports the development of techniques for producing reference standards for DNA-based collections and for proficiency testing for use by diagnostic laboratories.

Other projects in support of the plant health diagnostic area include:

- QBOL project (DNA bar coding): Informative genes from selected species on the EU Directive and EPPO lists are DNA bar coded from specimens. The sequences, together with taxonomic features, will be included in an internet-based database system; the developed DNA bar-coding protocols and the use of DNA bar-coding as a diagnostic tool will be evaluated and validated by phytosanitary end users like reference labs.
- Q-DETECT: development of tools for use primarily by inspection services in the field rather than in the laboratories. Such tools are being developed for example for stone fruit diseases.

There is consensus – amongst MS and the experts interviewed – that in order to have adequate expertise available for all HOs, and in the context of limited and decreasing resources, the best solution would be not to have all experts available in all MS, but a good network covering the range of expertise needed across the EU-27. It is widely acknowledged that EU coordination in the field of diagnosis, analytical methods is necessary and urgently required. It is suggested that one of the tools could be joining and linking the available expertise (e.g. more links between diagnostic laboratories would overcome the issue of the lack of experts for a specific pest). However it also noted that the issue is not only related to availability of diagnostic expertise and infrastructure - and mutual trust/acceptability between MS - but also the problems of maintaining collections, as this is usually the first expenditure to fall with budget cuts and collections are expensive to maintain. In the view of some MS, it is not necessary that every MS has a collection, provided there is good sharing of information, and that it is affordable to have EU collections. Furthermore, it is suggested that the EU collection centres could be located at different places and linked through a virtual centre. Sharing of information is also seen as beneficial in that with better cooperation, MS could discuss together and exchange experiences: this could lead to a more uniform view of what threats MS should be concerned about (including risk assessments), and to a harmonization of testing methods for inspection of samples. One way of establishing such cooperation could be the establishment of EU-RLs, and this option will be analysed in section 5.8.2.

At EU level, **binding protocols for diagnostic methods** do not exist[185], with the exception of some HOs of potato[186] (Potato Cyst Nematodes, Brown Rot and Ring Rot) for which Control Directives are in place and that provide detailed requirements for detection and diagnosis. This leads - in the view of several MS and stakeholders - to differences in the analytical methods and in the results obtained, and therefore is an issue which needs to be addressed. In particular, coordination needs to be established in this field in order to define common protocols for testing. This is also strongly requested by some stakeholders, suggesting that

[185] According to Directive 2000/29/EC, the NPPO is responsible for defining and selecting the analytical method and protocol to be applied.

development of reliable validated (or equivalent) diagnostic protocols, accepted and used by all MS should have a very high priority, as well as accreditation (quality assurance) of the laboratories. One MS also indicated that the equivalence for importing of propagating material is not determined at EU but at MS level, thus causing variability among MS. Harmonized protocols are necessary for export (to agree on what is a pest free situation) and for import purposes. The lack of harmonisation on the testing methods is also a source of strong discussion when talking about what is an appropriate performance for a laboratory. The EU Reference Laboratory[187] concept, as developed in the animal health and food safety domain, offers harmonisation (guidance on EU protocols) as well as flexibility (amendment of EU protocols according to scientific developments without recourse to comitology procedures).

For a range of HOs, EPPO and IPPC have issued standards for diagnostic methods and procedures. To date, some 97 protocols have been developed by the EPPO, of which 4 general standards[188]. EPPO did a survey in 2008[189] on the use of these protocols and had positive results. Only in the case of the pests of Annex 1.A.1 (pests not present in Europe), were protocols not used due to the fact that the laboratories have not come across any samples in this case. EPPO is currently working on improving the availability of validation tests – which is one of the requirements for laboratory accreditation. For some tests, where available, the EPPO includes validation data in the protocols (e.g. on the limits of detection of tests, sensitivity, appropriateness). The aim is to avoid duplication of efforts. Many laboratories are currently in the process of preparing for laboratory accreditation, and EPPO is working to share the information and experience gained with accreditation between laboratories[190].

Conclusions

Overall, in the majority of MS the existing capacity is considered to allow only partially the rapid and reliable diagnosis of all regulated HOs, and this is mostly due to the relatively limited and decreasing financial and human resources. Gaps for the detection (in terms of methods and reference materials) are indicated by several MS, particularly with regards to rare or new HOs, as well as increasing difficulties to find experienced experts in specific fields as expertise is generally eroding especially in classical subjects (as also noted under previous section). Resources for diagnostics are in many cases limited even with regard to HOs for which detection is possible and in terms of activities that the laboratories would technically be able to carry out.

The divergence in diagnostic capacity across the EU is largely due to the inherent characteristic of research on plant health which explains the difficulties of attracting financial support in this field: plant science is not a high priority compared to other scientific fields such as nanotechnology, engineering etc., and commercial interest remains limited. In those MS where plant health is important for trade and production, the diagnostic sector is more developed, with significant resources devoted to research, a clear structure and organisation in

[187] EU-RL; previously Community Reference Laboratory (CRL).

[188] Accreditation, general quality assurance, purpose of diagnostic protocols, reporting and documentation.

[189] F. Petter and Suffert, M. (2010), "Survey on the use of tests mentioned in EPPO diagnostic protocols", OEPP/EPPO Bulletin 40, 121–126.

[190] The EPPO workshop on quality assurance in 2007 presented the state of the art in the EU

place, and there is additional funding by industry. However, only a minority of MS are in this situation.

There is lack of cooperation and networking among MS, although considered crucial for overcoming current deficiencies. The contribution of EU Projects, particularly EUPHRESCO, is generally recognised for having a positive impact on networking between research bodies and laboratory experts, but this needs to be further strengthened. Experts stress the fact that coordination among activities at MS level remains the main weakness for research and diagnostics at EU level.

A particularly weak aspect is the development of diagnostic methods, for which funding is not always available. There are several EU funded projects to improve diagnostic methods/protocols and update with latest technology in this field (including DIAGPRO (Diagnostic Protocols), QAMP (whole genomic DNA amplification methods), QBOL (DNA bar coding) and Q-DETECT). At EU level, binding protocols for diagnostic methods do not exist (with the exception of some HOs for potato diseases under control measures), but for a range of HOs, the EPPO and IPPC have issued standards for diagnostic methods and procedures (some 97 protocols to date). Many laboratories are currently in the process of preparing for accreditation, and EPPO is working to share the experience gained between laboratories.

Moving forward, the need to establish reference laboratories (NRLs and EU-RLs) was identified, in order to provide guidance on diagnostic methods and training, as well as to provide maintenance of reference collections. This issue is explored further in section 5.8.2.

3.9.2.2 Training

This section summarises the findings of the evaluation on the CPHR performance to date, taking into consideration EQ 18 (area G) of the ToR.

EQ18. In how far have the CPHR requirements for appropriate training of MS plant health inspectors and diagnosticians been met and how can this be improved?

Resources for training of inspectors are very limited and highly variable among MS, as the figures below demonstrate.

Table 3-18: Resources for training on plant health, various MS and years

MS	Budget (various years)
Cyprus	2006: 800 €, 2007: 800 €, 2008: 800 €
Czech Republic	For training of inspectors is yearly earmarked 2.5 % of SPA budget. In 2008 it was / 1 866 000 CZK.
Estonia	2006 - 77918 Estonian kroons (EEK), 2007- 160410 EEK, 2008 - 245433 (1EUR = 15,64 EEK)
France	2006 : 28 000 €, / 2007 : 20 000 €, / 2008 : 13 300 €.
Germany	< 10.000,00 € per year
Hungary	annually HUF 3.5 4 million, (13,000-14,500 €)

MS	Budget (various years)
Latvia	SPPS. The funds available for training for year 2006, 2007 and 2008 were about 3400 LVL per year, but there was considerable decrease of the funding for training in year 2009 - only 500 LVL. / Food and Veterinary Service -2006-10000 LVL; 2007- 10400 LVL;2008-9412 LVL (276 LVL for one inspector).
Lithuania	2-3 training courses are organised annually and about 80 inspectors are trained.
Malta	No specific funds are allocated for training at national level.
Poland	about 130 000 € and in addition EU funds -162 862 €
Portugal	The inspectors training is provided by the technicians of the DGADR, AFN and INRB
Romania	Scarce resources
Slovakia	90 000 €, what is approx. 8,5 % of the Plant Protection Department's budget
Slovenia	It is difficult to say, because there is no special budget line for this and many different organisations of NPPO have separated budgets. Fields of training are not only plant health, but also information system, public administration, general law on inspection and administrative procedures, quality assurance and general courses on work or management. Into calculation it could be included: / - biannual national conference on plant health (2-3 days), / - an annual seminar of the NPPO (2 days), / - at least 3 inspection service 1-day seminars per year / - 3-days phytosanitary qualification course for plant health checks with an exam at the beginning of career and update training every 3 years / - 2-3 workshops on specific harmful organisms / Training above are organised at national level. NPPO staff participate also at international trainings of EPPO or BTSF.
Spain	80,300 € (2008 and 2009)
Sweden	Ca 200 000 SEK per year (roughly 3 days per year and inspector)

Source: General survey

The general survey has covered the views of both MS CAs and stakeholders on the availability of training, with results summarised below.

General survey results:
7.8. Training of staff

a. Is sufficient training provided to your plant health inspectors?

The majority of MS CAs (16 out of 25) consider that the training is sufficient. Stakeholders do not know (13 out of 21), 5 responded that training is not sufficient.

b. What are the resources available for training at national level?

See table above.

c. Have you benefitted from EC-funded training (*Better Training for Safer Food Programme (BTSF)*)?

All the MS (24 out of 24) responding to the survey have benefited from BTSF training.

d. Does the *Better Training for Safer Food Programme* fulfil the needs for harmonised training of inspectors?

The majority of MS CAs (20 out of 25) believes that the BTSF fulfil the needs for harmonised training for inspectors.

e. Should training for plant health diagnosticians be included in the Better Training for Safer Food Programme (as is the case for animal health)?

The majority of MS CAs (20 out of 24, 2 do not know) consider training for PH diagnosticians should be included in the BTSF.

The availability of training and the differences between MS in training of inspectors were also noted in the context of import inspections (section 3.4), where variability among MS was highlighted as a limit to the functioning of the system of imports; this was linked to the lack of uniformity and harmonization among inspection practices among MS. MS CAs noted, with reference to several questions, that one of the limitations of the current system is the reduced

availability for training and, more importantly, the lack of communication and cooperation among inspectors of different MS. In the view of the majority of MS CAs training at national and EU level needs to be continued and strengthened.

Some EU-funded training in the field of plant health to EU NPPO services was provided in 2008 and 2009 within the BTSF (Better Training for Safer Food) program.
The respondents to the general survey revealed the overall degree of satisfaction with the training provided under BTSF and pointed to the need to strengthen and continue this training, as well as some potential areas for improvement:

- The training needs more focus on practical inspection performance and systematic, including sampling. In particular, training on inspections should be provided by FVO or COPHs services (and the logistics aspect left to consultants);
- It is remarked that the regulatory/official position of DG SANCO should be also clarified during the training sessions;
- Language is a barrier to the participation and the exchange of knowledge in the view of several MS CAs and it is responsible for low participation of inspectors from some countries. It is therefore suggested that the 'training the trainers' approach of BTSF is strengthened in this case, for example by follow up to ensure training dissemination;
- Include diagnostics in the BTSF training programme.

One of the positive results of the training was indeed the fact of promoting exchange of experience between inspectors of EU countries. However, for the regime to be efficient it is strongly stressed from many parts that more cooperation and communication between inspectors is needed. For example, some MS stressed the fact that inspectors are very concerned that there is no official route for MS inspectorates to talk to each other.

Conclusions

The evaluation highlighted the reduced availability of training and significant variability among MS in the level and quality of resources for training activities. Coupled with the lack of communication and cooperation among inspectors of different MS, this concurs to the limited harmonisation of inspection practices and the variability in the effectiveness of import inspections among MS.
Some EU-funded training in the field of plant health to EU NPPO services was provided in 2008 and 2009 under the BTSF (Better Training for Safer Food) program. It is recommended that this training is strengthened and continued, and that it is provided both for inspectors and diagnosticians (section **Error! Reference source not found.**).

General survey results:
7.8. Training of staff
f. Is sufficient training provided to your plant health inspectors?
The majority of MS CAs (16 out of 25) consider that the training is sufficient. Stakeholders do not know (13 out of 21), 5 responded that training is not sufficient.
g. What are the resources available for training at national level?
See text
h. Have you benefitted from EC-funded training (*Better Training for Safer Food Programme (BTSF)*)?
All the MS (24 out of 24) responding to the survey have benefited from BTSF training.
i. Does the *Better Training for Safer Food Programme* fulfil the needs for harmonised training of inspectors?
The majority of MS CAs (20 out of 25) believes that the BTSF fulfil the needs for harmonised training for inspectors.
j. Should training for plant health diagnosticians be included in the Better Training for Safer Food Programme (as is the case for animal health)?
The majority of MS CAs (20 out of 24, 2 do not know) consider training for PH diagnosticians should be included in the BTSF.

3.10 Organisational issues

3.10.1 Distribution of responsibilities

This section summarises the findings on the evaluation of the CPHR performance to date, taking into consideration EQ 11, 12 (Area G) of the ToR.

The extent to which the distribution of responsibilities extends to the private sector and business operators (in terms of responsibility and cost sharing) also relates to the availability of incentives (or existence of disincentives) and the cost-benefit balance of the CPHR and the solidarity regime (EQ 22i (area J)), which are analysed further in section 3.11.

EQ11. How is the Single Authority / Responsible Official Body concept implemented by MS and does it need to be improved (if so, how)?
EQ12. What are the views on the appropriate sharing of responsibilities between national authorities and private sector in the implementation[38] of the CPHR?

According to Art. 1(4) of Directive 2000/29/EC, MS have to establish or designate a single authority, which shall be responsible, at least, for the coordination and contact in relation to plant health issues dealt within the Directive, in order to ensure a close, rapid, immediate and effective cooperation between themselves and the Commission. It is further stipulated that the official plant protection organisation set up under the IPPC shall preferably be designated for this purpose. The single authority may be authorised to assign or delegate tasks of coordination or contact, insofar as they relate to distinct plant health matters covered by the Directive, to another service through comitology procedure. Art. 2.1(g) of the Directive, allows the responsible official bodies of MS to delegate the tasks established in the Directive -

under their authority and supervision - to any legal person, whether governed by public or by private law[191].

The results of the general survey indicate that the NPPO is, in the majority of MS, the Single Authority and the Responsible Official Body within the meaning of Article 1.A of Directive 2000/29/EC, and that the current legal framework is considered to be adequate.

The Table below summarises the implementation of the Single Authority concept in the MS and the degree of delegation to other bodies.

General survey results

7.1. Implementation of the 'Single Authority' and 'Responsible Official Bodies' concept

c) Is the legal framework for defining the position of the Single Authority and the Responsible Official Bodies adequate to fulfil their duties?

The majority of the MS CAs believe that the legal framework is adequate (24 out of 25).

7.2. Delegation of implementation of duties and tasks

b) Are the public resources devoted in your country to the duties and tasks derived from the Directive sufficient?

The majority of MS CAs (19 out of 24) consider that the public resources devoted to the tasks and duties derived from the Directive are not sufficient (1 does not know). Among stakeholders, 8 (out of 22, 7 do not know) hold the same opinion.

c) Is there a need or opportunity for further delegation of tasks to other bodies or legal persons?

The majority of MS CAs believe that there is no need or opportunity for further delegation of tasks to other bodies of legal persons (12 out of 21, 4 do not know). Most stakeholders (11 out of 22, 6 do not know) believe there is a need for further delegation.

d) Can quality, independence and impartiality be ensured when duties and tasks are delegated?

The majority of MS CAs believe that quality and impartiality can be ensured when duties and tasks are delegated (12 yes, 7 in some cases, out of 23, 2 do not know); the results are similar in the case of stakeholders (9 yes, 8 in some cases, out of 24, 7 do not know)

e) Does the delegation of duties and tasks stimulate companies to take professional responsibility for plant health in the production and trade chain?

10 MS CAs (out of 24, 8 do not know) do not agree with the statement that the delegation of duties and tasks stimulate companies to take professional responsibility. The majority of stakeholders believe that delegation stimulates companies to take responsibility (17 out of 24, 6 do not know).

[191] Which under its officially approved constitution is charged exclusively with specific public functions – with the exception of diagnostic tasks - provided that such person, and its members, has no personal interest in the outcome of the measures it takes.

7.3. Availability of incentives for the effective implementation of the CPHR

a) Are there currently incentives other than legal requirements for private operators in the production and trade chain to contribute to the effective implementation of the CPHR?

The majority of MS CAs (17 out of 25) believe that currently there are not incentives other then legal requirements for private operators. Stakeholders believe there are (9 out of 23, 8 do not know).

b) Are there currently incentives other than legal requirements for the timely reporting of outbreaks?

The majority of MS CAs believe that there are no incentives, either for CAs (21 out of 25) nor for private operators (22 out of 25). The majority of stakeholders have the same view (as regarding private operators (14 out of 23, 6 do not know).

c) Are there currently incentives other than legal requirements for the effective implementation of control measures?

The majority of MS CAs believe that there are no incentives, either for CAs (21 out of 25) nor for private operators (19 out of 25). A number of stakeholders have the same view (as regarding private operators (10 out of 23, 7 do not know).

d) Is there liability in the case of failure to fulfil the requirements of the Directive?

The majority of the MS CAs believe there is liability for CAs (14 out of 25, 2 do not know) and for private operators (16 out 24, 4 do not know). A number of stakeholders do not know (10 out of 23), 8 believe there is.

Has, during the last 15 years, any legal action been taken in your country for failure to fulfil the requirements of the Directive?

In the past there have been cases of legal action, mostly of CAs against private operators (14 out of 25, 2 do not know) and in some cases of private operators against CAs (6 out 25).

Stakeholders are largely not aware of legal actions of stakeholders against CAs (16 do not know out of 22, 4 report that there have been) of legal actions of CAs against private operators (15 do not know out of 21, 4 report that there have been).

Table 3-19: Implementation of 'Single Authority' and 'Responsible Official Body' concepts in the MS

Country	NPPO is the single Authority (art. 1(4))		NPPO is the responsible Official Body (art. 2.1(g))		Delegation of Tasks		Tasks delegated to official bodies/legal persons (see note)								
	Yes	No	Yes	No	Yes	No	a	b	c	d	e	f	g	h	i
Austria		✓[192]	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Belgium		✓[193]	✓		✓			✓							
Bulgaria	✓		✓			✓									
Czech Republic	✓		✓		✓			✓	✓						
Cyprus	✓		✓			✓									
Denmark	✓		✓			✓									
Estonia	✓		✓		✓				✓						
Finland	-	-	-	-	-										
France	✓		✓		✓			✓*	✓*					✓*	
Germany	✓[194]		✓[195]		✓				✓						

[192] Bundesministerium für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft

[193] SPF-FOD Federal Public Service of Public Health, Food Chain Safety and Environment Art. 3 of Royal Decree dd.10/08/2005

[194] The German NPPO consists of the responsible official bodies of the Federal States and the phytosanitary units of JKI and BMELV (Ministry).

[195] There are responsible official bodies in each of the devolved territories of the UK, along with the forestry commission, with Fera being the NPPO and a responsible official body (for England) in its own right.

Country	NPPO is the single Authority (art. 1(4))		NPPO is the responsible Official Body (art. 2.1(g))		Delegation of Tasks		Tasks delegated to official bodies/legal persons (see note)								
Greece	✓			✓	✓		✓	✓	✓	✓		✓	✓	✓	✓
Hungary	✓		✓			✓									
Ireland	✓		✓		✓										
Italy	✓		✓			✓									
Latvia	✓		✓		✓			✓							
Lithuania	✓		✓			✓									
Malta	✓		✓			✓									
Poland	✓		✓			✓									
Portugal	✓		✓		✓			✓	✓		✓			✓	
Romania	✓		✓			✓									
Slovakia	✓		✓			✓									
Slovenia	✓[196]		✓		✓			✓	✓		✓			✓	
Spain	✓		✓			✓									
Sweden	✓		✓		✓			✓*	✓						
The Netherlands	✓		✓		✓			✓	✓	✓		✓			
UK	✓	-	✓	-		✓									
Total	**23**	**2**	**25**	**1**	**13**	**12**	**2**	**10**	**10**	**3**	**3**	**3**	**2**	**5**	**2**

Note:
Delegated to public body, if not specified private (*)
Delegation of tasks: a. Coordination of official checks, controls and inspections; b. Conducting official checks, controls and inspections; c. Conducting official laboratory analyses; d. Issuing phytosanitary certificates; e. Carrying out pest risk assessments; f. Imposing measures; g. Drawing up contingency plans; h Drawing up and implementing surveillance and monitoring programmes; i. Dealing with international organisations

Source: General survey results (Q 7.1.a, 7.1.b, 7.2.a)

All MS except one consider that the legal framework for defining the position of the Single Authority and the Responsible Official Bodies is adequate to fulfil their duties. Only one MS (DE) disagrees, considering that the legal framework defining the position of the single and central authority (Art. 1(4) of the Directive) is not established in a clear and consistent manner. According to this MS, in some implementing regulations, functions of this authority are clearly defined; in similar situations in other implementing Regulations this is not the case. Also the functions of this authority within the relevant MS are not clear enough in regard to coordination (e.g. national guidelines, national reference functions).

In 13 MS, duties and tasks have been assigned or delegated to other bodies or legal persons under the authority and supervision of the responsible official bodies. Such delegation mainly concerns the conducting of official checks, control and inspections and the conducting of official laboratory analysis and is generally done to public bodies.

Although the majority of MS CAs consider that the public resources devoted in their country to the duties and tasks derived from the CPHR is not sufficient, most of them consider that there is no need or opportunity for further delegation of tasks to other bodies or legal persons.

[196] NPPO in Slovenia is composed of several competent bodies of which the Phytosanitary Administration of the Republic Slovenia is the Single Authority.

Only 4 MS considered there are opportunities for further delegation, but in 2 of these this was due to the fact that the possibility of delegation is not used at all at present. One of these MS indicated that delegation could be to a private body under official supervision (for surveillance and rapid alert/early warning systems).

It is important to differentiate between the delegation of official tasks to another legal body and delegation of certain tasks to the individual registered growers and suppliers.

As regards delegation of official tasks to another legal body, via tender or contract, a critical factor is the capacity of such body to have the expertise required to carry out the very specialized tasks associated with plant health inspection, surveillance and diagnostics. The limited and declining availability of such capacity and expertise, whether at public or private level, is discussed in section 3.9.

In terms of the delegation of tasks to individual registered growers and suppliers, the main argument provided during the interviews in favour of this approach is that this would contribute to cost reduction by avoiding double checks in the case for instance when growers and suppliers do, in the context of their own quality system, the same checks as those carried out by the inspection bodies. Several interviewees highlighted that the concept according to which the NPPO supervises (by auditing) the companies own quality assurance and internal inspection procedures (as foreseen under the framework food hygiene Regulation 178/2002 and the Regulation on official controls (882/2004)) is a concept that works well within other areas of EU legislation (notably in the food safety field), and needs to be further examined for the purpose of the inspections imposed under the CPHR. This issue is also discussed in section 3.12.2 under coherence with the general principles of official controls.

As regards the availability of incentives for the effective implementation of the CPHR, responses to the general survey indicate a general lack of incentives as regards the timely reporting of outbreaks and the effective implementation of control measures.
Private operators in the production and supply chain have a strong commercial interest in producing and selling healthy plants or plant products, and therefore in controlling the health of the plants or plant products they produce, sell or receive. The question arises whether self-responsibility suffices in all contexts to ensure plant health for the system as a whole. The availability of incentives aims to ensure this is the case.

It appears that currently few incentives exist for the timely reporting and implementation of control measures in case of emergencies and outbreaks. The existing incentives are compensation schemes developed in some MS for some sectors for private operators at individual level; and the solidarity regime developed at EC level to compensate the costs of implementing phytosanitary measures for public authorities. The suitability and sufficiency of these incentives is discussed further in section 3.11.7 of the Report.

Conclusions

The NPPO is the Single Authority and the Responsible Official Body within the meaning of Article 1.A of Directive 2000/29 in the majority of MS; the current legal framework is considered to be adequate.

As foreseen in the legal framework, delegation of certain tasks is possible under the authority and supervision of the responsible official bodies. This is currently done by approximately half of the MS and mainly concerns the conducting of official checks, control and inspections and the conducting of official laboratory analysis; these tasks are delegated mainly to public bodies.

Although the majority of MS CAs consider that the public resources devoted in their country to the duties and tasks derived from the CPHR is not sufficient, in the context of the present evaluation the majority view has been that there is limited need or opportunity for further delegation of tasks to other bodies or legal persons. However, in view of the recent amendment of Dir. 2000/29 with regard to delegation of laboratory testing, it is recommended that further study is undertaken on this issue. This would be particularly relevant in view of the resource constraints extensively reported and identified throughout this evaluation, and the need for increased collaboration and responsibility sharing among CAs and stakeholders. Delegation should be carefully examined considering the different capacities existing in the MS, to ensure a high degree of quality, independence and impartiality.

The evaluation highlighted the general lack of incentives as regards the timely reporting of outbreaks and the effective implementation of control measures, and the limited current availability of mechanisms that would act as incentives, both for private operators and CAs (e.g. compensation schemes, solidarity regime). Options to improve these aspects are explored in section Error! Reference source not found..

3.10.2 FVO plant health activities

EQ13. In how far do the FVO plant health activities ensure the harmonised implementation of Community provisions by MS and third country compliance?

A key activity of the Food and Veterinary Office (FVO) in the area of plant health are the inspections carried out to verify compliance with the provisions of the CPHR *acquis*. The FVO was set up to ensure effective control systems and to evaluate compliance with EU standards within the EU, and in third countries (TCs) in relation to their exports to the EU. This is done mainly by carrying out inspections in MS and in TCs exporting to the EU; after the mission the FVO compiles an inspection report, which includes findings, conclusions and recommendations. The CA of the country visited is given the opportunity to comment on the reports at draft stage.

The development of the programme of inspections starts in March in the year preceding the field missions. FVO generally uses a risk basis approach to define the inspections programme: they look at previous inspections, current needs, notifications of outbreaks, and some overview reports e.g. plant passports. General audits are also taken into consideration: for this, every year the FVO select one third of MS to cover as many sectors as possible. Based on all this, the FVO develops a proposal for the programme of inspections for the following year; this is discussed internally within DG SANCO, and then discussed at SCPH meetings; eventually approved also by the Commissioner. The FVO mission programme is published by

end of preceding year. FVO also responds to emergency situations with unscheduled visits, although this does not happen very often.

Apart from inspections, FVO activities in the field of PH also include:

- EUROPHYT notifications on import interception;
- Notification of results of annual mandatory surveillance programmes (emergency and control measures. MS have the obligation to notify as discussed in section 3.3 on surveillance) and the FVO compiles related tables on annual basis. This is a task traditionally carried out by FVO, although it is not an element of FVO's mission.

In terms of the resources available at the FVO for executing its tasks in the field of plant health, these amount to 7 inspectors (including the manager, working part time inspecting and part time in management). Staff are mostly involved in inspections[197], whereas for the surveys the resources needed are less than 0.5 person per year; one full time consultant works on EUROPHYT. Since 1998 there has been no change in the structure of FVO for plant health issues, and staffing has not increased, notwithstanding the increased inspections in the NMS prior to accession. The increase in the number of pests in recent years has highlighted the need for increased staffing; there are concerns from FVO on the possibility in the future to satisfy this need, due to lack of qualified staff and location of the FVO offices. It is noted that the scale of the resources devoted to plant health is limited when compared to the animal health sector.

Overall, in the view of MS CAs (response to the general survey and MS field visits) the role and functions of the FVO are considered highly useful and important for monitoring and contributing to harmonising the implementation of CPHR, mainly by providing feedback to the legislators (SCPH). The work of the FVO has also contributed to improved compliance with EU import requirements from TCs; this is also evidenced by the decrease in the number of interceptions in the year following the inspection of the FVO in a TC, as shown in section 3.4.

7.4. To what extent do FVO plant health inspections contribute to the harmonised implementation of Community provisions by MS and improved compliance of import requirements by third countries?
a) Harmonised implementation by Member States
In the view of MS CAs, FVO inspections contribute to harmonised implementation by MS:
- fully (12 out of 25)
- partly (12 out of 25).
Stakeholders in the majority (12 out of 24) do not know, 11 believe they partly do.
b) Improved compliance by Third Countries:
In the view of MS CAs, FVO inspections contribute to improved compliance by TCs:
- fully (13 out of 25)
- partly (11 out of 25).
11 (out of 24, 10 do not know) stakeholders believe they partly,do.

[197] The nominal capacity for PH is 20 inspections per year; however in practice missions are often complex and require more resources. The length of mission depends on the country and on the topic – minimum 1 week is required. Including GMOs programme for 2010, it includes 25 missions planned over 39 weeks – i.e. average 1.5 weeks per mission. In 2010: 18 missions will be carried out, the same was done in 2009.

Notwithstanding the overall positive feedback, some MS also indicated some areas where improvements can be made.

On the content of the missions, some MS pointed out that more technical advice rather than legal analysis and formal aspects of compliance to legislation would be seen as positive. It was also noted that the work of FVO can only partly reach the objective of improved compliance from TCs and harmonized implementation in MS, due to the fact that the ability of the FVO to improve compliance is constrained by the wider trade and political situation (i.e. the follow-up of the missions is left to the Commission and the Council). Another limit highlighted is the lack of possibility to impose measures, also related to the fact that sanctions are not foreseen for countries not implementing FVO recommendations. To be fully effective, more rapid and concerted action of the MS and the TC on receipt of the FVO report would be required, and the undertaking of corrective actions. It is indeed stated by the FVO management that the number of missions *per se* is one indicator of the success of the FVO activity, but the follow up after a mission is equally important. This could be corrected, in the view one MS, by improving the mandate of FVO giving them the legal power to enforce the rectification of deficiencies and non-compliance. Furthermore, some MS advocate the introduction of penalties such as sanctions for countries which fail to implement FVO recommendations within the foreseen delay. Some MS also claim the necessity in certain cases to introduce stricter measures, such as the threat of import/movement prohibitions in the case of non compliance and continuous interceptions after a FVO mission in the country.

The following suggestions were made for future improvements to the FVO activity:

- Better involvement of FVO in the SCPH meetings;
- To follow the FAO Glossary definitions more accurately, and associated ISPMs;
- Templates for survey returns to be clarified at the beginning of the reporting period;
- More efforts should be dedicated to missions to TCs.

Conclusions

The role and functions of the FVO are considered highly useful and important for monitoring and contributing to harmonising the implementation of the CPHR in the MS and for the improvement of compliance with EU import requirements from TCs. It is however noted that the follow-up of missions is as important as the missions, and therefore measures to ensure implementations of recommendations should be in place. The main constraint to the work of the FVO is the limited availability of resources; an increase in FVO resources would enable some of the suggestions made for future improvement (e.g. missions to TCs, as they are considered to be highly useful).

3.10.3 EUROPHYT system

EQ14. In how far does the EUROPHYT tool address the needs for rapid exchange of information on interceptions and provision of statistics? What are its critical success factors and are any changes needed?

EUROPHYT (European Network of Plant Health Information Systems) is a web-based network developed and maintained within the FVO. Its main objective is to improve the exchange of official information between plant health services of the MS and the European Commission. EUROPHYT is made up of two parts:

- The EUROPHYT-PHY database manages notifications of interceptions of plants or plant products that do not comply with EU legislation. The system allows users to enter, modify or consult notifications using either the interactive interface or the message exchange facility. Notifications are distributed to all MS by e-mail in real-time, and may be printed in a prescribed format. Users can be authorised to perform different roles: consultation; data entry; approval at national and Community levels. The system may be used for both third country and intra-Community notifications, and also allows for the preparation of statistical information on these notifications. Users can work in different Community languages. The system was established to provide rapid dissemination of notifications to support the work of MS CAs in targeting high risk consignments. The Commission is also able to provide an annual summary of notifications which is used as an indication of the effectiveness of current import controls.

- The EUROPHYT-(FIS) CIRCA database acts as a notice board for the MS and contains data such as: technical and biological information; plant health legislation; Vademecums for plant health inspectors. EUROPHYT-CIRCA has been used by MS and the Commission since September 2001. It has increased the availability of information to MS and eases the burden of distributing information, especially prior to meetings of the Regulatory Committees. The greater availability of information also increases transparency - for example, the results of surveys by a MS are readily available to all other MS and the Commission.

EUROPHYT-PHY records interceptions in trade. The bulk of the entries are for third country material intercepted during the import controls, the notification of which is compulsory as required in Art.16(2) of Directive 2000/29/EC and in accordance with Commission Directive 94/3/EC. It is also recommended that EUROPHYT is used for the notifications of internal market interceptions required in Article 12(4) of the base Directive, although this option does not appear to be consistently followed by all MS[198].

An overview of the functions and data provided by the current EUROPHYT system on notifications of interceptions at import is provided in section 3.4.1. As concluded under this

[198] It can sometimes be difficult to distinguish between "interceptions" that should be notified under Article 12(4) (Directive 2000/29/EC) and outbreaks of HOs, that must be notified under Article 16(1) and 16(2), first subparagraph, since "interceptions" in the internal market are usually not done at the point of introduction, but as part of the general surveillance of nurseries etc. after the plants have been in the country for a shorter or longer period of time. EUROPHYT is not used and is not designed to be used for outbreak notifications under Article 16(1) and (2). The details required and system of internal interception notifications and outbreak notifications were never given the legal basis foreseen under Articles 12(4), second subparagraph and 21(6) and (7) respectively. This was only done for 3rd country interception notifications by Commission Directive 94/3/EC, which EUROPHYT is based on.

section, on the basis of how the EU notifications system has been implemented during the last 15 years, the EUROPHYT system offers clear advantages, added value and usefulness, and these are acknowledged by both MS CAs and stakeholders. It is noted, however, that the EUROPHYT is considered to address the needs for the exchange of information more adequately in the case of imports than in the case of intra-Community trade:

Does the EUROPHYT tool adequately address the needs for the exchange of information on interceptions in a timely manner?

a) Interceptions of imports:

MS that consider that the EUROPHYT tool addresses the need for rapid exchange of information on interceptions of imports:

- Fully (14 out of 25)
- Partly (11 out of 25)

b) Interceptions in internal market movement:

MS that consider that the EUROPHYT tool addresses the need for rapid exchange of information on interceptions on the internal market:

- Fully (9 out of 25)
- Partly (15 out of 25)

The majority of the stakeholders did not express a view on this.

The need for certain improvements to the system is noted with a view to reaching its full potential. Critical success factors in this context include the speed and interactivity in the provision of the information, but also the extent to which the available information can be used to inform decision-making. Further development of EUROPHYT is needed and supported to address these points, to become a fully effective and user friendly platform and a more systematic support decision-making tool.

Based on the results of the survey and interviews, the following improvements have been identified by a wide range of MS CAs and stakeholders:

- The EUROPHYT platform should be further improved to be more user-friendly and to allow general queries for specific cases, which is not possible at the moment;
- The system should prioritise to take a more pro-active approach that focuses on upcoming threats. In this context, the system needs to be cleaned of low priority or "useless" notifications such as missing or wrong truck number or insignificant errors in additional declarations;
- Some level of analysis of the notifications should be performed by the FVO in order to send to MS some key messages, instead of delivering raw data and statistics. This may include an annual in-depth analysis of the EUROPHYT data by the FVO, and presentation of the results to the SCPH;
- An internal intra-Community IT system for interceptions is needed, instead of receiving only written notifications by MS. At the moment, it might take time to enter the paper notification into the electronic system;
- Currently, it is difficult for the system to accept preliminary incomplete notifications e.g. 'a *Liriomyza spp*.' or '*Tephritidae'*, until full determination is available.

Conclusions

EUROPHYT has proved to be a useful tool for the exchange of information among MS on interceptions of HOs. However, this mainly applies to imports, as there is no legal obligation in place for systematic reporting of findings in plant material from other MS. It is recommended therefore that the use of EUROPHYT for compulsory notification should be extended from trade with third countries to intra-Community movements.

Another set of improvements is suggested in order to make the system more user-friendly (e.g. improved search engines), to increase readability and usability of data for inspection targeting (e.g. data elaboration) and to increase the usefulness for signalling upcoming threats (e.g. modification of information required).

3.10.4 Communication and consultation

EQ15: How effective is the functioning of the CPHR as for communication and consultation?

The effectiveness of the communication and consultation activities that are taking place in the context of the implementation of the CPHR were analysed in terms of the extent to which stakeholder and sectoral interests are taken into account, and the adequacy of communication from MS and the Commission to stakeholders both within the EU and in third countries.

On a more general level, one of the clear outcomes of the evaluation is the low level of public and political awareness in relation to plant health issues. In particular, it was noted that limited resources are devoted both at national and EU level for plant health, which is related, among others, to the low awareness and visibility of the policy among public.

Public awareness should be promoted among stakeholders, in order to improve early detection of HOs and increase effectiveness of eradication campaigns. It should also be promoted among the more general public, in order to increase understanding of ”painful” plant health eradication measures and to create responsible behaviour of the public towards introduction of HOs and IAS. General public would be clearly more involved in relation to these HOs, whose introduction and spread causes large economic impact due to their amenity value (e.g. the case of *Rhynchophorus ferrugineus* in Spain and in various regions in Italy). This point also touches upon the role of plant health provisions for public goods values.

These considerations were clearly made also during the conference of February [199]. In particular, the importance of public awareness was highlighted and its influence in promoting political awareness and political support. This in turn would help plant health authorities competing successfully for resources and would facilitate the establishment of ”difficult” legislation, while increasing the position of plant health versus other political considerations and creating greater accountability of plant health authorities.

[199] See presentation of Ralf Lopian: Management of Emerging Plant Health Threats

Effectiveness of communication and consultation procedures

a) To what extent does the CPHR take into account the interests of stakeholders and sectors affected by the current policy?

Extent to which MS CAs consider that the CPHR takes into account interests of stakeholders and sectors affected by the current policy:

- Fully (10 out of 24, 1 do not know)
- Partly (13 out of 24, 1 do not know).

Extent to which stakeholders consider that the CPHR takes into account interests of stakeholders and sectors affected by the current policy:

- Fully (2 out of 24, 3 do not know)
- Partly (15 out of 24, 3 do not know).

b) Is the information and communication on the CPHR provided by Commission / MS authorities adequate?

- **Information/communication to EU stakeholders**

Extent to which MS CAs consider that information and communication to EU stakeholders is adequate:

- Fully (15 of 25, 4 do not know)
- Partly (4 of 25, 4 do not know)

Extent to which stakeholders consider that information and communication to EU stakeholders is adequate:

- Fully (5 out of 23, 3 do not know)
- Partly (13 out of 23, 3 do not know).

- **Information/communication on import requirements to TC trading partners (CAs)**

Extent to which MS CAs consider that information and communication to TCs is adequate

- Fully (9 of 25, 4 do not know)
- Partly (11 of 25, 4 do not know)

Extent to which stakeholders consider that information and communication to TCs is adequate:

- Partly (13 out of 23, 10 do not know).

c) Are import requirements under the CPHR clear to TCs trading partners, especially in the developing countries?

Extent to which MS CAs consider that import requirements are clear to TCs:

- Fully (4 of 25, 3 do not know)
- Partly (11 of 25, 3 do not know)

Extent to which MS CAs consider that import requirements are clear to TCs:

- Partly (13 of 23, 8 do not know).

Extent to which the interests of stakeholders and sectors involved are taken into account in the CPHR and adequacy of communication from MS authorities and the Commission to the stakeholders:

Respondents to the general survey indicated that a good level of consultation with stakeholders exists at EU at MS level, and it is undertaken prior to any change in the legislation. Since 2009 a Working Group on Plant Health is in place within the Advisory Group on the Food Chain, Animal and Plant Health. There is also a quite general agreement that inputs of stakeholders are taken into account when new elements are being proposed.

However, some MS pointed out that this consultation is limited, in that:

- The involvement of stakeholders so far has been limited to EU wide organisations;
- Consultation at EU level is not well established, and certain sectors are not consulted at all.

Stakeholders also commented that interests of stakeholders and sectors are definitely taken into account in some MS, but communication, involvement and achieving 'shared' solutions needs to be improved.

With regard to consideration of sectors involved, different comments were made:

- The CPHR does not sufficiently take into account actions that are already carried out by stakeholders, it imposes inspections with an intensity that is independent of the guarantees already given by the private operator (with reference in particular to certification and quality assurance schemes that may cover phytosanitary aspects);
- Many stakeholders are dissatisfied with certain aspects of the CPHR as it stands. For traders there is a perception that it imposes regulations which are possibly of little benefit to them and often of doubtful benefit to their region or country, and that the guarantee it provides to their customers is only partial as most (indigenous) HOs are unregulated for the purposes of the CPHR. This indicates a certain confusion on the scope and objectives of the CPHR as such, and uncertainty as to the what is regulated;
- Representation of stakeholder interests also depends on the capacity of MS to defend their positions within the SCPH;
- A variety of stakeholders are usually involved in the field of plant health, with conflicting interests in many cases (e.g. trade interests versus production interests, divergent interests across MS depending on production and trade interests). There is therefore a certain perception that producers may be seeking stricter regulation not necessarily for plant health reasons but as a means of restricting competition, while traders may have the opposite seeking the minimum restrictions on plant movements. Traders tend to be better organised and represented than plant producers, in part due to the divergence of interests and MS representation in the organisations of the latter.

With regard to the last point, it is indeed generally acknowledged that the CPHR has to seek a sensitive balance among conflicting interests. Furthermore it is stressed that interests of stakeholders may not correspond to plant health protection: therefore – in the context of plant health being perceived as a public good – some MS consider the interests of stakeholders should be taken into account insofar as these are in line with plant health objectives, and not be the priority for policy making in this field.

On communication, one MS indicated that in future the Commission could also address stakeholders and the general public with specific information about pest risks and the reasoning and implication of the various legislation, as well as ‘soft’ guidance to stakeholders and the public on how they can support CPHR objectives. This would also contribute towards the more general objective of raising awareness on plant health issues.

Communication to national stakeholders is considered primarily to be an NPPO task, and therefore there may be degrees of variability among MS in terms of the information provided to stakeholders, but also the priority given to certain HOs. It is suggested that it is difficult to reach the relevant stakeholders and therefore communication may not be adequate. One MS mentioned that in its case, a continuous dialogue on new regulatory issues is secured through a national advisory board briefing and consultation process.

On communication from the Commission to stakeholders, MS do not have precise information on what action is taken by the Commission; one MS gives the example of the *Anoplophora chinensis*, as a case where EU stakeholders were not sufficiently informed. It is also suggested that communication and consultation with stakeholders should be made more systematic, within a dedicated body including the Commission, the MS and the stakeholders.

In conclusion, stakeholders generally commented that currently communication is mainly done at public level (between COM and MS authorities). A more transparent communication of the actions to stakeholders, based upon a risk analysis and action scheme could contribute to better results.

Clarity of import requirements under the CPHR for trading partners, especially in developing countries:

With regard to communication to TCs, it is stressed by several MS and stakeholders that the complexity of the legislation and the difficult reading of Directive 2000/29/EC make it difficult for TCs to fully understand import requirements. In particular, it is hard to select the information that is applicable in a certain situation and the structure of the Annexes themselves also generates confusion. EU legislation has specific requirements for certain pests and general requirements; for the latter, it is difficult for TCs to understand what they need to do to comply. Furthermore there are non-listed pests, which can be present in TCs and not identified as posing a risk yet (although they may already be present) in the EU. The way the Directive deals with all these pests and the requirements that an exporting country must comply with are not easy to understand. It is also difficult for TCs to identify which pests apply to which products (a range of pests could apply for the same product). Only limited published guidance is available at present to assist TCs in achieving compliance. It is suggested that a soft measure to overcome this problem is the addition of a scheme describing the correct use of the Annexes, to improve readability for exporters (and EU importers). Stakeholders also suggested a searchable internet tool, on the model of those developed by Australia and Mexico. Particular difficulties encountered by TCs are in relation with the specific phytosanitary requirements and the additional declarations (the majority of interceptions are due to this reason), as well as the requirements for wood materials. Annex IV is considered to be one of the most problematic in terms of understanding. The systems of derogations may also generate confusions for TCs.

A stronger effort from the Commission on communication on import requirements should be undertaken and is advocated. Inviting to an informal notification system whereby anybody could subscribe to e-mail notes providing a link to any new piece of legislation could also be beneficial (cf. a similar system was set-up by the Canadian NPPO)

It is noted that a web page within the CPHR website is dedicated to import requirements. Other examples of practices indicated in the survey are:

- Explanation on Special Requirements for Import (Annex IV)
- Requirements for Wood Packing Material;

- The introduction of sending a copy of EUROPHYT notification to the country of origin of the consignment.

The objective of a higher degree of transparency and simplification could be pursued also through the revision of the Directive, which currently lacks clarity both for MS and for TCs and need to be made more readable.

Conclusions

The current communication activities around the CPHR are generally perceived to be limited, and confined mainly at public level (between COM and MS authorities). A more transparent communication of the actions to stakeholders, based upon a risk analysis and action scheme would contribute to better results.

The current level of consultation in CPHR decision-making is generally perceived by stakeholders to be relatively limited, with traders seen as more represented via their organisations than producers/growers (in part due to less divergence of interests within the representative organisations). It is generally acknowledged that the CPHR has to seek a sensitive balance between conflicting interests (i.e. trade interests versus production interests, divergent interests across MS depending on production and trade interests). Furthermore, it is stressed that interests of stakeholders may not fully correspond to plant health protection objectives.

Plant health encompasses significant public good components and, in this context, plant health authorities consider that the interests of stakeholders should be taken into account insofar they are in line with plant health objectives, which are considered the overriding priority for policy making in this field. On the other hand, stakeholders call for a proportionate and balanced approach in deciding on plant health measures, based on appropriate PRA.

More generally, the need for raising public awareness on public health was also identified. Moving forward, options to improve current communication and consultation procedures are discussed in section Error! Reference source not found..

3.11 The costs and benefits of the CPHR

This section summarises the findings of the evaluation on the CPHR performance to date, taking into consideration EQ 21 and EQ22 (area J) of the ToR.

EQ21: In how far has the CPHR successfully prevented the entry, establishment and spread of HOs and what were the social, economic and environmental impacts?
EQ22: What are the costs and benefits of the CPHR?

3.11.1 Successes and failures, critical factors

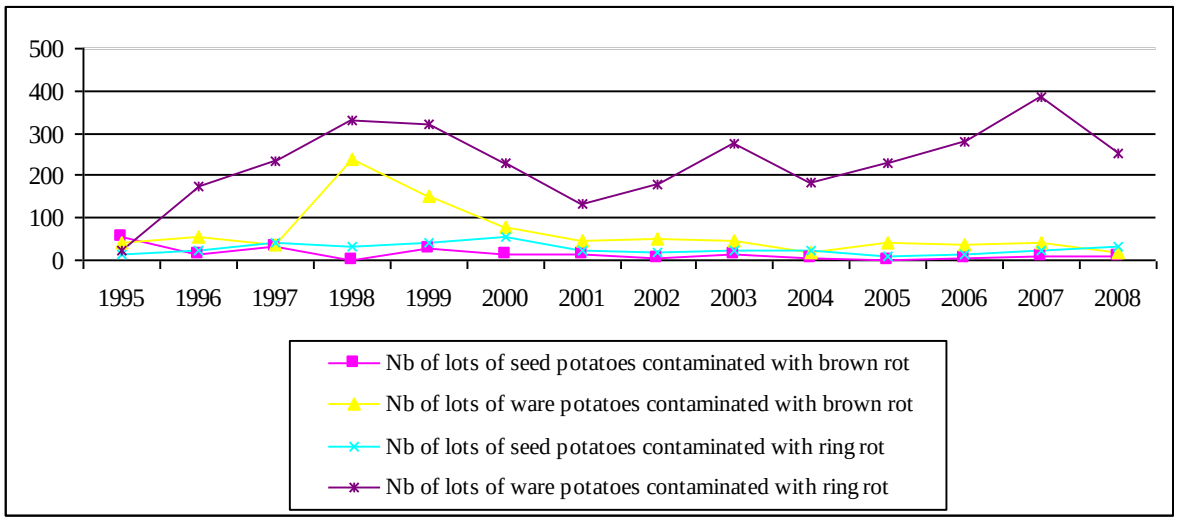
According to the results of the general survey, the large majority of MS CAs and stakeholders consider that the CPHR has been partly successful in preventing the entry, establishment and spread of HO in their country.

General survey results
Q 6.3. for CA and Q6.1. for stakeholders – Extent to which the CPHR has successfully prevented the entry, establishment and spread of HO in your country
21 out MS CAs of 24 and 23 out of 26 stakeholders consider that CPHR has been partly successful in preventing the entry, establishment and spread of HO in their country (no 'do not know' responses).

Generally, CPHR provisions on imports and eradication/control of HOs have provided the most effective protection as regards the HOs covered by the EU Control Directives.

The best examples have been the control measures for *Clavibacter michiganensis spp. sepedonicus* (ring rot) and *Ralstonia solanacearum* (brown rot). Without considering PL, where ring rot was present at the time of its accession to EU, infestation with ring rot and brown rot has been kept at a very low level, despite its presence in a number of third countries. Reduction in the number of outbreaks has been observed in the EU, year on year as is illustrated in the following graphs:

Figure 3-16: Evolution of potato brown rot and ring rot, 1995-2008 (EU excl. PL)



Source: compiled by FCEC based on FVO summary data on MS surveys for brown rot and ring rot

In view of the significance of the potato sector in the EU, any case of outbreak of brown rot or ring rot is a financial disaster for growers as economic consequences (due to production losses and negative impact on trade) are large and quick to take effect, also as a result of rumours. These diseases are a particular threat to the seed potato industry with affected farms having to give up seed production. The estimated costs of the possible impact of potato ring rot in

England on sales of seed potatoes from Scotland, Wales and Northern Ireland has been estimated at £10.68 million per year[200].

The improvement of the situation has also kept far more agricultural land in production than would otherwise have been the case. This type of business is undertaken by a large number of holdings in the EU and is of high economic importance in several MS, as illustrated by the following statistics:

- The number of agricultural holdings cultivating potatoes amounts to 25% on average and much more in several of the EU 12 MS (85% in LT, 80% in LV, 66% in SL, 59% in EE and 55% in PL) *(Eurostat – 2005);*
- The production of seed potatoes, of high value, is mainly concentrated in 4 MS, representing 68% of the cultivated acreage (32% in NL, 15% in DE, 13% in FR and 12% in UK) *(Nederlandse Aardappel Organisatie (NAO) – 2007);*
- The EU-5 'potato' zone comprising the UK, the Netherlands, Belgium, Germany and Northern France can be considered as the most efficient and integrated area in the EU's potato business. Here, yields are significantly above the EU-25 average and local traders now shape if not control commercial relations all over the EU. Not only are price series in the EU-5 countries soundly correlated but they also have a strong impact on the overall tendencies recorded at EU level. In this EU 5 –zone, there is a virtuous circle, whereby the competitiveness of the agricultural activity reinforces the position of manufacturers and vice versa**;**
- The EU potato industry is very competitive and is continuously gaining market share, both within the EU as well as in the most dynamic marketplaces worldwide. On a world scale, EU businesses are especially competitive in the segment of seed potatoes, where a few Dutch companies are global leaders, and of processed products. World demand for seed potatoes and processed products is increasing, especially in Asia[201].

Critical success factors for the effective control of brown rot and ring rot were identified to be the following:

- The fact that it is a important commercial crop so that there is an incentive for the growers to act, including through responsibility sharing schemes (compensation to growers for losses);
- Very strict and detailed measures imposed by the EC in the Control Directives and refined procedures for diagnostics (even in case of suspicions of infected areas, control measures are set up in order to confirm diseases);
- Common procedures (obligations are very detailed and there is no possibility to interpret the measures);
- The fact that these are very focused diseases in terms of plants and areas to be controlled;

[200] ADAS Consulting Limited and Imperial College of Science, Technology and Medicine, An Economic Evaluation of MAFF Plant Health Programme, October 2000.

[201] Source: *The potato sector in the EU, Commission staff working document SEC (2007) 533 of 20 April 2007.*

- Major pathways were well understood and subject to longstanding control, unlike the case, for example with *Diabrotica virgifera* or *PWN*.

On the other hand, as highlighted by several MS CAs in the general survey and during the interviews, the least effective protection is generally seen in the following cases:

- Where public / private green space is involved;
- Where lack of awareness combined with lack of monitoring and diagnostic services is observed, limiting or delaying therefore the notification and early eradication of outbreaks;
- For non-listed HOs possibly presenting a risk but for which no clear actions are defined.

Ultimately, a critical factor for determining the success or failure of phytosanitary measures taken in any sector will be the availability of incentives for action at all levels.

3.11.2 Analysis of impacts

This section considers the impacts associated to the introduction and spread of HOs in the EU. The analysis relies on existing studies, which estimate *a priori* the potential costs of plant diseases, or present estimations of the actual costs incurred by countries as a consequence of losses for the establishment of a HO or borne by CAs to control the pest.

The purpose of the analysis is to illustrate the likely scale of impact (magnitude) of plant diseases, in order to highlight the importance of the measures and the policy in place; in this sense data related to the sector are also provided, as potentially the impact could extend over the entire value of the sector. Where possible, extrapolations have been undertaken, based on the value and volume of production of the sector, and extending the assumptions utilised in the relevant study to an EU context.

The existing studies quoted below apply different methods to assess costs; therefore comparisons are not always appropriate. A full analysis of the potential costs of plant diseases would require a major analytical project, which should take into account a number of factors (such as climate, biology of HO, production methods etc), and assess those costs for a number of HOs/host plants. Furthermore, the impacts to be assessed should include economic estimates of commercial, social and environmental impacts, and take into considerations both direct (such as reduced yields and/or quality of the crops/plant products) and indirect impacts (such as impacts on exports, changes in consumer demand and prices, changes in producer costs or inputs demands, impacts on related markets, loss of tourism etc.). Such an analysis requires complex modelling work, including detailed epidemiological models, as the basis for estimating the costs and benefits of different courses of action. Indeed, a review of such models by PRATIQUE, and in particular the Deliverable D2.1 (Bremmer et al. 2010), has highlighted the complexities of the required methodology which, coupled with the lack of appropriate data series, is the reason for the relatively limited analysis that is currently available on the costs and benefits of pest risk management.

Nevertheless, past cases of HOs introduced and established in the EU, as well as estimations of potential impacts show that the costs associated with plant diseases can be substantial, and

ultimately the scale of the impact can potentially reach those in the animal health sector (the same caveat on limits of comparisons applies in this case).

Furthermore, other cases not specific to the EU, but that have occurred elsewhere are an example of the potential scale of impact that could be reached[202]. In the case of forestry pests, for instance, the occurrence of the Mountain pine beetle in Canada has already caused the death of 10 million ha. of pines was recorded in 2007, with losses in British Columbia of 6 billion €. Studies indicate that 80% of mature pine in British Columbia will be killed by the Mountain pine beetle by 2013.

[202] The present-day cost of the damage caused by invasive alien species affecting forestry and agriculture in Canada has been estimated to be CND$7.5 billion annually (Dawson, 2002)

PWN	**Key host plant(s)**	Coniferous forests
	Estimated potential impact	Estimated impact: 10-13 million ha. of coniferous trees susceptible to be infested (Mediterranean forest) Mortality rate: 50-90%. Production value: 650 €/ha. Potential damage: 8 million ha of forests, **approx. 5 billion €/year.** Source: FCEC, (2008)
	Impact to date	Cost of control measures in Portugal in the years 1999-2008: **40 million €** (of which 20 million € of Community contribution through solidarity payments). Environmental impact: 2 million adult trees + 3.5 million small trees eradicated in the "old affected area".
	Data on the sector	Area: 81 million ha. Harvested production: Removals of coniferous wood amounted to 328,515 000 m3(r) in 2007, of which 21% in SE, 19% in DE, and 14% in FI (Source: FAOSTAT/UNECE). FI: 22.9 million ha. Forest industry production: 15 billion €/year Production value: 650 €/ha. Exports: Export of coniferous industrial round wood in EU 27 amounted to approx. **2 billion $** in 2007. 8 MS account for 80% of total exports: DE (26%), SE (16%), CZ (12%), LT (8%), FR (6%), FI (4%), AT (4%). (Source: FAOSTAT/UNECE)
Diabrotica virgifera virgifera	**Key host plant(s)**	Maize
	Estimated potential impact	Potential impact over a 25 year period (EU): **6.12 billion €**[203] **if no regulation; 3.8 to 7.0 billion € depending on regulation.** These estimates are based on the range of options presented in the impact assessment and are high in all cases given the widespread extent of the disease. However, even at this advanced stage, regulation is less costly than deregulation. Source: FCEC, (2009)
	Impact to date	2 million € Community in the period 2005-2009 contribution for solidarity payments.
	Data on the sector	Area: Total conventional maize: 13 million ha. (Source: FCEC, 2009). Grain maize (2008): 8 million ha. Total maize area in 5 MS represents 70% of the European maize sown area: FR (22,4 %), RO (20,2%), DE (12,5%), IT (10,1%), and HU (9,4%). (FCEC, 2009). Production: 63 million t. Value of production: **10 billion €** (value at basic price) (source: EUROSTAT) Exports: **350 million €** (2008)
Anoplophora chinensis	**Key host**	Various deciduous trees, such as *Acer*, *Corylus*, *Prunus*, *Citrus*, *Malus*, *Populus* and *Salix*. (Fruit, ornamental and

[203] This figure refers to the estimated impact of Option 3 (Repeal all *Diabrotica* legislation at EC and MS level, leave decision on control measures to the farmers) analyzed by the study. Costs for this option consist in the costs not linked to regulation and supported by the farmers to control the *Diabrotica* population in the infested zones.

& glabripennis	**plant(s)**	amenity trees)
	Estimated potential impact	High mortality and significant impacts indicated by NPPOs and EPPO but no rates of mortality indicated In the US estimates were performed for 9 large cities: *A. glabripennis* could destroy 35% of the tree canopy, with an estimated loss of **$ 668 billion**. These costs did not include decreased values of properties due to a decreased landscape-value, decreased quality of environment etc. (Source: PRA)
	Impact to date	Italy: **1.2 million €** in the period 2004-2007 for surveys, removal of infested trees and research; **10 million €** in 2008-2010 for surveys, removals and planting of trees, research and raising public awareness Germany: total potential loss of *Anoplophora glabripennis* for the Acer spp, (incl. costs for replanting) estimated to be about **96 million €**for Berlin alone. (Source: PRA)
	Data on the sector	Estimated tree nursery products value: **4-6 billion €**[204] Total area of table apple, table pear, lemon and small citrus trees in the EU is estimated at **811,722 ha. 17,000 ha** of deciduous trees (Acer spp.) are grown in nursery stocks. Exports of NL: **61 million €** Total production value of tree nurseries in the NL: **610 million €** (2007) (source: PRA), **599 million € in 2008** (data provided by NL). NL contributes to about 10-15% of all tree nursery products in the EU.
Rhynchophorus ferrugineus	**Key host plant(s)**	Coconut palm, date palm, oil palm, sago palm and a wide range of ornamental palms.
	Estimated potential impact	Endangered areas: Mediterranean coasts of ES, IT, CY, EL, SI, FR, MT and PT. Scale of impact not clear, as palms are both in private and public places; the whole range of host plants not known. The Ho has major negative effect on crop yield/quality and it is likely to cause export losses. It causes also moderate social damage for the high ornamental and touristic values of palm trees in these areas. Source: PRA (2009)
	Impact to date	In Spain, in Communidad Valenciana, 3,462 palms have been destroyed and in the region of Andalucia, 11,503 palms are infested. In Elche, losses amounted to **50 million €**. Source: PRA (2009). Spain: **24.8 million €** in the period 1999-2008 to cover producer losses (source: specific cost survey). **These costs do not take into account the landscape and amenity values related to destruction of trees in these areas.** In Saudi Arabia, infested plantation yields have been estimated to have dropped **from 10 t to 0.7 t per ha**; in the region of Oluf in Saudi Arabia the weevil has killed 300,000 palms in 15 years. In India, Tamil Nadu **yield losses of palm date recorded at 10-25%**. Source: PRA (2009)
Tuta absoluta	**Key host**	Tomatoes, Aubergines, Ornamental Solanaceae, Potatoes

[204] FCEC estimation on the basis of PRA for Anoplophora Chinensis.

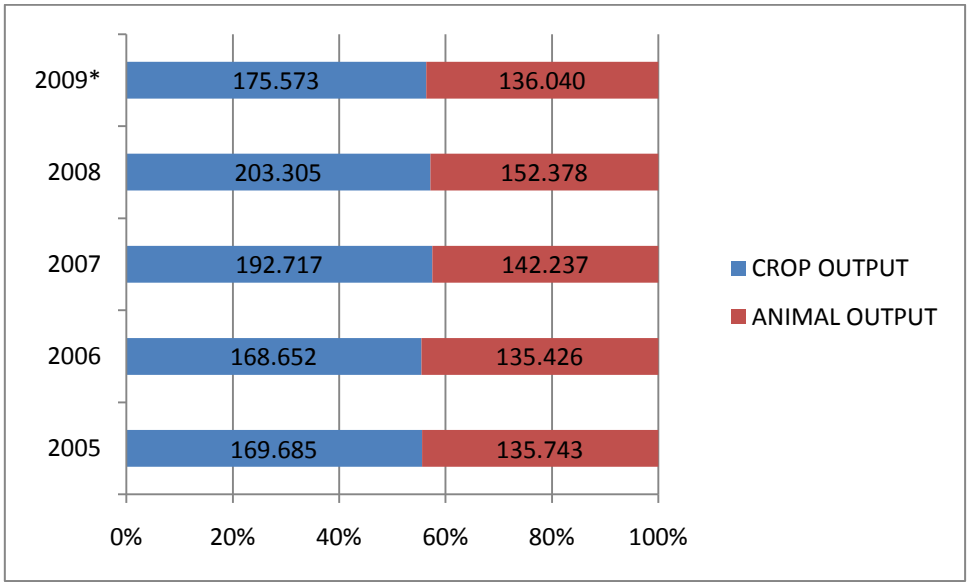
	plant(s)	
	Estimated potential impact	Source: Potting et al. (2009) In the Netherlands, loss of1%-5%**,** equal to **5-25 million €/year** (crop losses) and **4 million €/year** (pest management). On the basis of current figures of production and impacts from literature and relevant data from specific cost survey, estimated potential impact would therefore range from **1.7 billion €** (50%) to **3.4 billion €** (100%) for IT, ES, PT, EL; **8- 40 million €**for UK, NL, BE (i.e. 1-5% of production)[205]
	Impact to date	Spain: Loss of **50-100% of production** Source: EPPO (2008)
	Data on the sector	Production of tomatoes (2008) :15.3 million tonnes Value of production: approx. **6 billion €** (source: EUROSTAT) Italy accounts for 43% of production (approx. 6 million t in 2007), Spain for 28% (3.9 million t in 2007), Greece for 10% (1.3 million t in 2007). 66% of total tomato imports in the NL and 38% of total tomato imports in the UK come from Spain. Exports: **244 million €** (2008) (ES: 28 million €; IT: 13 million €)
Potato diseases	**Key host plant(s)**	Potato
	Estimated potential impact	Potato brown rot in the Netherlands may cause between **4.2 and 192 million €**of export **losses based** on a partial equilibrium analysis (export losses) which considers 4 export restrictions scenarios based on previous levels of detection. Source: Breukers et al. (2008)
	Impact to date	n.a.
	Data on the sector	Area: 2.1 million ha (2008) Production: 61 million t (2008) Value of production: **10 billion €** (value at basic price) (2008) Exports: **381 million €** (2008)
Thrips Palmi	**Key host plant(s)**	Wide range of glasshouse ornamental and vegetable crops, particularly plants in the families Cucurbitaceae and Solanaceae, such as **Cucumber, aubergine, tomato and sweet pepper**
	Estimated potential impact	MacLeod et al. (2003) estimates with a partial budgeting method (lower quality and yield, increased control costs, additional research and export losses over 10 years) an impact for the UK equal to **16.9 – 19.6 million £**over 10 years (slow spread scenario: 62.5% of host area infested – 100% of the host area infested). Without loss of exports, impacts fall to between **0.6 and 3.3 million £**over 10 years.

[205] For *Tuta Absoluta*, two different rates of damages are applied: 1%-5% (Potting, 2009[205]) crop losses in countries mostly importing and cultivating in glasshouses (NL,UK, BE) and major producing countries, cultivating also in fields, which may incur crop losses of the level of 50% -100% of production (EPPO, 2008). A MS responding to the survey indicated the rate to be equal to 10%, most probably considering the effect of control measures to reduce the spread of the HO. The estimates are extrapolations of existing studies, which only consider 'first round' effects of the HO on production, by applying the estimated or observed mortality to the current production figures. The estimations do not evaluate effects on prices, nor export losses or any other indirect effect.

	Impact to date	
	Data on the sector	Production of tomatoes (2008) :15.3 million tonnes Value of production: approx. **6 billion €** (source: EUROSTAT) Italy accounts for 43% of production (approx. 6 million t in 2007), Spain for 28% (3.9 million t in 2007), Greece for 10% (1.3 million t in 2007). 66% of total tomato imports in the NL and 38% of total tomato imports in the UK come from Spain. Exports: **244 million €** (2008) (ES: 28 million €; IT: 13 million €) Production of aubergines: Approx. 20,000 ha. in 2008 Production: 735,000 t in 2007 580,000 t in 2008

In value terms, the share of production of plants and plant products is comparable to that of animals and animal products (**Error! Reference source not found.**. The share of plant roducts in EU exports is also comparable to that of animal products (in 2009, each of the sub-sectors accounted for around 20% of exports of food products).

Figure 3-17 Value of agricultural production, in billion € (current prices), 2005-2009



Source: EUROSTAT

The European seed market has a total estimated production value at over €7 billion, with an export value (2008) of €3 billion and an import value of €2.3 billion (source: ESA).

In 2005, the EU's forest-based industries included around 350 000 enterprises employing almost 3 million people. Generating a turnover of €380 billion, they produced a value added of €116 billion (source: EUROSTAT, 2009).

With regards to the wooden pallet and packaging industry[206], 3 billion pallets circulate and 450 million pallets are manufactured annually in the EU; 90 % of all trade flows use WPM in some form. The WPM is also significant for the wood sector in that 22/25 % of all sawn timber are used for WPM and the industry is also a major employer (directly and indirectly), especially in rural areas (source: FEFPEB).

[206] Types of wooden packaging: Pallets: 75%, Industrial packaging 20%, Light weight packaging 4 %, Dunnage 1 % (Source: FEFPEB)

The 3 case studies below[207] illustrate in more detail the impact in cases where the CPHR has only partly been successful or has failed to prevent the entry, establishment and spread of an HO in the EU.

Bursaphelenchus xylophilus (Pine wood nematode - PWN)

One example where the CPHR has only partly successfully prevented the entry, establishment and spread of an HO in the EU is the introduction and spread of *Bursaphelenchus xylophilus* (Pine wood nematode - PWN).

Directive 2000/29/EC has not avoided the introduction of PWN in PT and the emergency measures taken have not led to its eradication. The associated economic, social and environmental consequences are very important, in terms of the large budget spent by PT (e.g. around €40 million spent by land owners in the period 1999-2008) and the EU (around €21 million for the period 1999-2009, to compensate part of the costs incurred by Portuguese authorities) for the control of pine wood nematode in PT, the large number of pine trees cut (2 million adult trees + 3,5 million small trees were eradicated in the "old affected area" , which has had a major impact on the landscape and on the habitats of the region), the closing of wood and wood packaging material industries, the imposition of additional measures for the treatment of wood packaging materials (investment in heat treating facilities by around 200 Portuguese companies to date, whose cost is estimated to be in a range of €50,000-€100,000 per heat treatment facility – depending on the treatment capacity).

PWN is a major threat to European forests today with an estimated mortality risk of >50-90% in southern Europe[208], where 10 to 13 million hectares covered with coniferous trees are predicted to die if PWN is allowed to spread, and a potential annual economic impact of €5 billion for the affected MS.

Furthermore, a considerable part of the area affected in Portugal and susceptible areas in southern Europe are protected under Natura 2000.

On the other hand, from the Spanish point of view, the CPHR has to date been successful in avoiding the establishment of PWN on their territory (one outbreak in ES, limited to one infested tree only and successfully eradicated). It is noted, however, that Spain was able to benefit from the lessons learnt and experience of the PT case and failure to contain this HO.

It appears therefore that where MS have used drastic measures for the control and eradication of the HOs at an early phase of the outbreak in their territory, *inter alia* using the experience and lessons learnt from other MS, this can make the difference between success and failure. The contrasting experiences of PWN (ES vs PT) are an example.

[207] The case of the plum pox virus (*sharka* virus), although largely considered a failure, has not been further outlined below because this HO was already present in the majority of the MS before 1992. So there is no direct link between its introduction and spread and the CPHR, during the period covered by this evaluation. Some reference is made to efforts to contain it (e.g. EU research programmes SharCo) in other parts of this Report.

[208] The geographical zone where temperatures average above 20°C during July or August are at highest risk.

Rhynchophorus ferrugineus (red palm weevil)

The first damage due to *Rhynchophorus ferrugineus* was seen in 1993 in Spain. Initial harmonisation efforts for common control measures between MS started in 1999 but the final Commission Decision only appeared in 2007 (2007/365/EC), therefore quite late for preventing the spread of this HO. Due to the fact that palms were introduced through MS ports, and that these palms reached Spain through European internal trade, the measures adopted by Spain regarding the importation of palm from third countries became ineffective. The emergency measures taken in 2007 imposed compulsory surveillance. When the first monitoring overview was completed in 2008, the results demonstrated that the pest was present in all MS on the Mediterranean Sea (ES, IT, EL, CY and PT).

The potential economic, social and environmental consequences associated with the introduction and spread of *Rhynchophorus ferrugineus* are very important, mainly because once introduced, it is very difficult to control or to eradicate it. This pest is difficult to detect because it firstly produces only internal damages, with no visible symptoms. The main pathway of the pest has indeed been through movement of latently infested plants for planting.

The eradication measures are very expensive and in some cases they involve the destruction of the plant. Due to the high value of palm, economic losses due to destruction are very important. Additional losses can be associated with the quarantine period imposed by the emergency measures (i.e. the plants have to stay in quarantine one year in the country of origin and one year in the receiving country; within the EU, if the palm comes from a demarcated area, the quarantine period is two years in the MS). Nurseries also have to be inspected every three months, and this implies costs for the CA and for producers.

In Spain, the production cost of palm plants has increased by €0.35 per year for a small palm and €3 per year for a big one, due to phytosanitary treatment. The compensation paid by the state from 1997 to 2009 to cover producers' losses amounted to nearly €24.8 million.

Palms are planted for decorative purpose in public and private gardens. In some areas the palms are of outstanding environmental value. For example, in Elche (Alicante) there is the biggest palm forest in Europe and it is world heritage by UNESCO.

In Malta, the cost borne by the public private partnership ELC (Environmental Landscaping Consortium) in relation to preventive treatment of a total of 5,013 palms in public areas (soft landscaping areas and major arteries) amounted to € 78,829 in 2008.

In Cyprus, the public authorities spent € 35,000 in 2008 for chemical control, the placing of pheromone traps and a public awareness campaign related to *Rhynchophorus ferrugineus.*

This HO has had a large impact also in other countries, such as Italy and Greece (although information was not specifically provided by these countries in the cost survey). In Italy the HO, first appeared in Toscana in 2004, spread in the following years in several regions (Lazio, Liguria, Sicilia, Sardegna, Puglia and Campania). In the years 2007-2008, around

1,500 palms (and 500 by private) have been cut down in Sicilia (approximately 4,000 being infested), 2,000 in Campania, 400 in Lazio and 150 in Puglia. The costs for eradication (cutting and destruction of trees) in the Region of Sicilia amounted to 500,000€ in 2007 and 300,000€ in 2008. Additionally, 400,000€ were spent by the Region on a research project implemented in the years 2007-2009[209].

Tuta absoluta

The first outbreak of *Tuta absoluta* (not listed in Directive 2000/29/EC) appeared in Spain in 2007, as a follow-up to the absence of measures in the importation of tomato fruit from third countries. *Tuta absoluta* was not listed (and still is not) on the Directive, despite the fact that it had been spreading across Latin America for several years before reaching the EU. The internal trade and movement of vehicles within the EU have been instrumental for its rapid spread, with the notification of outbreaks of *Tuta absoluta* in FR, IT, MT, NL, UK, EL, PT, SL, BG, RO, DE in 2009. The main host plant of this HO is tomato but the pest can also cause damage to aubergines and ornamental Solanaceae.

Considering that, in the EU, the most important vegetable production by volume is tomatoes (around 15.3 million tonnes) and that more than 60% of tomato production comes from Italy (around 6 million tonnes in 2007 – *Eurostat*) and Spain (around 3.7 million tonnes in 2007 – *Eurostat*)[210], the expected economic consequences associated with the establishment of *Tuta absoluta* are important. Furthermore, 66% of total tomato imports in the NL and 38% of total tomato imports in the UK come from Spain.

The consequences already faced by tomato producers in Spain, as mentioned during the field visits, are as follows:

- Additional costs associated with the treatment of tomatoes: the average additional cost is €73/ha, of which €55 is for the products and €18 is for 3 hours of labour at €6 each;
- Increased tomato handling costs;
- Even when pesticide treatment is implemented, losses can still appear (estimated to be variable but could reach 10%).

Stakeholders in other MS indicated that the US has restricted the imports of tomatoes from ES, IT and FR as a follow-up to the infestation with *Tuta absoluta*. NL fear that imports from their country will also be restricted. They also pointed out the lack of homogeneity in the control measures (and associated economic losses) imposed on tomato producers in the infested MS; for instance use of plant protection products in ES (crop destruction imposed at the beginning and replaced with insecticide treatment once the HO had established) compared to crop destruction in the NL.

The Ministry of Agriculture, Nature and Food Quality of the NL published a PRA of *Tuta absoluta* in August 2009. This concluded that the economic consequences of the

[209] The source of the data is Santi Longo, University of Catania "Biologia del punteruolo rosso della palma e prove di lotta in Sicilia", presentation given at the *Dies Palmarum*, Sanremo, 2008.
[210] Greece is also an important producer of tomatoes with around 1.45 million tonnes in 2007.

establishment of *Tuta absoluta* for the NL tomato sector could be high in a worst-case scenario. These were estimated at €5-25 million /year due to crop losses and €4 million /year due to pest management. The report also indicated that the potential economic impact due to disruption of biological control and pollination was likely to be high and that the limited number of registered active ingredients, combined with the possibility of insecticide resistance could lead to difficulties in pest management of the organism. The endangered areas in the NL are glasshouse production sites that grow around 1,500 ha of tomato, less than 100 ha of ornamental solanaceae and around 90 ha of aubergines in the NL. Glasshouse production sites, growing around 200 ha, are also at risk in the UK.

3.11.2.1 Conclusions on impacts

Based on existing studies, past cases of HOs introduced and established in the EU, as well as estimations of potential impacts show that the costs associated with plant diseases can be substantial, and ultimately the scale of the impact can potentially reach the impacts recorded in the case of animal diseases. For example, in the case of *Bursaphelenchus xylophilus* (PWN) the control costs of the disease in PT have reached some 40 million € in the period 1999-2008 (including solidarity funding); the potential economic impact of failure to act could reach some 5 billion €/year from the potential destruction of some 10-13 million ha of susceptible coniferous trees (50-90% mortality rate). Other cases not specific to the EU, but that have occurred elsewhere, are an example of the potential scale of impact that could be reached. Ultimately, in value terms, in the EU, the share of production and exports of plants and plant products to the total value of agricultural production and exports is comparable to that of animals and animal products.

The main lesson drawn from the cases of failure or partial failure (e.g. PWN*; Rhynchophorus ferrugineus* - red plam weevil*; Tuta Absoluta*) is the need to act quickly and decisively in case of introduction. Currently, the evaluation of the situation before taking measures is, sometimes, too slow or not decisive enough in responding to phytosanitary emergencies.

From a trade point of view, the slower the recognition of new pests entering the territory, the more barriers to trade may arise in both the short and long term. The EU may decide not to regulate the pests of concern to third countries, but at least a quick evaluation of the risks would be useful and would make it easier for exporters to adapt to new market situations, instead of facing emergency measures disrupting trade.

3.11.3 Analysis of benefits

This section considers the economic and environmental benefits of the CPHR. The objective of the analysis is not to provide a total figure in € for the benefits, but to consider the main combinations of HO-plant for which the CPHR allowed to avoid the introduction of the HO or delayed its spread into the Community. It follows a qualitative approach, based on, where available, quantitative estimations of the areas susceptible to potential contamination.

Analysing the benefits of the CPHR would require a major analytical project, in that it would necessitate a holistic approach considering the role of all factors that may enter into play in

explaining the non introduction or the delayed introduction of specific HOs within the Community (including such factors as stakeholder behaviour, climate, biology of HO, production methods etc). Such an analysis requires complex modelling work, including detailed epidemiological models, as the basis for estimating the costs and benefits of different courses of action. Indeed, a review of such models by PRATIQUE has highlighted the complexities of the required methodology which, coupled with the lack of appropriate data series, is the reason for the relatively limited analysis that is currently available on the costs and benefits of pest risk management.

Ultimately, the consideration of actual and potential impacts and of the size and importance of production and trade in the various sectors as highlighted in the previous section, also point to the actual and potential benefits of the CPHR in terms of preventing and/or controlling the introduction and spread of pests.

The analysis here is based on the responses to section 2 of the specific cost survey. All together, 21 MS gave information for this section, of which 20 MS CAs and one stakeholder, respectively the CA of BE, CZ, DK, EE, FI, FR, DE, HU, IE, IT, LV, LT, MT, NL, PT, SK, SI, ES, SE and UK as well as the Polish Seed Trade Association.

In total, respondents have identified 203 combinations for which the CPHR has been successful in terms of avoiding a HO introduction or slowing down spread. They are presented in **Annex 5**, including when available the area susceptible for contamination.

Table 3-20 Estimated potential benefit of current CPHR measures and/or national control measures

HO	Key host plant(s)	Estimated benefit
Diabrotica virgifera virgifera	maize	Source: cost survey 6 MS (BE, DE, ES, FR, PL, SI) have indicated that the measures taken under the current CPHR are considered to have been of economic benefit, ultimately protecting a total susceptible area of 4.5 million ha.
Clavibacter michiganensis ssp. sepedonicus (potato ring rot)	potatoes	Source: cost survey 14 MS (BE, CZ, DE, DK, EE, ES, FI, FR, HU, IE, LT, NL, SE, SK) have indicated that the measures taken under the current CPHR are considered to have been of economic benefit, ultimately protecting a total susceptible area of 760,000 ha (11//14MS). This relates to a total production volume (potatoes) of some 6.8 million tonnes in France and 6.2 million tonnes in NL. MS: England (Source: ADAS (2000): Estimated benefit: Net Social Benefit: **£88.2 mln** Benefit : Cost ratio of current policy (£222,000 per year): **29.8:1** over 30 years period
Ralstonia solanacearum (brown rot)	potatoes	Source: cost survey 14 MS (BE, CZ, DE, DK, EE, ES, FR, HU, IE, IT, NL, SE, SI, SK) have indicated that the measures taken under the current CPHR are considered to have been of economic benefit, ultimately protecting a total susceptible area of 840,000 ha (11//14MS). This relates to a total production volume (potatoes) of some 6.8 million tonnes in France and 6.2 million tonnes in NL.
Globodera rostochiensis and Pallida (Potato cyst nematode)	potatoes	Source: cost survey 5 MS (CZ, HU, PL, SE, SI) have indicated that the measures taken under the current CPHR are considered to have been of economic (and environmental) benefit, ultimately leading to the protection of a total susceptible area (potatoes) of 536,000 ha (4/5 MS, of which 500,000 ha in PL).
Potato Spindle Tuber Viroid (PSTVd)	potatoes	Source: cost survey 3 MS (FR, NL, SI) have indicated that the measures taken under the current CPHR are considered to have been of economic benefit; in the NL this has ultimately led to the protection of a total susceptible area (potatoes) of 147,000 ha and a production volume (potatoes) of some 6.2 million tonnes.
Colorado beetle *(Leptinotarsa decemlineata)*	potatoes	MS: England (Source: ADAS (2000)) Estimated benefit: Net Social Benefit: **£3.35 million** Benefit : Cost ratio of current policy (£38,000 per year): **7.5:1** over 30 years period. Source: cost survey 2 MS (FI, IE) have indicated that the measures taken under the current CPHR are considered to have been of economic benefit, in the case of FI ultimately leading to the protection of a total susceptible area (potatoes) of 25,000 ha or a total production volume of 750,000 tonnes.
Bemisia Tabaci	tomatoes, other horticulture	MS: England (Source: ADAS (2000)) Estimated benefit: Net Social Benefit: **£11.1 million.** Benefit : Cost ratio of current policy (£254,000 per year): **3.1:1** over 15 years period

HO	Key host plant(s)	Estimated benefit
Thrips palmi	horticulture	MS: England (Source: ADAS (2000)) Estimated benefit: Net Social Benefit: **£2.2 million** Benefit : Cost ratio of current policy (£36,000 per year): **7.4:1** over 15 years period.
Erwinia amylovora	fruit trees (apple/pear)	Source: cost survey 7 MS (EE, FR, IE, IT, LT, SI, SK) have indicated that the measures taken under the current CPHR are considered to have been of economic (and environmental) benefit, both in commercial sector and for public/private green and biodiversity. In the commercial fruit production, in 5/7 MS, an area of 176,000 ha of susceptible fruit tree species is estimated to be protected by the current measures. (Details in the case study below.)
Grapevine Flavescence dorée	grapevine	Source: cost survey 5 MS (FR, IT, SI, SK, PT) have indicated that the measures taken under the current CPHR are considered to have been of economic benefit, ultimately protecting a total susceptible area of 1.14 million ha (details in the case study below).
Anoplophora chinensis & glabripennis	fruit, ornamental and amenity trees	Source: cost survey 7 MS (BE, CZ, DE, DK, IT, LT, NL) have indicated that the measures taken under the current CPHR are considered to have been of economic (and environmental) benefit both in the commercial sector and for public/private green (details in the case study below).
Phytophthora ramorum	fruit, ornamental and amenity trees	Source: cost survey 15 MS (BE, CZ, DK, EE, ES, FI, FR, IE, LT, LV, NL, SE, SI, SK, UK) have indicated that the measures taken under the current CPHR are considered to have been of economic (and environmental) benefit both in the commercial sector and for public/private green. Although a total overview of the susceptible area and number of nurseries could not be provided (few MS provided data), in 2 MS (CZ, SI) the total susceptible area is 0.8 million ha of deciduous trees, and in 2 other MS (FR, ES), over 2,600 susceptible nurseries are thus protected. (Details in the case study below.) Source: DEFRA (2009) Estimated benefit: Net Social Benefit: **Net Benefit Range** (NPV) **£ 7 – 16 million; NET BENEFIT** (NPV Best estimate) **£ 13.9 million (**The spread of the diseases and thus most of the costs and benefits are subject to a high level of uncertainty. Therefore sensitivity analysis was carried out.
PWN	Pine and coniferous trees	Source: cost survey 9 MS (BE, CZ, DE, ES, FR, IT, PT SE, SI) have indicated that the measures taken under the current CPHR are considered to have been of economic (and environmental) benefit, ultimately protecting a total susceptible forest area of 16.3 million ha (6/9MS).
Ceratocystis fagacearum (oak wilt) & fimbriata (brown rot)	oak trees	Source: cost survey 7 MS (DE, DK, FR, IE, IT, PT, SE) have indicated that the measures taken under the current CPHR are considered to have been of economic (and environmental) benefit both in commercial sector and for

HO	Key host plant(s)	Estimated benefit
		public/private green, ultimately protecting a total susceptible area (Quercus species) of 7.7 million ha (4/7MS) (details in the case study below).
Dryocosmus kuriphilus Yasumatsu	Chestnut trees	Source: cost survey 4 MS (ES, HU, IT, SI) have indicated that the measures taken under the current CPHR are considered to have been of economic (and environmental) benefit; in 2 MS (ES, SI) this has led to the protection of a total susceptible chestnut tree area of 544,000 ha.

Note: Potato data include all varieties: seed, ware and starch potatoes.

Of the above combinations identified by respondents, 5 HOs were selected for further analysis: *Anoplophora (chinensis* and *glabripennis)*, *Ceratocystis (fagacearum* and *fimbriata)*, *Erwinia Amylovora*, Grapevine Flavescence dorée and *ramorum*. For these HOs, the objective has been to complete the data on the susceptible areas (as provided by respondents) with an estimation of the possible damage associated to the appearance of the HO, as identified in the literature (e.g. specific PRA[211] and scientific article[212]).

It is noted that, although these cases have been selected because they demonstrate clear benefits from the current policy, they are not considered to represent absolute success cases across the EU and in all aspects of the current measures provided by the CPHR. In many cases, these same examples of HOs were associated with significant failures in some MS for certain aspects of CPHR implementation (e.g. in relation to notification requirements, or the plant passport system or implementation of protected zones, or the adoption and implementation of emergency measures).

3.11.3.1 Anoplophora (chinensis and glabripennis)

Seven MS indicated the CPHR has been successful in the case of *Anoplophora*, as summarized in the following table:

Table 3-21: Main host plants and susceptible areas for which the CPHR has avoided the introduction/spread of *Anoplophora in 7 MS**

Type of benefit	CPHR successful for avoiding:	Countries	Plant	Susceptible area (in number of plants/trees, ha)
economic benefit	Introduction / establishment	Czech Republic	ornamental trees	627,500 ha
		Denmark	many deciduous plant species	*No data available*
		Italy	Susceptible plants	*No data available*
		Lithuania	deciduous trees	*No data available*
		Netherlands	deciduous trees, in particular Acer spp.	nursery stock: 17000 ha *public area, private gardens: No data available*
	Containment / slowing spread	Denmark	deciduous trees	*No data available*
		Germany	deciduous trees, *Acer campestris, Salix caprea, Populus, Aesculus and Betula*	*No data available*
		Italy	Susceptible plants	*public area, private gardens: No data available*

[211] *Anoplophora glabripennis* :UK, *Anoplophora chinensis* : Nl, *Erwinia amylovora* : EPPO and Estonia ; Grapevine Flavescence Dorée : Austria ; *Phytophthora ramorum* : EU.

[212] *Ceratocystis* : Spatial and Temporal Distribution of *Ceratocystis fagacearum* in Roots and Root Grafts of Oak Wilt Affected Red Oaks, *Ryan A. Blaedow and Jennifer Juzwik*, International Society of Arboriculture, Arboriculture & Urban Forestry 2010. 36(1): 28–34

Type of benefit	CPHR successful for avoiding:	Countries	Plant	Susceptible area (in number of plants/trees, ha)
environmental benefits	Introduction / establishment	Belgium	deciduous trees	350000 ha
		Czech Republic	ornamental trees	627500 ha
		Italy	deciduous trees	*public area, private gardens: No data available*
		Lithuania	*Not specified*	*No data available*
		Netherlands	deciduous trees, in particular Acer spp.	*No data available*
	Containment / slowing spread	Germany	deciduous trees, *Acer campestris, Salix caprea, Aesculus and Betula*	*No data available*

** chinensis and glabripennis*

Source: compiled by FCEC based on specific cost survey results

Anoplophora is a wood-boring pest which was imported from Asia into the EU. Host plants are various deciduous trees, such as *Acer, Corylus, Prunus, Citrus, Malus, Populus* and *Salix*. These trees are widely distributed in the EU. Adults lay their eggs in the bark and eggs hatch after about 10 days. Trees die or are weakened due to the high number of larval tunnels in the wood.

Imports of host plants are important, especially in the Netherlands where 1.6-2 million Acer were imported per year during the period 2005 – 2007, with an estimated total value of these plants (wholesale price) of about € 3 – 6 million. Solid wood (including wood products, wood packaging material) is a recognized pathway for *Anoplophora glabripennis*. Infested wood, chipped into pieces larger than 1.5 cm can enable larvae of *Anoplophora* to survive.

Anoplophora is mainly present in Italy, and it could easily establish in other southern MS with similar climatic conditions, though there is also evidence that it can establish in northern parts of the EU, such as the Netherlands. In Southern Europe, the impact of *Anoplophora chinensis* may be higher than that of *Anoplophora glabripennis* since the first one has a broader host range. However, the climate in Northern Europe is possibly more favourable to *Anoplophora glabripennis* and its impact may, therefore, be higher despite the wider host range of *Anoplophora chinensis*.

Economic benefits

In countries where the CPHR avoided the introduction of *Anoplophora*, costs for surveys, eradication and replanting were spared. These can be high in case of infestation, as illustrated with the case of the infested area in Lombardy-Italy, where € 1.2 million has been spent from 2004 to 2007 and € 10 million for the period 2008 – 2010.

Moreover, it avoided crop losses and losses of export markets for tree nurseries and fruit orchards (*Citrus, Malus, Pyrus*) due to die back or weakening of trees as well as the negative impact on consumer demand. Large outbreaks that also include agricultural areas may indeed

lead to loss of export markets. Consumers run the risk of introducing the HO when they buy trees or shrubs that are host plants of the pest, and may therefore prefer buying other plants that are not hosts of the pest.

Yield losses in orchards may generally be expected to lead to an increase in the price of fruit and, thereby, to a reduction in consumer demand.

The total area of table apple, table pear, lemon and small citrus trees in the EU is estimated at 811,722 ha *(Eurostat – 2007).* As indicated by NL in their response to the specific cost survey, 17,000 ha of deciduous trees (Acer spp.) are grown in nursery stocks.

In DE, the total potential loss for the most preferred host plant, Acer spp., including costs for replanting was estimated to be about € 96 million for Berlin alone (Balder, 2003).

Some host trees also have some economic value: wood of *Populus* trees is used for making wood pulp, wood chip, veneers and matches; wood of *Salix* trees is used for general timber, energy coppice, and basket weaving in charcoal manufacture.

No specific estimates of damage or losses which could have been incurred are available. In Canada, in 2004, it was estimated that the removal and replacement of one urban tree was about € 619[213].

Environmental benefits

Environmental benefits arise for the area under amenity trees and natural forests in both northern and southern MS. As there are no effective methods available to control the pest except by spraying insecticides against adult beetles during summer months, eradication of the HO is done through destruction of visibly infested trees and of hosts around visibly infested trees. This has a serious impact on biodiversity since the preferred host plant (broad-leaved species) could disappear to a significant extent in infested areas.

Europe has a considerable area dominated by broadleaved (hardwood) species, currently estimated at about 18% of the total forest cover area, while a further 40% is covered by mixed species (broad leaved and coniferous). EU 27 MS have an average forest cover of 36%, amounting to over 160 million ha of forest[214]. The potential susceptible area (broadleaved species) for the EU-27 could therefore reach 40-45 million ha (depending on exact area covered by the susceptible species). The actual extent of the damage will depend on mortality and destruction rates, for which there is limited information at present. On the basis of a simple extrapolation from US estimated rates of impact (35%, see **Error! Reference source not ound.**), some 14-16 million ha could be damaged.

At the level of individual MS, the potential damage is significant. For example, as indiacated respectively by CZ and BE in their response to the specific cost survey, the total susceptible

[213] Average exchange rate 2004 : 1 Canadian $=0,6185249€

[214] Source: EU Roadmap 2010

areas in these MS cover 350,000 ha of deciduous trees in BE and 627,500 ha of ornamental trees in CZ.

Additionally, the loss of trees and shrubs in both urban and rural areas have an impact on the wider public, which may react adversely when trees and shrubs in their neighbourhood have to be removed or die due to *Anoplophora*.

3.11.3.2 *Ceratocystis fagacearum and fimbriata*

Six MS have indicated that the CPHR has been successful in preventing the introduction or in slowing down the spread of *Ceratocystis*, mainly to the benefit of the environment.

In particular, 6 MS indicated that CPHR has successfully prevented the introduction/establishment of *Ceratocystis fagacearum*: FR and DE (with associated economical benefits), and DK, DE, IE, PT and SE (with associated environmental benefits). IT mentioned the successful containment of *Ceratocystis fimbriata*, with associated economic and environmental benefits.

Table 3-22: Main host plants and susceptible areas for which the CPHR has avoided the introduction/spread of *Ceratocystis in 6 MS**

Type of benefit	CPHR successful for avoiding:	Countries	Plant	Susceptible area (in number of plants/trees, ha)
economic benefit	introduction/ establishment	France	Quercus	Quercus robur production: 1850 000 ha Quercus petraea pruction: 1690 000 ha Quercus pubescens production:1250 000 ha Quercus ilex production: 650 000 ha
		Germany	Quercus	1 000 000 ha
	containment/slowing spread	Italy	Platanus occidentalis	*No data available*
environmental benefits	introduction/ establishment	Denmark	Quercus	*No data available*
		Germany	Quercus	1 000 000 ha
		Ireland	Quercus	15000 ha
		Portugal	Quercus	1 243 000 ha
		Sweden	*Not specified*	*No data available*
	containment/slowing spread	Italy	Platanus occidentalis	*No data available*

** fagacearum and fimbriata*

Source: compiled by FCEC based on specific cost survey results

Ceratocystis is a fungus affecting trees by causing canker, dieback and wilt. Main host plants of *Cerotocystis fimbriata* are P*latanus* trees, while *Ceratocystis fagacearum* affects mainly

Quercus trees (oaks). The fungus can cause serious disease on many host plants as infected trees will develop wilt and die within a few weeks to a couple of months from the first development of wilt. *This HO* spreads through root grafts or common roots between neighbouring trees. Insect vectors may also spread the disease. The pathogen is capable of surviving undetected in the roots of apparently healthy trees for many years.

Economic benefits

There is currently no available treatment for infected trees. It is therefore important to reduce the number of new infections in an already infested area including through surveillance and removal of diseased trees, preventing the formation of root grafts between diseased and healthy trees, and minimizing wounds on healthy trees.

Considering the importance of the production of *Quercus* in several parts of the Community such as FR and DE, the CPHR contributed to the maintenance of this economic activity, representing 5,440,000 ha of forest in FR and 1,000,000 ha of forest in DE.

Environmental benefits

The introduction of *Ceratocystis fagacearum* could have a major impact on natural landscape and forest areas. In urban areas where susceptible host trees are abundant, the impact on property or other social values may be significant. In the US, *Ceratocystis fagacearum* has led to landscape degradation, which has in turn led to a decline in urban and rural property values.

3.11.3.3 Erwinia amylovora

Six MS have indicated that the CPHR has been successful in avoiding the introduction (EE, IE and IT) or in slowing down (FR, IE, IT, LT, SK, SI) the spread of *Erwinia amylovora*, mainly but not solely to the benefit of the economy.

Table 3-23: Main host plants and susceptible areas for which the CPHR has avoided the introduction/spread of Erwinia amylovora in 6 MS

Type of benefit	CPHR successful for avoiding:	Countries	Plant	Susceptible area (in number of plants/trees, ha)
economic benefit	introduction/establishment	Estonia	plants for planting	*No data available*
		Ireland	Not specified	*fruit trees: 150 ornamental plants: No data available*
		Italy	*Malus*	1600 ha
	containment/slowing spread	France	fruit trees	*76638 ha*
		Italy	*Malus*	*55225 ha*
			Pyrus	*32075 ha*
			Crataegus	*No data available*
		Lithuania	Not specified	*fruit trees: 2459 ornamental plants: No data available*
		Slovakia	*Malvaceae*	*No data available*

Type of benefit	CPHR successful for avoiding:	Countries	Plant	Susceptible area (in number of plants/trees, ha)
			Malus	4500 ha
			Pyrus	240 ha
		Slovenia	*Malus*	2,874 ha
			Pyrus	221 ha
environmental benefits	introduction/establishment	Estonia	planting material	*No data available*
		Ireland	*Crataegus*	*No data available*
	containment/slowing spread	Ireland	*Crataegus*	*No data available*
		Lithuania	*Sorbus aucuparia*, *Crataegus* spp.	*No data available*

Source: compiled by FCEC based on specific cost survey results

Erwinia amylovora is a bacterial disease affecting fruit trees *(Cotoneaster, Crataegus, Malus, Pyrus, etc.*) and rosaceous ornamental plants. Insects are a vector for spreading the HO as the bacteria grows on flower surfaces. When climatic conditions are adequate, infection starts in the flowers. *Erwinia amylovora* causes cell destruction and plant tissue necrosis. Spread by propagating material is also probable.

The HO comes from North America and is present in several European countries, including AT, BE, BG, DK, FR, DE, EL, HU, IE, NL, PL, RO, SK, ES and UK.

Economic benefits

Erwinia amylovora causes substantial damage to host plants. It endangers both the crops and the plants themselves. Yield in both the current and following year may be substantially reduced. Due to the rapid spreading of the HO in infested trees, trees can often not be saved. In order to avoid infestation, chemicals may be used.

Economical damages may thus be substantial, including the destruction of trees, loss of crops, and replanting of trees or switching to other cultivations.

Main sectors at risk are the pear and apple industries, and the nursery trade. The value of orchards of apple trees has been estimated at €6,000/ha by one MS.

Environmental benefits

The potential impact of *Erwinia amylovora* on the environment is really significant, based on the fact that host plants are widespread in the countryside; park and gardens, where they are positively contribute to the natural habitat.

For instance in IE, the most important of the hosts of this HO is *Crataegus* which is widespread in the Irish countryside. *Cotoneaster* and *Sorbus* are extremely popular ornamental trees in Irish parks and gardens. The berries of these plants are recognised as very important sources of food for wildlife during the winter months. These plants also provide an abundance of shelter and nesting sites for wildlife and birdlife.

3.11.3.4 Grapevine flavescence dorée (Grapevine FD)

5 MS have indicated that the CPHR has been successful in avoiding the introduction (IT, SK) or in slowing down (FR, IT, PT, SI) the spread of Grapevine Flavescence dorée, with important associated economic benefits.

Table 3-24: Main host plants and susceptible areas for which the CPHR has avoided the introduction/spread of Grapevine Flavescence dorée in 5 MS

Type of benefit	CPHR successful for avoiding:	Countries	Plant	Susceptible area (in number of plants/trees, ha)
economic benefit	introduction/ establishment	Italy	grapevine	19000 ha
			young grapevine	100 millions of grafted vines/year
		Slovakia	grapevine	20000 ha
	containment/ slowing spread	France	grapevine	*842000 ha* protected zones : 47491 ha
		Italy	grapevine	19000 ha
			young grapevine	100 millions of grafted vines/year
		Portugal	grapevine	240000 ha
		Slovenia	grapevine	16086 ha

Source: compiled by FCEC based on specific cost survey results

The Grapevine flavescence dorée phytoplasma is the most important phytoplasma disease of grapevines and causes an epidemic disease. The principal host plant is *Vitis vinifera*, though other grapevines such as *Vitis riparia* can be infected also. *Grapevine FD* is transmitted by the vector *Scaphoideus titanus*, which was introduced to Europe in the 1950s from Northern America. Larval instars of the vector acquire the *Grapevine FD* phytoplasma from infected vines and adult vectors transmit the disease from vine to vine, thus causing an epidemic spread of the disease. *Scaphoideus titanus* has established populations in different environmental zones in Europe, demonstrating its ability to adapt to different climates. Little is known about its temperature thresholds. When no control of the vector has been undertaken, the number of infected vines may increase steadily by a multiple of 10 per year and may reach 80-100% within a few years.

In the past decades the disease spread actively in many parts of Europe. *Grapevine FD* is widespread in many vine growing regions of Austria, France, Italy, Portugal, Serbia, Slovenia, Spain and Switzerland. The highest risk of introduction arises with the extensive trade in rootstocks and especially for vineyards located along traffic routes and waterways from the passive or active spread of the vector. Colonization of more northern regions could be achieved by an active spread of the insects to the north but also by passive dissemination of vectors either with grapevine material containing eggs or by traffic. The range of the vector is still much wider than the area affected by *Grapevine FD*. This situation is a severe threat to viticulture because introduction of single infected vines into an area inhabited by this vector implies the risk of new outbreaks of *Grapevine FD*.

Economic benefits

Depending on the intensity of infection, *Grapevine FD* affects the vitality, the yield and the quality of vines by causing high acid and low sugar contents of infected clusters. Diseased grapevines are eradicated, which causes severe economic losses.

In Serbia, over 800 ha of vineyards have been destroyed. Primary economic losses due to lost investment are estimated to have reached €3.2 million. Reduction in producer profits due to decreased wine production is assumed to be a multiple.

Some of the host plant varieties susceptible to infection with the HO are of major importance in EU countries.

For countries were the CPHR avoided introduction of *Grapevine FD*, it avoided for these countries an increase in production costs due to additional labour costs, costs for insecticide applications, monitoring and eradication campaigns and in public costs for monitoring, eradication and from loss of income of farmers and nurseries.

The presence of *Grapevine FD* would also have a negative effect on nursery trade of planting material to countries where the disease does not occur.

Results of the specific cost survey indicate that, thanks to the CPHR, the first introduction of *Grapevine FD* in IT, PT and SK was delayed by 3 to 6 years. The establishment of PZ for *Grapevine FD* in FR (areas of Alsace, Champagne and Lorraine) also had a positive effect on the economy of this sector.

The vineyard area for the production of vine in the EU is estimated at 3,526,000 ha in the EU 27 *(Eurostat – 2007*). According to survey respondents, the revenue of 1 ha of vine varies between €3,000 and €6,000 /ha. The revenue from young vine plants for planting (for which, for instance, production is estimated at 100 million of grafted vines/year in one region of Italy) is estimated at €0,80 /plant.

Environmental benefits

The control of the vector necessitates the use of broad spectrum insecticides with side effects on several components of the ecosystem.

3.11.3.5 Phytophthora ramorum

14 MS have mentioned that the CPHR has been successful in avoiding the introduction (CZ, EE, LV, LT, SI, SE, FI, SK) or in slowing down (FR, IE, ES, UK, BE, DK, NL, SI) the spread of *ramorum*, with associated economic and environmental benefits.

Table 3-25: Main host plants and susceptible areas for which the CPHR has avoided the introduction/spread of *ramorum* in 5 MS

Type of benefit	CPHR successful for avoiding:	Countries	Plant	Susceptible area (in number of plants/trees, ha)

Type of benefit	CPHR successful for avoiding:	Countries	Plant	Susceptible area (in number of plants/trees, ha)
economic benefit	introduction/ establishment	Czech Republic	ornamental trees	627500 ha
		Estonia	*Rhododendron*	*No data available*
		Latvia	Not specified	*No data available*
		Lithuania	ornamental nursery plants	100 ha (nurseries of ornamental plants, private gardens, etc.
		Slovenia	deciduous trees	683,218 ha (forest area with > 25% deciduous trees)
		Sweden	Not specified	*No data available*
	containment/ slowing spread	France	*Rhododendron*	1 890 nurseries and garden centres
		Ireland	Not specified	*No data available*
		Spain	*Rhododendrom, Camellia* and *Viburnum*	712 nurseries 102 gardens and public gardens 352 forest masses
		UK	Not specified	*No data available*
environmental benefits	introduction/ establishment	Czech Republic	ornamental trees	627.500 ha of deciduous trees
		Finland	*Quercus*	*No data available*
		Slovakia	*Quercus*	*No data available*
		Slovenia	deciduous trees	683,218 ha (forest area with > 25% deciduous trees)
	containment/ slowing spread	Belgium	*Rhododendron*	*No data available*
		Denmark	*Rhododendron, Fagus*, etc.	*No data available*
		Ireland	Not specified	*No data available*
		Netherlands	*Rhododendron, Viburnum, Taxus, Fagus, Quercus rubra, Vaccinium*, etc.	*No data available*
		Slovenia	deciduous trees	683,218 ha (forest area with > 25% deciduous trees)

Source: compiled by FCEC based on specific cost survey results

Phytophthora ramorum is a fungus with many deciduous trees, ornamental plants and a few herbaceous plants as host-plants. The HO is found in particular in regions where there are susceptible host plants that are capable of supporting sporulation of the HO.

The pathogen has been reported from several EU countries, such as Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Poland, Portugal, Slovenia, Spain, Sweden and the UK. The most suitable climatic locations for establishment are northern Portugal, north-western Spain, the southern tip of Spain, the Adriatic coast of the Balkan peninsula, south-western France, north-west France, northern coastal Spain, southern Turkey and western UK and south-west Ireland. Only climatically favourable areas are at risk.

Phytophthora ramorum has also been recorded in the USA, Canada, Norway and Switzerland, from which the HO may have been imported. The origin is unknown, though it may also have

been introduced from Asia. In the absence of controls, the HO is likely to spread rapidly within trade networks.

Economic benefits

Ornamental plants are widely distributed and traded in the Community. There are no chemical treatments that can consistently eradicate the pathogen on infected plants. A large range of host plants are thus potentially at risk. Contaminated host plants need to be destroyed.

The spread of *Phytophthora ramorum* would have in particular a direct impact on nurseries. The presence of the HO would affect the quality of nursery stock and therefore cause losses in export markets. Additional costs may arise from costs for surveillance, destruction and replacement of destroyed plants. Furthermore, income losses may derive from cropping or trade restrictions.

Impacts on the environment may cause additional indirect economic impacts. The appearance of the HO impacts on the landscapes of the managed and historic gardens, and in turn may impact on tourism, with consequences on the local economy.

Environmental benefits

The host range of host plants which occur in the natural or semi-managed environment is very wide. There are many suitable habitats including: woodland, heathland, maquis, shrubland, and managed gardens, parks and public greens. Environmental risks are thus major.

The presence of *Phytophthora ramorum* impacts the quality of plants in managed parks, gardens and public greens. Shrubs and trees in woodlands have become locally affected with some tree death, for example the coastal woodland environment of California where massive tree death had a major impact on the environment. Knock-on effects resulting from loss of tree are amongst others the disruption to the ecology of the area, loss of recreational areas in woodland, dead trees increasing the risk of accelerated water run off, and, resultant soil erosion and sedimentation, endangering of certain plant species, and risk from forest fires due to dead trees.

3.11.3.6 Conclusions on benefits

In conclusion, through the measures it imposes, the CPHR has contributed both to the avoidance of the introduction of potentially injurious HOs and to slowing down their spread. The overall benefits of avoiding or delaying the introduction and spread of any HO in the EU are numerous, as is summarized in the following table:

Table 3-26: Overall benefits of avoiding or delaying the introduction and spread of any HO in the EU

Area	Benefit	Beneficiaries
Agriculture	Avoid/reduce agricultural losses (reduction in crop yields)	Importers/growers/farmers
Competition	Some comparative advantage may arise due to	Producers

Area	Benefit	Beneficiaries
	ensuring risk-free products	
Ecosystems	Avoid/reduce damage to ecosystems due to pesticide applications	Society in general, especially people concerned with environmental issues
Biodiversity	Avoid/reduce destruction of biodiversity because of disruption of habitats, species extinction	Society in general, especially people concerned with environmental issues
Rural communities	Avoid/reduce disruption of rural communities due to loss of earnings or quitting agriculture	Rural communities
Natural heritage	Avoid/reduce disturbance of part of a nation's natural heritage	Society in general
Recreation	Avoid/reduce destruction of garden plants	Amateur in gardening activities
Visual amenity	Avoid/reduce changes in country landscape or in urban gardens/green spaces.	Society in general

Source: compiled by FCEC

3.11.4 Administrative and other operational costs

The methodology that has been followed in the evaluation for the analysis of the administrative and other compliance costs of the CPHR was outlined in section 1.5.

Before entering into the details of the results of the cost modelling, it is important to note that, according to existing literature, the CPHR is not among the most burdensome EU legislation:

- A German study on administrative costs[215] identifies the 100 most costly information obligations. None of the identified obligations refers to the plant health legislation;
- The EU project on baseline measurement and reduction of administrative costs[216] analyses the administrative costs for business associated to 7 areas of legislation[217] within the Food Safety Priority Area, among which Directive 2000/29/EC. The results of the study indicates that Directive 2000/29/EC is the second least costly legislation as regards the administrative costs for business, just after Regulation (EC) No 1830/2003 on GMO traceability.

The results of the cost analysis are presented hereafter by distinguishing between the costs for the MS Competent Authorities, the Commission and the private operators.

[215] Federal Government, Administrative costs: the effort to identify, measure and reduce them, The 2007 Federal Government Report on the Use of the Standard Cost Model.

[216] Deloitte, Capgemini and Ramboll, EU project on baseline measurement and reduction of administrative costs, March 2009l

[217] Regulation (EC) no 1/2005 on the protection of animals during transport, Regulation (EC) No 1830/2003 on GMO traceability, Directive 98/6/EC on indication of prices on products, Regulation (EC) No 1760/2000 on registration of bovine animals and beef labelling, Regulation (EC) No 21/2004 establishing an identification system for ovine and caprine animals, Directive 2000/29/EC on protective measures for plants and plant products, Directive 2000/13/EC on labelling, presentation and advertising of foodstuffs.

3.11.4.1 CPHR costs for the Competent Authorities

Based on the data provided for the tasks considered in the cost analysis (see Table 1-4), the total costs for the 24 MS CAs[218] amount to € 59,218,314 on average per year. This total cost is a 'net cost', i.e. it takes into account the revenues from the fees[219] charged to the private operators for 1) documentary, identity and plant health checks at imports; 2) inspections at the place of production; 3) registration and 4) authorization to issue plant passport.

The total amount recovered through fees by the 24 MS CAs for these four tasks is estimated at 36,914,993€[220] on average per year. Overall, the fees collected for import inspection and for inspection at the place of production respectively represent 67.3% and 56.32% of the costs incurred by the CAs for carrying out these obligations. However, important differences appear between MS, for instance, the fees collected for imports checks varies between 34% and 100% of costs incurred by the CA (based on the data available for 18 MS CAs).

Table 3-27: Average annual administrative and compliance costs for CAs (EU 24)

Obligations	Competent Authorities		
	Administrative	**Substantive**	**Total**
Obligation 1: Registration			
EU 24	1,236,625	0	1,236,625
Obligation 2: Authorization to issue Plant Passport			
EU 24	101,272	0	101,272
Obligation 3: Issuance of plant passport			
EU 24	3,164,606	0	3,164,606
Obligation 4: Notification of interceptions in trade			
EU 24	217,368	0	217,368
Obligation 5: keeping of records			
EU 24			
Obligation 6: Check the correct and uniform application of CPHR			
EU 24	277,774	0	277,774
Obligation 7: Submission and treatment of applications for Solidarity Funding			
EU 24	28,322	0	28,322

[218] As outlined in section 1.5.4, of the 25 MS that responded to the specific cost survey, the analysis was only possible for 24 MS, as in the case of 1 MS the response was incomplete.

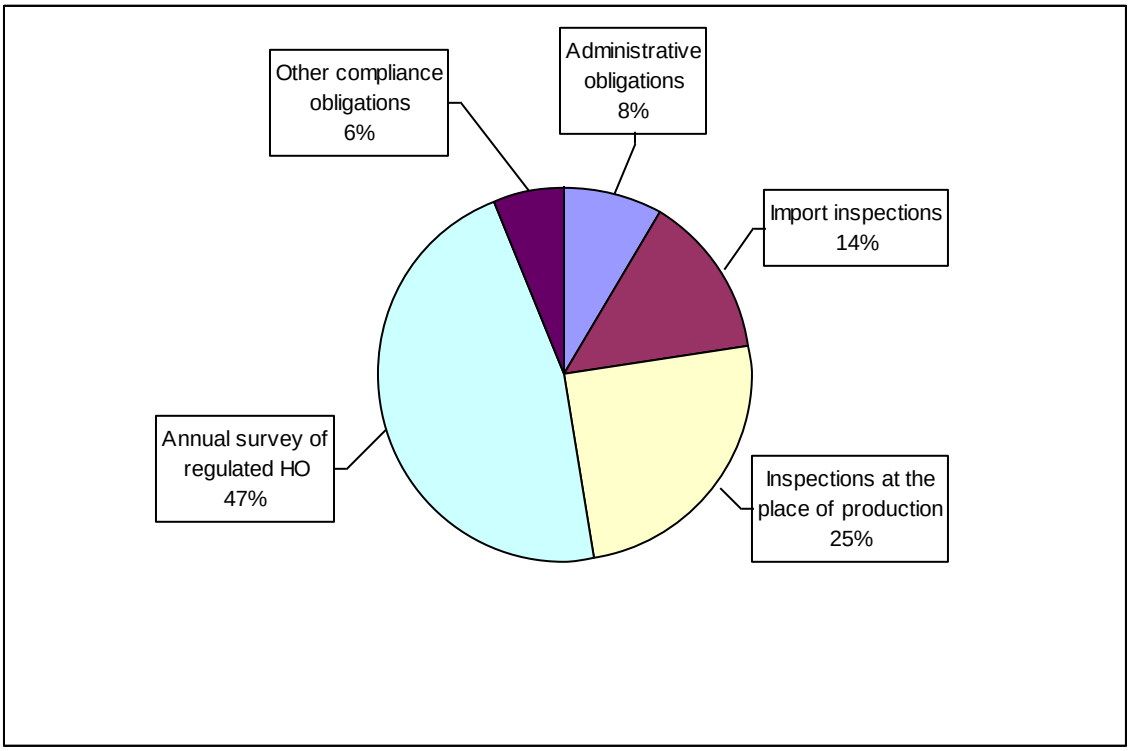
[219] Pursuant to Article 13d(1) of Directive 2000/29/EC, MS shall ensure the collection of fees (Phytosanitary fee) to cover the costs occasioned by documentary checks, identity checks and plant health checks, for some of the obligations listed in the Directive.

[220] The calculation of total fees for import checks is based on the assumption that all MS charge fees except IE where fees on import inspection are not yet applied (see FVO mission to Ireland DG SANCO/ 2008 7891 and 7893). Data on fees have been provided by AT, BE, CZ, DK, EE, FI, FR, HU, LV, LT, MT, NL, PL, PT, SI, SK, SE,and UK and have been estimated by FCEC for the other ones. The calculation of fees for checks at the place of production is based on the fact that 17 MS have indicated they collect fees for that purpose, of which AT, BE, DK, FI, FR, HU, LV, LT, NL, PL, PT, SI, SK, SE,and UK have provided data. Estimation has been made by FCEC for the 2 remaining ones.

Obligations	Competent Authorities		
	Administrative	**Substantive**	**Total**
Obligation 8: Import inspection (at border or at place of destination)			
EU 24		8,495,711	8,495,711
Obligation 9: Official inspection of plants, plant products and other objects at the places of production			
EU 24	0	14,553,688	14,553,688
Obligation 10: Annual survey of protected zones or buffer zones			
EU 8	0	563,557	563,557
Obligation 11: Annual surveys of regulated harmful organisms			
EU 24	0	27,563,913	27,563,913
Obligation 12: Overall management of the Plant Health policy			
EU 24	0	2,305,769	2,305,769
Obligation 13: Conduct Pest Risk Analysis (PRA)			
EU 8	0	709,709	709,709
Total costs	5,025,967	54,192,347	59,218,314

Source: Compiled by FCEC based on the results of the specific cost survey

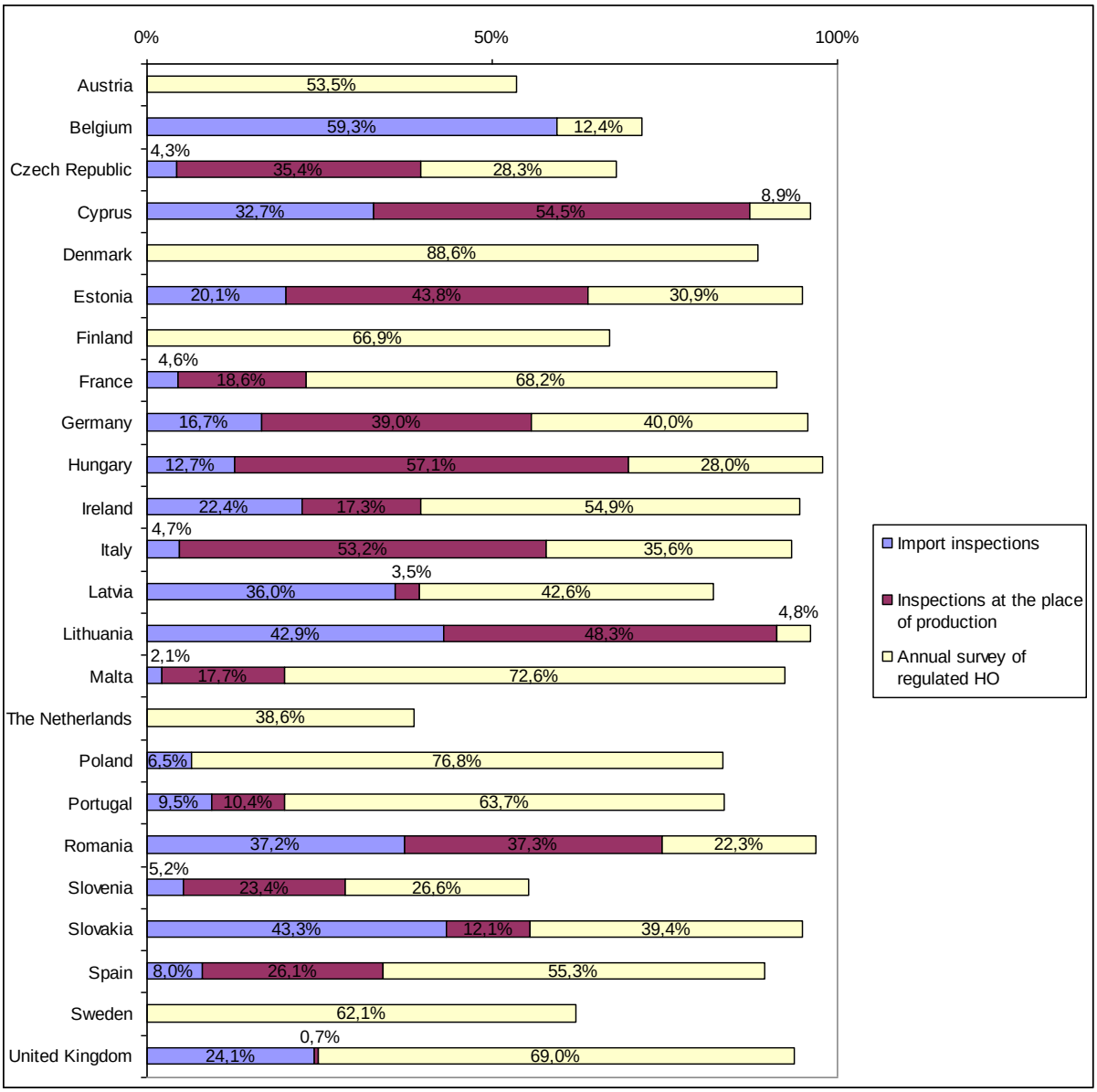
Figure 3-18: Breakdown of costs for CAs, by type of obligation



Source: compiled by FCEC based on the results of the specific cost survey

The three most important obligations in terms of costs are the import inspections, the inspections at the place of production and the compulsory annual surveys of regulated HOs (i.e. the HOs regulated under the emergency measures and the Control Directives). At the level of the 24 MS CAs, these costs respectively represent (after fee recovery as regards the imports inspection and the inspection at the place of production) € 8,495,711, € 14,553,688 and € 27,563,913 on average per year.
Important differences appear however between MS, as illustrated in the following graph:

Figure 3-19: Proportion of the three main obligations in the total cost, per MS CA



Source: compiled by FCEC based on the results of the specific cost survey

The cost calculation for the conducting of PRAs is based on data provided by 8 MS CAs during the preliminary cost survey. It indicates that the funds available for this purpose are very limited.

The administrative costs amount to € 5,025,967 on average per year and represent 8.49% of the total cost. They refer mainly to the management of the dossiers for registration and for authorization to issue plant passports, the issuance of plant passports by the CA (applicable for all plant passports in PL and RO and for plant passports for seed potatoes and possibly propagating materials in 13 MS) as well as the notification of third country interceptions through EUROPHYT. No separate costs are identified for CA for the obligation 'Keeping of records', as these costs mainly concern the obligations 'registration' and 'authorization to issue plant passport' and are included under these two obligations.

In addition to the costs presented in Table 1-4, which are calculated on an annual basis, there are costs associated to the implementation of measures to eradicate or, if this is considered impossible, to inhibit the spread of the HO.

Based on data provided by 18 MS CAs[221], the total costs incurred by MS for this obligation amounts to € 133,504.335 over the period 1993-2008 (or from the data of accession for the NMS). In addition, 4 MS have indicated that they have provided compensation to producers for a total amount of € 9,191,780. A number of MS have also received reimbursement through the Solidarity Regime, for a total amount of € 29,257,732.

The outbreaks concerned and the type of costs incurred by the MS CA are summarized in the following table.

Table 3-28: Outbreaks considered in the analysis of eradication costs incurred by CAs over the period 1993-2008

Country	Main outbreaks of HO over the period 1993-2008 (or since date of accession for NMS)	Type of cost covered by MS CA
AT	*Erwinia amylovora (1998, 1999, 2000);* *Diabrotica virgifera (2003)*	Costs eligible for Solidarity funding
BE	*Diabrotica virgifera virgifera (2003-2004, 2005, 2006);* *ramorum (every year);* *Ralstonia solanacearum (2002)(2003);* *Clavibacter michiganensis(2003).*	Treatment, destruction, compensation and other direct costs

[221] The calculations are made with the data available, and are therefore not exhaustive.

Country	Main outbreaks of HO over the period 1993-2008 (or since date of accession for NMS)	Type of cost covered by MS CA
CZ	*Clavibacter michiganensis ssp;* *Colletotrichum acutatum;* *Cryphonectria parasitica;* *Diabrotica virgifera virgifera;* *Erwinia amylovora;* *European stone fruit yellows phytoplasma;* *Globodera rostochiensis;* *Impatiens necrotic spot virus;* *Monilinia fructicola;* *Mycosphaerella pini;* *Pear decline phytoplasma;* *Plum pox potyvirus;* *Potato spindle tuber viroid;* *Puccinia horiana;* *Tomato chlorotic dwarf viroid* *Tomato spotted wilt virus*	Destruction, disinfection, treatment, laboratory testing of samples from outbreak areas, monitoring of organisms in outbreak areas (including by traps) etc.
CY	*Rhynchophorus ferrugineus (2008)*	Chemical control, pheromone traps, public awareness campaign.
FI	*Bemisia tabaci;* *Liriomyza trifolii (1999);* *Tomato Spotted Wilt Virus (1999);* *Liriomyza huidobrensis (2002);* *Colletotrichum acutatum (2002).*	Inspection visits in the places of production, making orders to the producers, laboratory analysis and all other related work.
FR	*Plum pox virus (2000, 2003-2009);* *Outbreaks potatoes (2000-2002);* *Virus pepino tomato(2002);* *Meloidogyne spp (2008-2009);* *Diabrotica virgifera virgifera (2002-2003, 2003-2004, 2005-2006, 2008-2009);* *Ralstonia solanacearum (2000-2001, 2008-2009);* *Gibererella circinata (2008);* *Ceratocystis fimbriata (2008);* *Rhagoletis completa (2009);* *Virus BBRMV (2007);* *Tomato Yellow Leaf Curl Virus (2007);* *Anoplophora glabripennis (2004);* *Phytoplasme (2004);* *Xanthomonas pruni (2005);* *Dryocosmus kuriphilus (2005);* *Flavescence dorée (2005);* *ramorum (2005);* *Clavibacter michiganensis ssp (1997, 1999, 2005);* *Globodera pallida and Globodera rostochiensis (1999);* *Xanthomonas axonopodis (1999).*	Depending on the HO concerned, for instance: uprooting of trees in case of plum pox viruses, crop rotation and phytosanitary treatment for *Diabrotica virgifera*
DE	*Anoplophora glabripennis(2004-2005, 2006);* *Diabrotica virgifera virgifera (2007, 2008)*	Monitoring, destruction of infected plant material, application of plant protection products, restriction of host plants, etc

Country	Main outbreaks of HO over the period 1993-2008 (or since date of accession for NMS)	Type of cost covered by MS CA
HU	*Data refer to the period of 2004-2009:* *Ralstonia solanacearum;* *Clavibacter michiganensis ssp.;* *Potato stolbur mycoplasma;* *Xanthomonas arboricola pv. Pruni;* *Monilinia fructicola;* *Potato Spinle Tuber Viroid;* *Apricot chlorotic phytoplasma*	Destruction of the infested lots, disinfection of the storage facilities, machinery, laboratory testing of the samples. In addition, the Hungarian government supported growers by providing indemnification for the lost crop of almost € 3 million.
IE	*Ralstonia solanacearum (2007);* *Phytophthora ramorum*	Destruction
IT	*Ralstonia solanacearum (1997, 1998,1999);* *Anoplophora chinensis (2008-2009);* *Anoplophora glabripennis (2007-2008)*	Standard costs eligible for Solidarity funding+ Replacement of destroyed trees (*Annoplophora chinensis & glabripennis*) (2008)
Friuli Venezia Giulia	*Erwinia amylovora;* *Grapevine Flavescence Doree;* *Diabrotica virgifera virgifera*	Destruction, mainly (including forced uprooting of plants).
Lazio	*Dryocosmus kuriphilus 56.000 x 2 years*	Eradication
LV	*Erwinia amylovora (2007)*	Eradication of contaminated host plants
LT	*Erwinia amylovora;* *Globodera rostochiensis;* *Plum pox virus;* *Puccinia horiana;* *Bemisia tabaci;* *Diaporthe vaccinii;* *Phytophthora ramorum;* *Clavibacter michiganensis. ssp.;* *Ditylenchus destructor*	Destruction, disinfection, crop rotation, prohibition to produce of certain crops. Additional surveillance (4 inspections per site) of outbreak sites.
MT	*Rhynchophorus ferrugineus (2008-2009)*	Costs eligible for Solidarity funding
NL	*Clavibacter michiganensis ssp (Tomato) (2007/08).;* *Ralstonia solanacearum (2001);* *Potato Spindle Tuber Viroid (ornamentals) (2006/07);* *Tobacco Ringspot Virus (ornamentals) (2006, 2007, 2008);* *Diabrotica virgifera virgifera (mais) (2003/04, 2005, 2006, 2007);* *Tomato Yellow Leaf Curl Virus (2007-2008);* *Anoplophora chinensis (2008)*	Measures taken according to relevant EU-regulation and EU-decisions Costs eligible for Solidarity funding
PT	*Pine Wood Nematode;* *Grapevine Flavescence Doree;* *Erwinia amylovora;* *Citrus Tristeza Virus;* *Bemisia tabaci;* *Ralstonia solanacearum;* *ramorum;* *Rhynchophorus ferrugineus*	Destruction, control measures, treatment and restrictions

Country	Main outbreaks of HO over the period 1993-2008 (or since date of accession for NMS)	Type of cost covered by MS CA
RO	*Erwinia amylovora;* *Ditylenchus destructor;* *Globodera spp.*	Only chemical treatment
SI	*Dryocosmus kuriphilus (2007, 2008, 2009)*	Costs eligible for Solidarity funding
ES	*Rhynchophorus ferrugineus;* *Clavibacter michiganensis ssp. (1997);* *Erwinia amylovora (1997, 1998, 1999, 2000, 2001);* *Ralstonia solanacearum (1997);* *Pine Wood Nematode (2008-2009).*	Destruction palm trees affected, phytosanitary treatments, traps and survey
SE	*Clavibacter michiganensis ssp.;* *Synchytrium endobioticum;* *Bemisia tabaci;* *ramorum;* *Erwinia amylovora;* *Liriomyza;* *Tomato Spotted Wilt Virus;* *Clavibacter michiganenis michiganensis*	Laboratory testing, official controls, eradication measures
UK	*Phytophthora ramorum;* *Phytohpthora kernoviae*	Infected material was cut and burned.

Source: compiled by FCEC based on the results of the specific cost survey

3.11.4.2 CPHR costs for the private operators

The analysis of the costs for the private operators has focused on the following elements:

Administrative costs:

- The administrative costs associated with the compilation and submission of a register dossier (obligation 1);
- In the MS allowing private operators to issue plant passports, the compilation and submission of a dossier for authorization (obligation 2);
- For the authorized private operators, the issuing of plant passports (obligation 3);
- The keeping of records[222] (obligation 5).

Compliance costs:

[222] These costs refer to the following obligations:

- To keep an updated plan of the premises on which plants, plant products, or other objects are grown, produced, stored or used;
- To keep records of plants, plant products or other objects purchased for planting and/or storage in the premises. These records can be kept manually or on a computer database and they must be maintained for at least one year;
- To keep any plant passports received for at least one year and enter the reference in the records.

The most important substantive compliance tasks for the private operators under the CPHR, as identified by FCEC, are the payment of fees for import checks and inspections at the place of production as well the implementation of measures to eradicate or, if this is considered impossible, to inhibit the spread of the HO.

Considering the 4 administrative obligations mentioned above, the total administrative costs for the private operators in the 24 MS considered in the cost analysis amount to €51,445,518 on average per year. The obligation to keep records is the most important cost item and represents 80.42% of the total administrative costs.

Table 3-29: Average annual administrative costs for private operators (EU 24)

Administrative obligations	Annual cost for Private Operators (€)
Obligation 1: Registration	1,613,816
Obligation 2: Authorization to issue Plant Passport	171,827
Obligation 3: Issuance of plant passport	8,286,093
Obligation 5: keeping of records	41,373,782

Source: compiled by FCEC based on the results of the specific cost survey

The total costs provided for each administrative obligation are not comparable, as they do not refer to the same number of private operators. The total administrative costs estimated for the compilation and submission of a registration dossier (obligation 'registration') as well as for the compilation and submission of a dossier to be authorized to issue plant passport (obligation 'Authorization to issue Plant Passport') refer to the number of private operators newly registered and authorized on average each year, whereas we can assume that a larger number of private operators had to fulfil that obligation at start, when it first became compulsory to them.

In addition, based on the fact that several MS CAs apply fees for the registration (i.e. AT, DE, DK, EE, IT, LT, LV, NL, PT, SK and SE) and/or for the authorization to issue plant passports (i.e. AT, BE, DE, EE, FR, IT, LT, NL, SK, SI and UK), respectively 7.63% and 21.8% of the costs estimated for these two obligations concern the payment of fees.

The estimation of the average administrative costs per private operator gives a better picture of the highest cost items, as follows:

Table 3-30: Average annual administrative costs per private operator

Administrative obligations	Total cost (€)	Nb of private operators (POs) concerned	Average cost per PO (€)
Obligation 1: Registration	1,613,816	4,971	325
Obligation 2: Authorization to issue Plant Passport	171,827	1,517	113
Obligation 3: Issuance of plant passport	8,286,093	36,068	230
Obligation 5: keeping of records	41,373,782	118,321	350

Source: compiled by FCEC based on the results of the specific cost survey

Considering that the costs of all these obligations are in terms of staff costs, bookkeeping remains the most 'cumbersome' obligation, followed by the obligation to compile a dossier for registration.

Based on the data provided during the specific cost survey, the total annual amount of fees paid by the private operators for the import checks and the inspections at the place of production (compliance costs) is estimated at € 36,254,307 on average per year, of which 48.23% is related to imports checks and 51.77% is related to inspections at the place of production.

In addition to these costs, which are calculated on an annual basis, there are the costs associated to the implementation of measures to eradicate or, if this is considered impossible, to inhibit the spread of the HO.

Very little data has been provided by private operators during the specific cost survey and the interviews. Nevertheless, the available data indicates that costs incurred by private operators can be very large as illustrated with the following cases:

- Pine Wood Nematode in PT (1999-2008): almost € 40 million spent by land owners;
- *Potato Spindle Tuber Viroid* in NL (2006): between € 5 and 7 million spent by 60 growers for destruction of plants;
- *Ditylenchus dipsaci* (Tulip Nematode) on tulip bulb in NL (every year): € 2 million on average spent for cost survey, crop destruction and disinfection;
- *Erwinia amylovora* on fruit trees in NL: between some thousands to € 20,000 per producer for the destruction of plants;
- *Thrips palmi* in UK (2001): €160,980[223] for one grower; and
- *Phytophthora ramorum* in UK (2002-2006): €2,980,000[224] (value of destroyed plants by industry).

3.11.4.3 CPHR costs for the European Commission

The analysis of the costs for the European Commission has included the costs incurred by DG SANCO F4 (FVO), DG SANCO E1 and EFSA as follows:

- DG SANCO F4: costs to manage EUROPHYT (obligation 4 – administrative), to check the correct and uniform application of CPHR (obligation 6 – administrative) and to produce an annual summary table/report for the regulated HO subject to compulsory surveillance by the MS (obligation 11 – administrative);
- DG SANCO E1 and SANCO 04: costs for the overall management of the CPHR (obligation 12 – compliance) and for the treatment of solidarity dossiers, including the

[223] £100,000 (average exchange rate 2001 : 1£=1,6089 €)

[224] £2,000,000 (average exchange rate 2002-2006 : 1£=1,49€)

verification of the financial documentation by SANCO 04 (obligation 7 – administrative);
- EFSA: costs for the conducting of PRA (obligation 13 – compliance).

The total cost on average per year for the EC as regards these 6 obligations is estimated at €1,881,066, among which 38.3% concerns administrative costs and 61.7% concerns compliance costs.

3.11.4.4 Conclusions on CPHR costs

In total, based on the data provided for 24 MS, the total costs associated with the 13 CPHR obligations selected for the analysis amounts to € 148,799,204 on average per year, of which €57,191,859 are administrative costs and € 91,607,345 are compliance costs.

The following tables present the breakdown of total costs before the charging of fees to private operators, the breakdown of total costs after the charging of fees to private operators, as well as the administrative costs using the Standard Cost Model reporting sheet.

Table 3-31: CPHR costs before the charging of fees by MS CAs to private operators, EU 24 average per year

Obligations	Competent Authorities			Private operators			Commission			**Total costs**		
	Administrative	Substantive	Total	Administrative	Substantive	Total	Administrative	Substantive	Total	Administrative	Substantive	Total
Obligation 1: Registration												
EU 24	1.359.856	0	1.359.856	1.490.585	0	1.490.585	0	0	0	2.850.441	0	2.850.441
Obligation 2: Authorization to issue Plant Passport												
EU 24	138.727	0	138.727	134.372	0	134.372	0	0	0	273.099	0	273.099
Obligation 3: Issuance of plant passport												
EU 24	3.164.606	0	3.164.606	8.286.093	0	8.286.093	0	0	0	11.450.699	0	11.450.699
Obligation 4: Notification of interceptions in trade												
EU 24	217.368	0	217.368	0	0	0	115.386	0	115.386	332.753	0	332.753
Obligation 5: keeping of records												
EU 24	0	0	0	41.373.782	0	41.373.782	0	0	0	41.373.782	0	41.373.782
Obligation 6: Check the correct and uniform application of CPHR												
EU 24	277.774	0	277.774	0	0	0	553.235	0	553.235	831.010	0	831.010
Obligation 7: Submission and treatment of applications for Solidarity Funding												
EU 24	28.322	0	28.322	0	0	0	15.924	0	15.924	44.246	0	44.246
Obligation 8: Import inspection (at border or at place of destination)												
EU 24	0	25.983.570	25.983.570	0	0	0	0	0	0	0	25.983.570	25.983.570
Obligation 9: Official inspection of plants, plant products and other objects at the places of production												
EU 24	0	33.320.135	33.320.135	0	0	0	0	0	0	0	33.320.135	33.320.135
Obligation 10: Annual survey of protected zones or buffer zones												
EU 8	0	563.557	563.557	0	0	0	0	0	0	0	563.557	563.557
Obligation 11: Annual surveys of regulated harmful organisms												
EU 24	0	27.563.913	27.563.913	0	0	0	35.829	0	35.829	35.829	27.563.913	27.599.743
Obligation 12: Overall management of the Plant Health policy												
EU 24	0	2.305.769	2.305.769	0	0	0	0	555.832	555.832	0	2.861.600	2.861.600
Obligation 13: Conduct Pest Risk Analysis (PRA)												
EU 8	0	709.709	709.709	0	0	0	0	604.860	604859,85	0	1.314.569	1.314.569
Total costs	5.186.653	90.446.654	95.633.307	51.284.831	0	51.284.831	720.375	1.160.691	1.881.066	57.191.859	91.607.345	148.799.204

* Costs associated with the 13 obligations selected for the cost analysis, before the charging of fees by MS CAs to private operators

Table 3-32: CPHR costs, after the charging of fees by MS CAs to private operators, EU 24 average per year

Obligations	Competent Authorities			Private operators			Commission			**Total costs**		
	Administrative	Substantive	Total	Administrative	Substantive	Total	Administrative	Substantive	Total	Administrative	Substantive	Total
Obligation 1: Registration												
EU 24	1.236.625	0	1.236.625	1.613.816	0	1.613.816	0	0	0	2.850.441	0	2.850.441
Obligation 2: Authorization to issue Plant Passport												
EU 24	101.272	0	101.272	171.827	0	171.827	0	0	0	273.099	0	273.099
Obligation 3: Issuance of plant passport												
EU 24	3.164.606	0	3.164.606	8.286.093	0	8.286.093	0	0	0	11.450.699	0	11.450.699
Obligation 4: Notification of interceptions in trade												
EU 24	217.368	0	217.368	0	0	0	115.386	0	115.386	332.753	0	332.753
Obligation 5: keeping of records												
EU 24	0	0	0	41.373.782	0	41.373.782	0	0	0	41.373.782	0	41.373.782
Obligation 6: Check the correct and uniform application of CPHR												
EU 24	277.774	0	277.774	0	0	0	553.235	0	553.235	831.010	0	831.010
Obligation 7: Submission and treatment of applications for Solidarity Funding												
EU 24	28.322	0	28.322	0	0	0	15.924	0	15.924	44.246	0	44.246
Obligation 8: Import inspection (at border or at place of destination)												
EU 24	0	8.495.711	8.495.711	0	17.487.859	17.487.859	0	0	0	0	25.983.570	25.983.570
Obligation 9: Official inspection of plants, plant products and other objects at the places of production												
EU 24	0	14.553.688	14.553.688	0	18.766.448	18.766.448	0	0	0	0	33.320.135	33.320.135
Obligation 10: Annual survey of protected zones or buffer zones												
EU 8	0	563.557	563.557	0	0	0	0	0	0	0	563.557	563.557
Obligation 11: Annual surveys of regulated harmful organisms												
EU 24	0	27.563.913	27.563.913	0	0	0	35.829	0	35.829	35.829	27.563.913	27.599.743
Obligation 12: Overall management of the Plant Health policy												
EU 24	0	2.305.769	2.305.769	0	0	0	0	555.832	555.832	0	2.861.600	2.861.600
Obligation 13: Conduct Pest Risk Analysis (PRA)												
EU 8	0	709.709	709.709	0	0	0	0	604.860	604859,85	0	1.314.569	1.314.569
Total costs	5.025.967	54.192.347	59.218.314	51.445.518	36.254.307	87.699.824	720.375	1.160.691	1.881.066	57.191.859	91.607.345	148.799.204

* Costs associated with the 13 obligations selected for the cost analysis, after the charging of fees by MS CAs to private operators

Table 3-33: Completed EU standard reporting sheet on administrative costs

Community Plant Health Regime					Tariff (€ per hour)		Time (hour)		Price (per action or equipment)	Frequency (per year)	Number of entities	Total number of actions	Total cost	Regulatory origin			
No.	Article	Type of Obligation	Description required action	Target group	i	e	i	e						Int	EU	Nat	Reg
Obligation 1	Directive 2000/29/EC Article 6 (5)&(6) and Article 13 c (1)(b) Directive 92/90/EEC Article 1 and Article 2 (2°	Registration	Compile and submit an application for listing in an official register (including a plan of the premises on which plants, plant products and other objects are grown, produced, stored, kept or used by the operator)	Private operators	14,99 €		20		299,87 €	1	4.971	4.971	**1.490.584,93 €**		100%		
			Record any application for new registration in an official register, examine the information supplied in the application form, list the operator once the CA has established that it is able to meet the obligations	Competent authorities	28,75 €		1,96		56,40 €	1	24	4.971	280.343,45 €				
									33.961,75 €		16		543.388,00 €				
													823.731,45 €		100%		
			Possibly visit the premises of the applicant for registration		41,83 €		4,07		170,11 €	1	7	972	165.348,27 €				
									8.358,57 €		7		58.509,97 €				
													223.858,24 €		100%		
			Renew any existing registration (if relevant in a given MS)		14,79 €		1,05		15,57 €	1	6	19.253	**299.832,50 €**		100%		
Obligation 2	Directive 2000/29/EC Article 10 (4) Directive 92/105/EEC Article 2 (2°	Application for general authorization or exemption	Compile and submit an application for authorization	Private operators	17,71 €		5		88,56 €	1	1.517	1.517	**134.371,77 €**		100%		
			Record the application in an official register, examine the information supplied in the application form, list the operator once the CA has established that it is able to meet the obligations, amend or renew the register	Competent authorities	32,91 €		1,88		61,86 €	1	22	1.517	**93.866,04 €**		100%		
			Possibly visit the premises of the applicant for authorization to issue PP		52,19 €		4,94		257,63 €	1	2	94	24.216,85 €				
									685,00 €		2		1.370,00 €				
													25.586,85 €		100%		
Obligation 3	Directive 2000/29/EC Article 10 (1)&((4) Directive 92/105/EEC Article 1 (2); Article 2 and Article 3	Certification of products or processes	Produce and print the PP	Private operators	22,97 €		10		229,73 €	1	36.068	36.068	**8.286.092,95 €**		100%		
			In case the private operators are not authorized to issue PP: produce, print and deliver the PP	Competent authorities	36,59 €		4.645,87		169.980,82 €	1	16	16	2.719.693,14 €				
									22.147,75 €		16		354.364,00 €				
			Produce, print and deliver the specific PP for PWN (applicable to PT only)						12.935,57 €		7		90.549,00 €				
													3.164.606,14 €		100%		
Obligation 4	Directive 2000/29/EC Article 12 (4); Article 13c (8) Article 16 (1) &(2); and Article 21 (6)&(7) Directive 1994/3/EC Article 2 to 6	Notification of activities or events	Notify 3rd country interception and taken official measures through EUROPHYT to the Commission and the other MS	Competent authorities	36,81 €		246,04		9.056,985 €	1	24	24	**217.367,64 €**		100%		
			DG SANCO F4: Establish a network for the notification of new occurrences of harmful organisms (EUROPHYT)	Commission		41,91 €		1.710	71.658,72 €	1	1	1	71.658,72 €				
					25,57 €		1.710		43.726,88 €	1	1	1	43.726,88 €				
													115.385,60 €		100%		
Obligation 5	Directive 2000/29/EC Article 12 (2) Directive 92/90/EEC Article 2 (2b)	Other	To keep an updated plan of the premises on which plants, plant products, or other objects are grown and produced by the producer. To keep records of plants, plant products or other objects purchased for for storage or planting on the premises, under production or dispatched to others and to keep the related documents for at least one year. To keep any plant passport received for at least one year and enter the reference in their records.	Private operators	17,48 €		20		349,67 €	1	118.321	118.321	**41.373.781,79 €**		100%		
Obligation 6	Directive 2000/29/EC Article 16 (3) & ((5)	Cooperation with audits & inspection by public authorities	Assist DG SANCO F4 for their mission in the MS (filling in of questionnaire, preparation of required documents and information, mission planning and participation)	Competent authorities	32,25 €		358,89		11.573,93 €	1	24	24	**277.774,31 €**		100%		
			DG SANCO F4: Drafting of mission report	Commission	38,06 €		14535		553.235,45 €	1	1	1	**553.235,45 €**		100%		
Obligation 7	Directive 2000/29/EC Article 23	Application for subsidy or grant	Retrieve the required data , fill in the application form/dossier, submit it and possibly attend meeting to present it.	Competent authorities	32,25 €		36,59		1.180,09 €	1	24	24	**28.322,09 €**		100%		
			Analyse solidarity dossiers, verify the eligibility for funding, follow-up of accepted dossiers	Commission	41,91 €		380		15.924,16 €	1	1	1	**15.924,16 €**		100%		

3.11.4.5 Additional costs not imposed by the CPHR

The costs associated with the general surveillance (i.e. the surveillance for HOs other than those covered by the Community emergency measures and Control Directives) and the exports checks have also been analysed.

In total, 16 MS CAs (DK, EE, HU, IT, LV, LT, MT, NL, PL, PT, RO, SI, SK, ES, SE and UK) have provided data on the costs associated with the general surveillance, and the total cost for these MS comes to €8,378,161 on average per year.

Finally, the costs for MS CAs associated with the export checks amounts to €22,698,777[225] on average per year, of which €17,228,953 (75.9%) are charged as fees to private operators.

3.11.5 The fee system

Under Article 13d paragraphs 1 and 2, Directive 2000/29/EC imposes the collection of fees to cover the costs of the import checks (compulsory fees) as follows:

> "*Member States shall ensure the collection of fees (Phytosanitary fee) to cover the costs occasioned by the documentary checks, identity checks and plant health checks provided for in Article 13a(1), which are carried out pursuant to Article 13. The level of the fee shall reflect:*
> *(a) the salaries, including social security, of the inspectors involved in the above checks;*
> *(b) the office, other facilities, tools and equipment for these inspectors;*
> *(c) the sampling for visual inspection or for laboratory testing;*
> *(d) laboratory testing;*
> *(e) the administrative activities (including operational overheads) required for carrying out the checks concerned effectively, which may include the expenditure required for pre- and in-service training of inspectors.*
> *Member States may either set the level of the Phytosanitary fee on the basis of a detailed cost calculation carried out in accordance with paragraph 1, or apply the standard fee as specified in Annex VIIIa*".

Responses from CAs to the cost survey indicate that several MS not only collect fees for the activities foreseen under the above provision, but also collect fees to cover expenditures due to other CPHR obligations, such as for instance the inspection at the place of production.

The following analysis distinguishes between the fees charged by MS to cover the costs of the import checks (compulsory) and the fees charged by the MS to cover other types of costs.

[225] Only 20 MS CA have responded in the specific cost survey to questions concerning exports checks costs and fees. CY, DE, MT and ES did not provide any information on exports.

3.11.5.1 Fees to cover the costs associated with the documentary checks, identity checks and plant health checks

The majority of MS (20 out of 25) apply the standard fee of Annex VIII a of Directive 2000/29/EC. 5 MS (AT, DK, FI, NL and SE) use flat rates defined on the basis of detailed cost calculation, as summarized in the following table:

MS	Fee system (standard fee or cost calculation)	% of costs recovered through fees
AT	Detailed cost calculation	100%
BE	Standard fee of Annex VIII of Directive 2000/29/EC	50%
CZ	Standard fee of Annex VIII of Directive 2000/29/EC	52%
CY	Standard fee of Annex VIII of Directive 2000/29/EC	Not available
DE	Standard fee of Annex VIII of Directive 2000/29/EC	Approximately 35%
DK	Detailed cost calculation	100%
EE	Standard fee of Annex VIII of Directive 2000/29/EC	42%
EL	Standard fee of Annex VIII of Directive 2000/29/EC	Not available
ES	Standard fee of Annex VIII of Directive 2000/29/EC	Not available
FI	Detailed cost calculation	100%
FR	Standard fee of Annex VIII of Directive 2000/29/EC	91%
HU	Standard fee of Annex VIII of Directive 2000/29/EC	39%
IE	Standard fee of Annex VIII of Directive 2000/29/EC	Not applied yet*
IT	Standard fee of Annex VIII of Directive 2000/29/EC	Between 30% and 100% according to the region
LT	Standard fee of Annex VIII of Directive 2000/29/EC	34%
LV	Standard fee of Annex VIII of Directive 2000/29/EC	50%
MT	Standard fee of Annex VIII of Directive 2000/29/EC	50%**
NL	Detailed cost calculation	100%
PL	Standard fee of Annex VIII of Directive 2000/29/EC	63%
PT	Standard fee of Annex VIII of Directive 2000/29/EC	75%
RO	Standard fee of Annex VIII of Directive 2000/29/EC	Not available
SE	Detailed cost calculation	100%
SI	Standard fee of Annex VIII of Directive 2000/29/EC	72%
SK	Standard fee of Annex VIII of Directive 2000/29/EC	Not available
UK	Standard fee of Annex VIII of Directive 2000/29/EC	50%

** Fees are not yet applied in Ireland*
*** A new fee regime on the basis of the standard fee system of Annex VIIIa of Directive 2000/29/EC will be soon introduced in MT*

Source: compiled by FCEC based on responses to the specific cost survey

Analysis of the results to the cost survey indicates that, when MS apply the standard fee of Annex VIII, the fees collected cover between 34% and 75% of the costs associated with the documentary, identity and plant health checks. In the MS defining fees on the basis of the detailed cost calculation, the fee is usually set on a full cost-recovery base, adapted to the actual cost level.

Differences in the fee systems applied in the MS result in heterogeneity of the fees charged to private operators. The standard fee of Directive 2000/29/EC is below the fees calculated based on the detailed cost calculation. For MS cost recovery based fees, significant differences in the organisation, structure and staffing (number and profiles of staff) between MS results in different total costs for import checks and therefore in different fees applied.

The fact that the amounts mentioned in the Annex VIII of the Directive 2000/29/EC have not been indexed for a few years, while costs of import inspections have gone up, increases the difference in the fees applied under a full cost recovery system and under the standard system.

In its position paper, Freshfel indicates that '*Fees paid are disproportionately high in relation to the produce value because of the product quantity shipped, the small mixed loads and controls during evenings of the weekend. The current application of the fees system under the CPHR results in a distortion of competition between MS given the different options provided by the Directive 2000/29/EC. Therefore, as one internal market exists, there should be also only one fee system/a full harmonisation of the fee system'.*

According to the results of the specific cost survey, 11 respondents consider that the current application of the fee system result in a distortion of competition (14 do not know).

Specific cost survey results
Q 1.3.e (CA) or d (stakeholders) Extent to which the current application of the fees system result to any distortion of competition:
7 out of 25 MS CAs and 4 out of 8 stakeholders consider that the current application of the fees system results in distortion of competition (13 MS CAs and 1 stakeholder do not know)

As indicated by 5 MS in their comments to the specific cost survey, this heterogeneity in the fees applied may impact on the competitiveness of the concerned operators or, in the cases where there is a significant distinction between neighbouring MS in the applied fees, to the selection of the cheapest point of entry.

It is indeed difficult for a trader to understand why import inspection fees are different between neighbouring MS for, *a priori*, the same service. As a consequence, the trader will be tempted to choose the cheapest entry point. Nevertheless, import inspection fees are only one of the different factors taken into account by the trader when he is choosing an entry point. Airport taxes, extra charges for security, efficient logistics, etc also play an important role in

the trader's decision. It is therefore difficult to estimate to what extent a trader will choose another MS only because of a lower import inspection fee.

3.11.5.2 Fees to cover the costs associated with other CPHR obligations

MS are also collecting fees to cover expenditures due to other CPHR obligations, as summarized in the following table:

CPHR obligation	MS applying a fee	MS not applying a fee	No data provided
Registration	AT, DE, DK, EE, IT, LT, LV, NL, PT, SK and SE	BE, CZ, CY, FI, FR, EL, HU, IE, MT, PL, RO, SI and UK	BG, LU and ES
Inspection for delivery of authorization to issue PP	AT, BE, DE, EE, EL, FR, IT, LT, NL, SK, SI and UK.	CZ, CY, DK, FI, HU, IE, LV, MT, PL, PT, RO and SE	BG, LU and ES
Inspection at the place of production	BE, DE, DK, FI, FR, HU, IT, LT, LV, NL, PL, PT, SI, SE and UK	CZ, CY, DK, EE, EL, IE, MT and RO	BG, LU, SK and ES
Inspection for the survey of PZ	BE, DE, FR, IT, LT, PL and SI	AT, CZ, CY, DK, EE, FI, EL, HU, IE, LV, MT, PT, RO, SE and UK	BG, LU, NL, SK and ES

Source: compiled by FCEC based on responses to the specific cost survey

The results of the cost survey indicate that the obligations of registration, inspections for the purpose of delivering authorisation to issue plant passport, inspections of PZ and inspections at the place of production are often subject to the collection of fees by the competent authorities.

11 MS indicate they collect a registration fee (AT, DE, DK, EE, IT, LT, LV, NL, PT, SK and SE). The amount of the fee is fixed and can vary significantly from one country to the other. In some other countries (e.g. DK), the amount of the registration fee is function of the activity of the private operator (i.e. importer, producer, producer of seed potatoes. For the later, no fee applies). In those MS, the unit fee varies between € 7 and € 680. Differences may also appear between the regions of a MS, in the case of decentralized plant health services. For instance in Italy, the unit registration fee varies from € 25 to € 100 depending on the region.

12 MS indicate they collect a fee to cover the expenditures of inspection for the delivery of authorization to issue plant passport (AT, BE, DE, EE, EL, FR, IT, LT, NL, SK, SI and UK). The amount of the fee is either fixed (as e.g. in AT or in IT) or calculated according to the number of inspectors and the time needed to perform the inspection (as e.g. in BE, NL and UK).

A fee is collected for inspection of protected zones in 7 MS (BE, DE, FR, IT, LT, PL and SI). In some countries (e.g. FR or LI), the amount of the fee is fixed; in some other, it is calculated according to the time needed for the inspection (e.g. BE) or according to the surface of the PZ (PL). In some MS, the fee can also vary significantly depending on the region (as in DE or in IT), or on the species and the quantity of plant (SI).

The majority (16) the MS CAs indicate they collect a fee to cover the costs associated with inspection at the place of production (AT, BE, DE, DK, FI, FR, HU, IT, LT, LV, NL, PL, PT, SI, SE and UK). The amount of the fee is either fixed (e.g. in AT), or calculated according to the time needed for the inspection (e.g. in BE, NL and UK), or according to the surface (in PL, LV and SE). It can also vary depending on the species of the inspected plants (as in LV, SI and SE), or depending on the region (as in DE, where the unit fee varies between €15 and €100 in IT). The analysis of the results of the cost survey indicates that, when MS apply a fee for inspection at the place of production, the fees collected cover between 30 and 100% of the costs concerned.

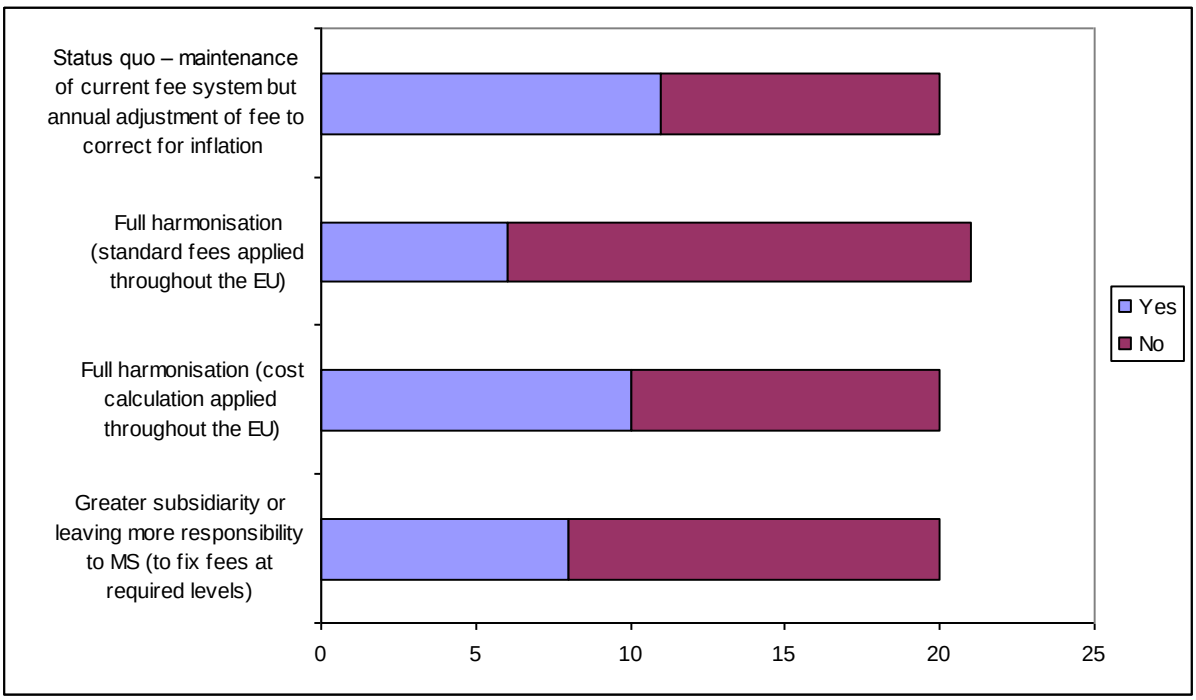
Although it is not a CPHR obligation, the inspection for the issuance of export certificate is subject to collection of fees in most MS (AT, BE, CZ, DE, DK, EE, FI, FR, EL, IE, IT, LT, LV, NL, PL, PT, SK, SI, SE and UK). The percentage of recovery for the competent authorities is usually higher than for the other fees (full cost recovery in 9 MS), and is higher than 100% in two MS. One MS CA mentioned in the cost survey that they are using receipts from export inspection to recover other expenditures due to the CPHR such as, for example, mandatory surveillance.

3.11.5.3 Suggestions to improve the fees system applied under the CPHR in the future

The results of the cost survey concerning what should be done in the future to improve the fees system applied under the CPHR indicate the following:

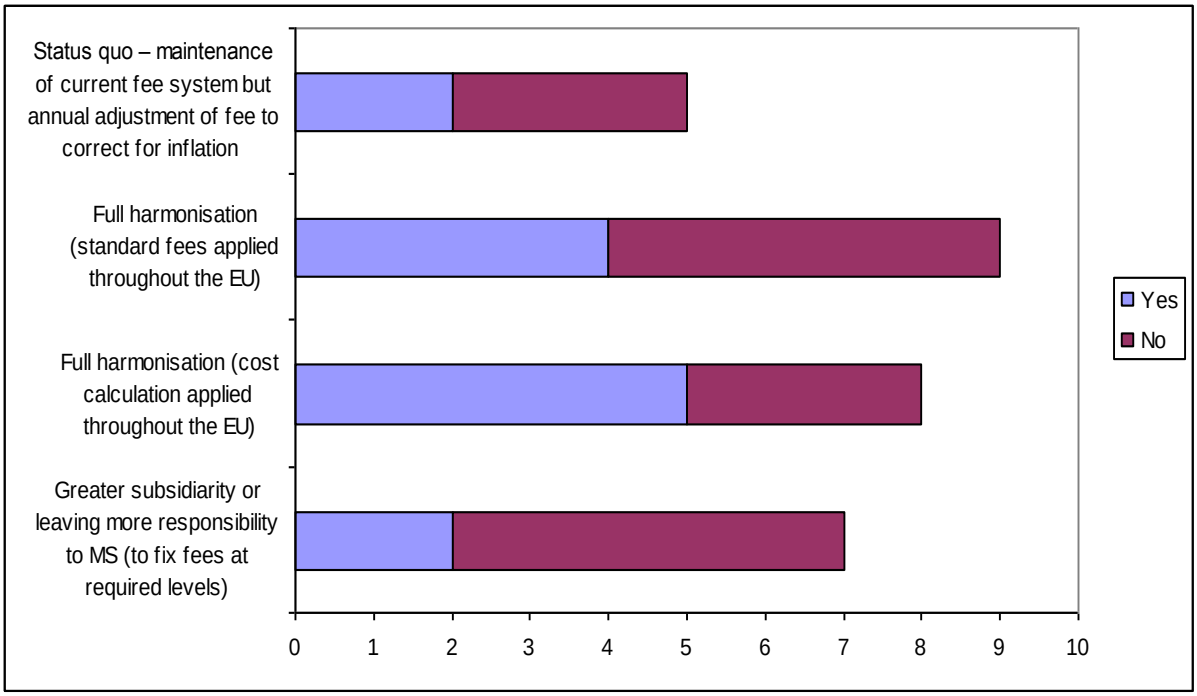
Specific cost survey results
Q 1.3.f) Suggestions to improve the fee system in the future:
11 out of 25 MS CAs and 2 out of 7 stakeholders consider that the current fees system should be maintained but that the fees should be annually adjusted to correct for inflation (4 MS CAs and 2 stakeholders do not know).
6 out of 25 MS CAs and 4 out of 9 stakeholders consider that standard fees should apply throughout the EU (4 MS CAs do not know).
10 out of 23 MS CAs and 5 out of 9 stakeholders consider that fees based on cost calculation should apply throughout the EU (3 MS CAs and 1 stakeholder do not know).
8 out of 25 MS CAs and 2 out of 8 stakeholders consider that greater subsidiarity or leaving more responsibility to MS (to fix fees at required levels) should apply (5 MS CAs and 1 stakeholder do not know).

Figure 3-20: Suggestions for the future fee system (put forward by MS CAs)



Source: compiled by FCEC based on responses to the specific cost survey

Figure 3-21: Suggestions for the future fee system (put forward by stakeholders)



Source: compiled by FCEC based on responses to the specific cost survey

From the results of the specific cost survey, it appears that the most frequently appearing suggestion is the full harmonisation via the use throughout the EU of the cost calculation approach; second comes the suggestion to maintain the current fee system with annual indexation to correct for inflation.

Several respondents have indicated that applying standard fees throughout the EU is not desirable. Many of them underlined the fact that different levels of cost of living in the MS (which affects staff salaries and costs) and the different organization of the CA services (which affects the number of staff for instance) lead to different total costs in every MS. The income of private operators subjected to the payment of fees is also different from one country to the other. There is therefore no justification for this kind of harmonisation.

In particular one MS CA suggested an alternative according to which the import taxes on the crop sector, including the import fee, should be paid directly to the EU budget to reimburse the entry points. The remuneration of entry points could be based on the number of lots inspected and their effectiveness.

Finally, one MS CA considers that the current fees system (in the case of full cost recovery) is not appropriate for importers under the 'reduced frequency checks' regime. The principle according to which fees apply to all lots, whether or not they are included in the inspected sample, results in the effect that the financial contribution of these importers is disproportionate compared to the reduced frequency of the inspection applied to their consignments. Instead, this MS CA suggests amending the Directive so that, in addition to an distribution among lots, it would also be possible to distribute at the level of the importers. They envisage a system in which the costs of the documentary and the general processing and phytosanitary release costs are charged to all lots equally but the lots included in the sample would also be charged for the cost involved in the actual inspection. This alternative would allow distributing the inspection costs proportionally among the importers over the year, provided sampling is properly carried out.

In conclusion, there is a general concern about the existing heterogeneity in the fees systems applied in the different MS. However, due to difficulty in comparing the fees applied in the different MS, it is difficult to estimate the extent to which this heterogeneity has led to distortions in competitiveness between MS. Other key factors also affect competitiveness. The majority of respondents are in favour of increased harmonisation in the future, preferably via the use of the cost calculation approach throughout of EU.

It is noted that the FCEC study of the fees system applied for veterinary inspections under Articles 26-29 of Regulation (EC) 882/2004 [226] has highlighted very similar issues and concerns, leading to the conclusion that the fees system under this Regulation needs to be reconsidered.

The study established that there is a significant degree of variation in the enforcement of the financing provisions of the Regulation by MS and a significant lack of clarity and transparency of the various national fee systems as currently implemented. As a result, direct

[226] Undertaken by the FCEC for DG SANCO in 2008-09.

comparison of actual fee levels across the EU (and between sectors) is extremely difficult. The study results also suggest that it is quite unclear whether cost-based fees truly reflect actual costs incurred by the CAs of the MS for the performance of the inspections for which the fees are collected. In more general terms, the study investigated whether the main objective of the inspection fees system as in place at the moment has been reached, i.e. ensuring that MS have sufficient financial resources to carry out the official controls (Article 26 of the Regulation). The study suggests that this main objective has largely not been fulfilled at present for the EU as a whole. To address these shortcomings, a range of options are proposed from full harmonisation to full subsidiarity.

The Commission's report on the implementation of Regulation 882/2004[227] concludes that the results of the study call for a review of the current system of inspection fees and charges. The Commission has started this review which foresees a wide consultation with MS and other stakeholders in view of carrying out an impact assessment of the available options in the course of 2010. On this basis, a legislative proposal to review the current system of inspection fees under Regulation 882/2004 may follow if considered appropriate.

In conclusion, Directive 200/29/EC foresees a fee system similar to the one of Regulation 882/2004. The above analysis of the national fee systems implemented in the phytosanitary sector indicates a lack of harmonisation among the systems applied by MS. Suggestions for the future mainly relate to the harmonisation of the fee system, preferably based on the use throughout the EU of a cost calculation approach. In this context, an alignment to the evolving fees system of Regulation 882/2004 may eventually need to be considered for the fee provisions of the CPHR.

Nevertheless, the research on fees carried out under this evaluation remains too broad compared to the above specific study carried during the evaluation of the fee system of Regulation 882/2004. Therefore, further investigation would be needed to understand the implications from the on-going review of Regulation 882/2004 and potential options for reviewing the fee system applying in the phytosanitary sector.

3.11.6 Opportunities for cost reduction

The specific cost survey also enquired about potential opportunities for cost reduction with equivalent or increased benefits, i.e. promoting greater cost-effectiveness.

Specific survey results
Q 3.1. Opportunities for cost reduction with equivalent or increased benefits
7 out of 24 MS CAs and 1 out of 8 stakeholders suggest the cancellation of one or more obligations (7 MS CAs and 6 stakeholders do not know)
9 out of 24 MS CAs and 4 out of 9 stakeholders suggest the reduced frequency for one or more obligations (4 MS CAs and 4 stakeholders do not know)
5 out of 24 MS CAs and 1 out of 7 stakeholders suggest the reduced intensity for one or more obligations (7 MS CAs and 4 stakeholders do not know do not know)
7 out of 24 MS CAs and 4 out of 9 stakeholders suggest the delegation of one or more obligations (4 MS CAs and 3 stakeholders do not know)

[227] As outlined in COM/334/2009/final. adopted on 8/7/09.

9 out of 24 MS CAs and 4 out of 9 stakeholders suggest the improved balance of cost-sharing between public authorities and private operators (9 MS CAs and 4 stakeholders do not know)
9 out of 25 MS CAs and 0 stakeholder suggest the introduction of cost sharing scheme to improve balance between private operators (11 MS CAs and 6 stakeholders do not know)
15 out of 25 MS CAs and 1 out of 9 stakeholders suggest additional synergies with obligations imposed under other EU legislation (9 MS CAs and 6 stakeholders do not know)

In their comments, respondents indicate the following opportunities:

- Act faster to revoke quarantine status of HOs which no longer meet this definition (for example, because they are well spread);
- Remove from the scope of import inspections very low risk produce;
- Provide PZ status for those MS for whom an HO is a true quarantine pest;
- Further develop risk-targeted import inspections ;
- Authorize reduced frequency of official inspection at the place of production that put in place an internal risk management system (self control programme);
- Delegate inspections of lower risk materials where no conflict of interest arises;
- Delegate laboratory tasks, because of the high investments, expertise etc.;
- Enhance responsibility of private operators for plant health, thus leading to a better and cheaper utilization of tools of the operators;
- Improve/extend the use of solidarity funding, thus leading to higher incentive for producers to implement plant health measures ;
- Introduce product liability so that traders/producers could be made responsible in case of trading plant material with pests ;
- Adapt at EU level the approach aiming at implementing a co-financing between the State and the private operators to compensate private operators in case of outbreak ;
- Encourage the implementation of private funds/mutual funds;
- Improve the coordination with the current S&PM Marketing Directives and customs and upcoming EU strategy on Invasive Alien Species (IAS).

More generally, the potential savings in terms of eradication and control costs, from investment on measures that promote better risk targeting and more prevention and early response, were noted by interviewees during the consultation and field visits. These anticipated benefits are backed up by some literature that exists on the subject. For example, research carried out on rationalising the costs of import inspection capacity in the NL concluded that each additional € of inspection capacity (i.e. more investment in prevention) decreases the expected costs of pest introduction by €18-49 (depending on the initial inspection capacity); *ceteris paribus*, if greater inspection effort is allocated to high risk pathways (i.e. better targeting of risks), the inspection yields a greater reduction in the expected costs of pest introduction[228]. Further research by the same authors, concluded that a budget increase that enables 42% more inspection can reduce total societal costs by 81% compared to a smaller, constrained budget that ignores risk differentials[229]. The potential

[228] A model of optimal import phytosanitary inspection under capacity constraint. Surkov et al, Wageningen University, The Netherlands. June 2007.

[229] The optimal amount and allocation of sampling effort for plant health inspection. Surkov et al, Wageningen University, The Netherlands. April 2008.

benefits of better risk targeting and prevention in cost rationalisation are noted by a series of studies in other countries (e.g. US, Canada), and in animal health policies.

In conclusion, the evaluation has highlighted a number of areas where opportunities for cost reduction exist, including the quicker adaptation of the measures and the provision of incentives through responsibility sharing and the solidarity funding. More generally, enhancing prevention and the prioritisation of measures present opportunities for improving the cost effectiveness of the current system. These aspects have been built into the options that have been developed for the future (e.g. prevention: section 5.2 on imports and section 5.3 on surveillance intra-EU; incentives: section **Error! Reference source not found.**).

3.11.7 Distribution of financial risks and review of incentives

The analysis of the distribution of financial risks refers to the question: '*Who should pay for what*?'

The analysis of the distribution of financial risks refers to the question: '*Who should pay for what*?'. This question is important because, as discussed in section 3.11.1, the extent to which current mechanisms exist for cost and responsibility sharing and for the provision of the appropriate incentives at all levels is an important factor that can determine the success or failure of phytosanitary measures.

This question is examined at two levels: between the Commission and MS (EU solidarity funding); and, between national governments and private operators (MS compensation schemes).

As presented in the previous sections, the current distribution of financial risks is as follows:

- In case of an outbreak, the MS take all necessary measures to eradicate the HO. Costs of measures are either supported by the CA or by the private operators, depending on the extent to which a specific mechanism exists in the MS for the sharing of costs.
- The EC solidarity reimburses the phytosanitary measures incurred by MS as long as they are paid by public funds. It can be used for all quarantine organisms and phytosanitary measures (i.e. there is no prioritization of HO or measures, except for all kinds of restrictions (e.g. replacement of destroyed trees) and prohibition of use where a maximum co-financing ceiling of 25% applies compared to 50% for the other measures).
- The EC solidarity regime does <u>not</u> cover:
    - The cases of natural spread;
    - The losses incurred by private operators.

As highlighted during the surveys, the interviews and the February stakeholders' conference, the financial consequences of any case of outbreak are a function of the time of detection of the outbreak (the later the time, the higher the costs) and the ability to act immediately once the HO is detected. This ability is a function of the degree of knowledge of the HO; the availability of financial, technical and human resources to eradicate the HO and the dispersal

mode of the HO (the more the HO is confined to a specific crop and doesn't spread rapidly, the greater the probability to be able to eradicate it).

Overall, the MS CAs and stakeholders consulted during the surveys and the interviews are only partly satisfied with the current distribution of financial risks.

Specific cost survey results:
Q1.4. a) (asked to CAs only). Extent to which the EU financial contribution has been appropriate to addressing the needs of the CPHR, in terms of coverage and funding
12 out of 25 MS CAs consider that the EU financial contribution has been partly appropriate (7 MS CAs do not know and 4 consider it has been not much appropriate)
Q1.4. d) for CAs and c) for stakeholders. Extent to which the EU financial contribution has provided the right incentives to support the specific objectives of the CPHR
10 out of 25 MS CAs and 0 out of 8 stakeholders consider that the EU financial contribution has provided the right incentives (11 MS CAs and 7 stakeholders do not know)
Q1.4.e) for CAs and d) for stakeholders. Extent to which the EU financial contribution has provided unintended negative or adverse incentives to engage in behaviour against the specific objectives of the CPHR
1 out of 25 MS CAs and 0 out of 8 stakeholders consider that EU financial contribution has provided unintended negative or adverse incentives (14 MS CAs and 7 stakeholders do not know)

3.11.7.1 EU solidarity funding

At EU level, the solidarity regime is a financing mechanism open to all MS that have incurred or will incur eradication expenditure in combating a HO for the emergence of which they are not responsible.

Art. 23 (4) of Directive 2000/29/EC describes the information needed in order to qualify for the financial support. The MS shall apply before the end of the calendar year after which the appearance of the HO was detected and provide detailed information, including on:

- The identity of the consignment through which the HO was introduced or the probable source of contamination;
- The necessary measures taken or planned; and
- The results obtained and the actual or estimated cost of the expenditures incurred or to be incurred, and the proportion of such expenditures covered or to be covered by public funds.

Art. 23(2) of the Directive lists the types of measures eligible for solidarity financing, which include phytosanitary actions such as:

a) Destruction, disinfection, disinfestations, sterilisation, cleaning or any other treatment,
b) Inspections and testing; and
c) Prohibitions or restrictions (in the use of growing substrates, cultivable areas, plants, plant products or other objects other than material from the consignment) aimed at eradicating the harmful organism in the demarcated zone.

Expenditures directly relating to the necessary measures are considered, in particular:

- Payments made from public funds in order to cover all or part of the costs of the measures of (a) and (b), except those related to the running costs of the competent official body;
- Payments made from public funds in order to compensate for all or part of the financial losses other than loss of earnings resulting from the measures described in (c).

Therefore the cost for growers whose plant material is destroyed is not compensated, although a possibility to cover such costs has been inserted but the implementing Regulation has never been developed.

A minimum threshold of €25,000 exists for the eligible costs[230].

The majority of CAs and stakeholders consulted for the purpose of this evaluation – in common with the feedback received during the Solidarity Regime evaluation - consider that the EU financial contribution does not sufficiently address the appropriate issues in the most efficient way.

During the solidarity regime evaluation, the majority of MS CAs agreed that it is a sound instrument whose underlying principles aspire to promote efficient and effective outcomes, i.e. timely notification of the outbreak, taking all necessary eradication measures, introduction of the dossier at the latest before the end of the calendar year following that in which the appearance of the HO was detected, maximum duration, maximum Community contribution of 50%, one dossier for eradication measures per year, degressivity rule. The current rate of compensation was also considered to provide a proper balance between MS and Community cost sharing.

Nevertheless, the contribution of the solidarity regime to the overall objective of protecting and raising the health status of plants in the Community is considered to be limited because:

1) The scope of action is relatively narrow. Some outbreaks currently not eligible for solidarity funding may have significance for the entire Community and the action taken by the first MS could prevent the spread of the HO to the neighbouring MS; and,
2) All HOs are eligible for funding and all dossiers receive the same contribution in percentage. The solidarity regime does not use any prioritisation mechanism as a means of better targeting its resources where risks are greatest.

The incentives that the solidarity regime represents remain relatively limited for the following reasons:

- The solidarity regime is mainly an instrument of reimbursement *a posteriori* with reduced possibility for intervention at the time of appearance of the HO;
- Solidarity funding is allocated to cover the phytosanitary costs of an outbreak for which the MS is not responsible (i.e. MS is the victim of the emergence of an HO). However,

[230] According to Art. 4(3) of Commission Reg. No 1040/2002/EC, as amended by Commission Reg. No 738/2005/EC, the financial contribution from the Community shall not be granted where the total amount of eligible expenditure per year is less than € 25,000.

for solidarity dossiers where the origin of the contamination is not clearly identified, it may be difficult to decide on the responsibility or non-responsibility of the MS (this problem is compounded by the exclusion of natural spread from current provisions);
- The eligible costs only represent a small proportion of the total costs of an outbreak. The exclusion of major cost items such as production losses is a major disincentive.

Notifications on the identification of new HOs in a given zone and presence of not known and not (yet) listed organisms is delayed by the absence of incentive to notify for 1) the farmers/growers to the NPPOs and 2) the NPPOs to the EC. This point leads to the conclusion that, by the time the EU receives notifications of outbreak, the pest is already quite well established. The main incentive for speeding up notifications is financial, i.e. more solidarity funding on the one hand and more penalties for late action on the other hand.

It was also noted that the CPHR does not contain any other incentives for the MS and for the stakeholders, such as the legal liability within the production and trade chain.

Several respondents to the general survey and interviewees also indicated the lack of disincentives to act against the specific objectives of the CPHR, such as the legal possibility of banning the movement of specified commodities from areas or countries not complying with adopted rules, or the effective enforcement of penalties for failure to act.

In conclusion, the evaluation has confirmed the results of the earlier (2008) evaluation of the solidarity regime, in that the incentives provided by the regime remain relatively limited in a number of areas (intervention ex-post; exclusion of production losses; difficulty of assigning responsibility, particularly in cases of natural spread; lack of disincentives; non effective enforcement of penalties), for which there is still considerable room for improvement of the solidarity regime.

3.11.7.2 MS compensation schemes

In terms of the sharing of responsibilities and costs at MS level, the government and/or industry sectors have developed mechanisms in several MS to provide assistance in case of outbreak.

The sharing of costs can either be retrospective (i.e. after the outbreak) or prospective (i.e. in advance of the outbreak).

In the first case, it mainly refers to compensation paid by Government after the outbreak[231]. A budget may have been foreseen in the State budget to that aim or not. Such schemes exist in 11 MS: BG, CZ, CY, ES, FI, HU, LT, LV, PL, PT and SI.

[231] Any substantial support by a MS to small and medium-sized enterprises active in the production of agricultural products must be granted within a State aid framework that ensures Commission control and avoids distortions of competition. Aids to provide compensation for the losses incurred by plant pests and diseases and aids to prevent future losses may only be permitted by the Commission on the basis of Article 87 (3) (c) of the Treaty which provides that aid to facilitate the development of certain activities may be considered compatible with the common market provided that it does not affect trading conditions to an extent contrary to the common interest. Unilateral State aid measures which simply seek to improve the financial situation of producers but

In the second case, it refers mainly to the cases of mutual funds or of independent insurance schemes.

Mutual funds: an industry sector (and possibly Government) contributes on an agreed individual basis to a common fund for the payment of the outbreak costs of affected business. This scheme exists in BE, DK and in FR. The schemes developed in BE and DK are private (i.e. contribution only comes from the growers) and target growers of seed and ware potatoes. The scheme developed in FR is a private one taken over by a public one (i.e. producers pay a fee to the manager of the professional solidarity fund that asks for a State contribution in case of outbreak). Such scheme exists since 2002 for seed potatoes and for *Diabrotica virgifera* on maize since 2009.

Independent insurance schemes: an industry sector pays annual premiums towards a fund that underwrites all or part of businesses' potential losses. In the NL, the growers initiated such an insurance scheme in 1997, i.e. Potatopol, which sets premiums, collects premiums and pays claims on the basis of outbreaks of *Ralstonia solanacearum* and *Clavibacter michiganensis subsp. sepedonicus* confirmed by the official plant health service.

Potatopol covers risks due to plant diseases risks only. The analysis of the 2008 JRC report on the agricultural insurance scheme[232] shows that, in several MS, the risks associated to plant diseases or insects are covered in the context of more general insurance scheme, covering also common risks like hail, frost, wind, flood, excess rain, drought, etc. This kind of insurance exists in AT, IT and HU.

A complete overview of the compensation systems developed in the different MS is provided in **Annex 4**.

From the analysis of the cost (and responsibility) sharing schemes applied in the MS, it can be concluded that:

- There are MS where no scheme applies; i.e. in the sectors where schemes have been developed, producers are not treated the same way in case of outbreak;
- In the case private schemes (mutual fund or insurance schemes) developed by an industry sector, financial intervention only occurs if strict prevention measures (generally defined by the Plant Health Authorities) have been respected;
- Schemes have been developed mainly in sectors of the industry which are not complex, having a similar producer base, few crops and few key pests and diseases (e.g. potatoes).

The results of the specific cost survey indicate that the majority of MS CAs consider cost and responsibility sharing schemes to be the appropriate tools.

which do not contribute to develop the sector are considered as incompatible with the common market. The State aid framework is established by the Commission Regulation 1857/2006/EC.

[232] Agricultural Insurance Schemes, JRC , 2008

Specific cost survey results
Q1.5.b 1) Extent to which the cost sharing scheme is an appropriate tool to encourage compliance with measures that reduce the risks for others
13 out of 21 MS CAs consider that cost sharing scheme is an appropriate tool to encourage compliance with measures that reduce the risks for others (7 MS CAs and 4 stakeholders out of 6 do not know)
Q1.5.b 2) Extent to which the cost sharing scheme is an appropriate tool to gain collaboration in controlling outbreaks
13 out of 21 MS CAs and 2 out of 6 stakeholders consider that cost sharing scheme is an appropriate tool to gain collaboration in controlling outbreaks (7 MS CAs and 2 stakeholders do not know)

MS CAs consider such schemes to be appropriate in that they encourage enforcement and compliance: private operators can only benefit from the scheme if they have complied with the legal requirements, for instance eradication measures but also use of hygiene protocol, testing material in advance etc. However, the compensation paid by governments after an outbreak often rely on *ad hoc* actions and, as discussed above, mutual funds or insurance schemes are not applicable in all sectors at the same level or under the same conditions.

As highlighted in a study conducted by Imperial College London on Responsibility and Cost Sharing Schemes Options for Quarantine Plant Health[233], levy- and insurance-based cost sharing options for outbreak control are difficult to establish where an industry is complex and the direct benefits of outbreak control to business are less evident. This applies to some horticultural production, particularly ornamentals, and the broader "environmental sector" which makes ornamental plantings, where plant health threat has an environmental, public good component. In these cases, options involving government contributions to outbreak control costs may be the best way to ensure compliance and protection of public goods.

In conclusion, costs and responsibility sharing schemes are generally considered to be the appropriate tool to provide incentives for government and private operator enforcement and compliance. The choice of tools (government contributions; private sector based) needs to be pursued on a case by case basis, where feasible. The generalised application of private sector schemes is constrained by industry specificities and structures and where plant health threat has an environmental, public good component. In such cases, there are strong arguments for government supported compensation schemes.

3.11.8 Direct costs and losses of mandatory destruction of plant materials

As indicated above a major gap in the current solidarity regime is considered to be the exclusion of coverage for the costs and losses incurred by private operators. It is noted that there is lack of quantitative information regarding costs and losses for private operators. This issue was specifically addressed by the cost survey and during interviews with stakeholders but virtually no quantitative data was provided. Therefore, estimating the potential scale of coverage of these costs under the solidarity regime remains impossible at present.

Costs and losses to private operators in case of HO outbreak can be direct or indirect, as follows:

[233] Responsibility and Cost Sharing Options for Options for Quarantine Plant Health, Centre for Environmental Policy, Imperial College London, July 2007

Direct costs and losses refer to costs and losses caused directly by the measures imposed by the plant health authorities. They concern the costs of destruction, the value of the destroyed plant material (infested or suspected), the cost of pesticide treatment (if applied), the partial loss of plant material value due to pesticide treatment (e.g. in case of pesticide treatment of tomato against *Bemisia tabaci* , reduced value of the product which is not pesticide-free), cost of disinfection and losses associated to business interruption.

An example of losses associated to business interruption refers to the 'aubergine' test, applied in case the PCR test for brown rot or ring rot on potatoes reveals positive. The PCR test gives results in one day whereas the 'aubergine' test (which has to be carried out to ascertain that the result was not a false positive) takes up to 7 weeks to give a result. In the meanwhile, the production has to be blocked under the National Protection Authority. This generally causes a lot of losses and commercial problems because at the time the production is released, the production cannot be sold or the value has decreased.

Direct losses generally also include price risks, i.e. partial loss in plant material value due to price decrease on markets caused by HO outbreaks and/or higher replacement costs.

Indirect losses, also referred to in literature as consequential losses, are the losses indirectly accrued to related industries that also experience effects from an HO outbreak, e.g. traders, processing industries, auction markets, and possibly tourism industries.

For instance, the potato chain is composed of growers (of potato and seed potato), traders (selling and buying potatoes either as fresh products or for processing) and the processors. As an example, representatives of the potato sector in BE indicated the following indirect losses associated to the outbreak of potato ring rot on seed potatoes and ware potatoes in BE in 2003: breach of contract delivery, replacement costs of the goods declared contaminated or probably contaminated, loss of reputation and market, rejection of seed lots by some buyers because they came from a sorting centre affected by the contamination, breach of contract production (due to lack of seed potatoes) or contract of storage.

In case of outbreak, the magnitude of the losses depends on the value of the plant materials (for instance, according to one interviewee, the value of 1kg of tomato seed is estimated between €140.000 and €200.000). It also depends on the extent to which the material can be treated against the HO or need to be destroyed.

Although the evaluation has extensively tried to collect data on the actual or potential costs and losses incurred by private operators in the case of outbreaks, including via the specific cost survey, this is one area where no data has been provided by stakeholders. Only the existing studies reviewed for the purposes of the above sections on impacts and benefits (3.11.2 and **Error! Reference source not found.**, respectively) indicate the potential scale of ome losses in certain cases. This is therefore an area where further cooperation with stakeholders is needed. Determining the extent and scale of the costs and losses incurred by private operators is an important element for considering the feasibility of their potential coverage by the solidarity regime.

3.11.9 Conclusions on costs and benefits

The impacts of plant diseases can be as devastating as animal diseases. Based on existing studies, past cases of HOs introduced and established in the EU, as well as estimates of potential impacts, the costs associated with plant diseases can be substantial, and ultimately the scale of the impact can potentially reach those recorded in the case of animal diseases. For example, in the case of *Bursaphelenchus xylophilus* (PWN) the control costs of the disease in PT have reached some 40 million € in the period 1999-2008 (including solidarity funding); the potential economic impact of failure to act could reach some 5 billion €/year from the potential destruction of some 10-13 million ha of susceptible coniferous trees (50-90% mortality rate). Other cases not specific to the EU, but that have occurred elsewhere, are an example of the potential scale of impact that could be reached. Ultimately, in value terms, in the EU, the share of production and exports of plants and plant products to the total value of agricultural production and exports is comparable to that of animals and animal products.

The actual and potential scale of impacts also highlights the extent of the benefits where the CPHR has effectively contributed both to avoiding the introduction of potentially injurious HOs and to slowing down their spread. A case study of 5 HOs (*Anoplophora (chinensis* and *glabripennis), Ceratocystis (fagacearum* and *fimbriata), Erwinia Amylovora,* Grapevine Flavescence dorée and *Phytophthora ramorum*[234]*)* demonstrates substantial benefits.

The overall benefits of avoiding or delaying the introduction and spread of any HO in the EU include not only the avoidance or reduction of agricultural losses and gain in competitiveness for which the private sector is the main beneficiary, but extend over the avoidance or reduction of damage to ecosystems, biodiversity and rural communities from which the wider society benefits. The strong public good components of the CPHR are therefore highlighted.

The CPHR is considered to have been partly successful in preventing the introduction and spread of HOs, with success highly dependent on the targeted HO. The main lesson drawn from the cases of failure or partial failure (e.g. PWN*; Rhynchophorus ferrugineus* - red plam weevil*; Tuta Absoluta*) is the need to act quickly and decisively in case of introduction. Currently, the evaluation of the situation before taking measures is, sometimes, too slow or not decisive enough in responding to phytosanitary emergencies. A critical factor, in this context, for determining the success or failure of phytosanitary measures taken in any sector will be the availability of incentives for action at all levels.

CPHR provisions have provided the most effective protection as regards the HOs covered by the EU Control Directives (e.g. potatoes) for a range of reasons, mainly relating to the focus of the measures in a specific sector and the availability of incentives. By contrast the least effective protection appears to be provided in sectors where there is currently lack of clarity in measures and which are highly complex with a broader spectrum of affected stakeholders and potentially conflicting interests; this includes both some commercial production sectors and public / private green space.

[234] HOs selected out of a total 203 combinations (MS x HO) for which the benefits of the CPHR were widely attributed by respondents to the specific cost survey, although not necessarily representing absolute success cases across the EU-27.

The evaluation has confirmed the results of the earlier (2008) evaluation of the solidarity regime, in that the incentives provided by the regime remain relatively limited in a number of areas (intervention ex-post; exclusion of production losses; difficulty of assigning responsibility, particularly in cases of natural spread; lack of disincentives; non effective enforcement of penalties); in all these areas there is considerable room for improvement of the solidarity regime. A major gap is considered to be the exclusion of coverage of costs and losses incurred by private operators. However, there is paucity of data on the extent and scale of these costs, for which further cooperation with stakeholders is needed, as this is a crucial element for examining any revisions to the current system.

Costs and responsibility sharing schemes are generally considered to be the appropriate tool to provide incentives for government and private operator enforcement and compliance. The choice of tools (government contributions; private sector based) needs to be pursued on a case by case basis, where feasible. The generalised application of private sector schemes is constrained by industry specificities and structures and where plant health threat has an environmental, public good component. In such cases, there are strong arguments for government supported compensation schemes.

The total administrative and other operational costs of the CPHR were estimated on the basis of a purpose-built cost model (applying the methodology of the EC Standard Cost Model), with data provided by MS through the specific cost survey. In total, based on the data provided for 24 MS[235], the total costs associated with the 13 CPHR obligations selected for the analysis amounts to €148,799,204 on average per year, of which €57,191,859 are administrative costs and €91,607,345 are compliance costs. The average annual costs include: the total costs for the 24 MS CAs (€59,218,314 net of fees, of which 8.5% are administrative costs); this covers the three most important obligations in terms of costs are import inspections, the inspections at the place of production and the compulsory annual surveys of HOs regulated under the emergency measures and the Control Directives; the total amount recovered by the 24 MS CAs through fees charged to the private operators pursuant to Article 13d(1) of Directive 2000/29/EC) (€36,914,993). In addition, based on data provided by 18 MS CAs, the costs of eradication and control measures amounted to €132,139,696 in total during 1993-2008. The total administrative costs for the private operators (same 24 MS) amount to €51,445,518 on average per year, with the obligation to keep records representing 80.42% of the total. Finally, the total cost on average per year for the European Commission is estimated at €1,881,066, of which 38.3% is administrative cost.

The evaluation has highlighted a number of areas where opportunities for cost reduction exist, including the quicker adaptation of the measures and the provision of incentives through responsibility sharing and the solidarity funding. More generally, enhancing prevention and the prioritisation of measures present opportunities for improving the cost effectiveness of the current system. These aspects have been built into the options that have been developed for the future (e.g. prevention: section 5.2 on imports and section 5.3 on surveillance intra-EU; incentives: section **Error! Reference source not found.**).

[235] As outlined in section 1.5.4, of the 25 MS that responded to the specific cost survey, the analysis was only possible for 24 MS, as in the case of 1 MS the response was incomplete.

3.12 Coherence with other EU policies

This section summarises the findings of the evaluation on the CPHR performance to date, taking into consideration EQ 20 (area I) of the ToR.

EQ20: In how far is the CPHR appropriately connected and appropriately coordinated with related Community regimes?

The coherence of the CPHR with the following Community regimes was explored in particular:

3.12.1 Coherence with the S&PM regime

The EU seeds and plant propagating material (S&PM) legislation includes a series of 11 marketing directives aiming at regulating the certification of S&PM before their commercialisation. One aspect of this certification is the state of health of the S&PM. The emphasis on plant health varies considerably amongst the various Directives. The provisions on plant health are most prominent in the Directives dealing with the marketing of PM, in particular those on seed potatoes (Directive 2002/56/EC), vegetable and fruit PM (Directives 92/33/EEC and 92/34/EEC) and the PM of ornamental plants (Directive 98/56/EC). Council Directives on the marketing of S&PM lay down general plant health requirements such as, for seeds, "*harmful organisms which reduce the usefulness of the seed/propagating material shall be at the lowest possible level*".

Compared with the plant health legislation that targets quarantine diseases, the marketing directives target 'non quarantine' diseases & pests that affect yields and the quality of production but do not qualify as quarantine pests, mainly because they are already widely distributed and are hardly dependent on human intervention for their spread. Within this category, a small group of pests, i.e. the regulated non-quarantine pests (RNQPs), are nevertheless prohibited or only permitted within a certain tolerance on planting material such as certified seed potatoes, seeds and certain ornamental, vegetable and fruit plants. For seeds, it is specified that all HOs must be at the lowest possible level. The relation between Directive 2000/29/EC and the S&PM Directives was also discussed in the context of RNQPs in section 3.2.2.

The existence of some inconsistencies between the S&PM and the CPHR legislation was identified by the majority of MS during the general survey and confirmed by the CAs and stakeholders during the field visits in the MS.

General survey results
Q 9.1 Source of inconsistencies between CPHR and S&PM legislation:
17 out of 25 MS CAs and 8 out of 22 stakeholders consider that CPHR overlaps with the S&PM legislation and that such overlapping can be a source of conflict/inconsistency (2 MS CAs and 11 stakeholders do not know).
Q 9.2 Extent to which the revision of the CPHR in future should be guided by any of the principles developed under the S&PM regulation:
9 out of 24 MS CAs and 13 out of 22 stakeholders consider that the revision of the CPHR should be guided by the S&PM regulation (4 MS CAs and 8 stakeholders do not know).

The identified inconsistencies refer to:

- Generally, the listing of organisms in two sets of legislation, i.e. the "quarantine" organisms in the plant health legislation and the "quality" organisms in the S&PM legislation;
- The listing of some specific organisms in both sets of legislation, i.e. *Synchytrium endobioticum* and *Pseudomonas solanacearum*;
- The unclear position of RNQPs;
- The co-existence of marketing standards for certificates and plant passports;
- The conducting of separate inspections for certification and for plant health purposes;
- The existence of two certification schemes for fruit plants, i.e. certification of fruit plants according to Article 4(b) of Directive 2008/90/EC and according to Articles 15 and 16 in Annex IV.A.II of Directive 2000/29/EC, where reference is made to a certification scheme. In the market place these two schemes are relevant for the same businesses (private operators do not in practice make the distinction between the two pieces of legislation).

The evaluation of the Community legislation on the marketing of S&PM carried out by FCEC in 2008 had highlighted additional inconsistencies between the two sets of legislation, as follows:

- Concerning flower bulbs, the requirements of Directives 98/56 and 2000/29/EC differ on some points for the same crops;
- Concerning vegetable plants, producers of the plants from seed must guarantee that the plant produced is pathogen free whereas this obligation does not apply to the seeds he used to produce the plant;
- Directive 2002/56 on the marketing of seed potatoes allows the transport of Farm Saved Seed (FSS) (potatoes intended for planting but for own use) from one production site to another without the obligation to certify these. However, the plant health Directive 2000/29/EC requires that the transport of potatoes intended for planting (certified and uncertified, so including FSS) from one production site to another should be accompanied by a plant passport, and this should be controlled by the authorities;
- The fact that responsibilities for the implementation of the S&PM marketing Directives and the plant health Directive are split over different authorities, leads to inefficiencies in inspections and sometimes contradictory approaches. For example, the S&PM marketing Directives allow for delegation of inspections 'under official supervision' whereas the plant health Directive does not allow this;
- Seed potatoes officially certified on the basis of Directive 2002/56 should satisfy minimum conditions as specified in Annex I and II of the Directive. A number of these conditions are related to certain plant diseases. Seed potatoes used as FSS are in general not officially inspected.

The same evaluation concludes that: *"although no major inconsistencies are observed between both sets of legislation, a much better consistency could be achieved quite easily on topics such as registration, definitions, and documentation"*.

The need for improved coherence between both sets of legislation was confirmed during the CPHR general survey and interviews, with recommendations formulated as follows:

- The two regimes should be complementary with an effective process for transferring HOs from one to the other. One stakeholder representing producers refers here to the example of the *Pepino mosaic virus* that is so widespread that it could be treated as a quality organism for all plants except for seeds;
- The concept of RNQP needs to be addressed to consider whether and how this category fits in;
- The EU certification schemes should cover all relevant requirements, on both quality and quarantine organisms;
- The coherence of the marketing Directive on fruits and plant health need to be improved. There is a need for a single community certification scheme that integrates elements of Directive 2000/29/EC (e.g. testing the propagating material for quarantine pests) and of Directive 2008/90 which is accepted by all relevant authorities;
- In practice, ensuring plant health is an integrated part of quality assurance for propagating material, such as seeds. It would be helpful if this was regulated in a single Community legal instrument and if supervision/control was managed by a single operational authority in each MS. Preventive and hygiene measures related to quality organisms, RNQPs and quarantine pests are mostly based on the same principles. In companies this is handled by a single person or function. It would therefore make sense for this function to have a single counterpart from the NPPO-side. Current marketing Directives for propagating materials already facilitate delegation of inspection tasks "under official supervision"; this principle could be further extended to the CPHR;
- Different requirements apply to the concept of local markets under the two sets of legislation; e.g. registration is not necessary in the local market under Directive 2000/29/EC whereas it is necessary in all cases in the S&PM marketing Directives.

However, it should be noted that some interviewees indicated possible problems associated with "bringing together" the two Directives, such as the different approach as regards delegation of tasks between the two regimes. On the other hand, there is scope to explore further the possibility of combining certification requirements (e.g. use of a single document; combination of plant passport and label) and inspection requirements under the two sets of legislation.

Currently, it is only possible for NPPOs to delegate control responsibilities to third parties 'exclusively charged with specific public functions' (Article 2(1)(g) of Directive 2000/29/EC[236]), with the exception of the recent modification for delegation of laboratory tasks to private bodies, while delegation to private bodies is generally accepted and even

[236] Article 2 (1) (g) of Directive 2000/29/EC indicates that '*The responsible official bodies in a Member State may, in accordance with national legislation, delegate the tasks provided for in this Directive to be accomplished under their authority and supervision to any legal person, whether governed by public or by private law, which under its officially approved constitution is charged exclusively with specific public functions, provided that such person, and its members, has no personal interest in the outcome of the measures it takes'.*

promoted in the S&PM Directives.[237]. Also, the IPPC allows for delegation of tasks in the area of plant health with the exception of the issuance of the export certificate.

The views on this are largely divided amongst interviewees, depending on perspective. For example, one stakeholder commented that they considered it important that the current flexibility allowed by the S&PM Marketing Directives be maintained. On the other hand, an MS CA noted that third countries (e.g. Russia) have concerns about the delegation of powers to the private sector. Also new MS do not want to delegate too much to private operators, as illustrated for instance with the issuing of plant passports, which is a task fully under the responsibility of the CA in Poland and Romania.

3.12.2 Coherence with General Food Law and Official Controls

The coherence of the CPHR with the General Food Law (Regulation 178/2002) and legislation on official controls (Regulation 882/2004) was also examined.

Plant health is currently outside the scope of both Regulations, which aim to ensure food safety. Directive 2000/29/EC establishes sectoral control rules for official controls in plant health and therefore controls in this area are not governed by the above Regulations[238].

Overall, respondents to the general survey and interviewees did not identify areas of strong overlap or inconsistency between the CPHR and the food law but their comments and opinions mainly focused on the principles of the Food Law that are of interest to the CPHR. They consider that some useful parallels can be drawn and, where appropriate, streamlining could be sought with some of the provisions of these Regulations.

General survey results
Q 9.1 Source of inconsistencies between CPHR and General Food Law and Official control legislations:
7 out of 24 MS CAs and 1 out of 21 stakeholders consider that CPHR overlaps with the General Food Law and Official control legislations and that such overlapping can be a source of conflict/inconsistency (6 MS CAs and 16 stakeholders do not know).
Q 9.2 Extent to which the revision of the CPHR in future should be guided by any of the principles developed under the General Food Law and Official control legislations:
8 out of 25 MS CAs and 1 out of 21 stakeholders consider that the revision of the CPHR should be guided by the General Food Law and Official control legislations (7 MS CAs and 16 stakeholders do not know).

It is noted that the case of plant health is quite different from food safety or animal health, where the links to human health are unequivocal and problems/diseases are specific. Different approaches may therefore be required in practice for carrying out surveillance, inspections and controls. However, it remains important to gain experience from what is done in these

[237] In this respect, it is noted that Article 2(1)(g) was amended in November 2009 to allow delegation of laboratory tasks to private bodies. This amendment was discussed in the context of current diagnostic facilities, under section 3.9.2.

[238] Except for the provisions applicable to annual reporting (in the context of multi-annual control plans which are cross sectoral) and to EU inspections within the MS and third countries (Articles 41 to 46 of Regulation 882/2004).

sectors, drawing from the general concepts and principles applied, e.g. in terms of early prevention and response, risk targeting and prioritisation, and assigning responsibility.

For several interviewees, the CPHR should gain experience from this general area of legislation, in particular drawing on the following principles of the Regulation 882/2004[239]:

- Laboratory accreditation. In this respect, it is noted that Article 2(1)(g) of Directive 2000/29/EC was amended in November 2009 to allow delegation of laboratory tasks to private bodies. During the discussion in Council, many MS were in favour of applying the principles of Regulation 882/2004 to plant health laboratories;
- Risk based official inspection and monitoring, including a variety of inspection principles (Articles 3 and 8 and 10 of Regulation 882/2004);
- Requirements directed at NPPO`s performance (Articles 4 and 6 and 12) ;
- Sampling requirements (Article 11);
- Contingency planning and alert (Article 13);
- The system of reference laboratories (Article 12 includes requirements for official control laboratories and designation and duties of reference laboratories – NRLs/EU-RLs);
- Integrated control measures to reduce chemical inputs;
- Fees;
- Responsibility sharing between governmental services and private operators.

It was commented that the fact that Regulation 882/2004 does not incorporate plant health more fully creates a legal vacuum which inhibits effective action in this area. This was recently partly addressed with the amendment of Article 2(1)(g) of Directive 2000/29/EC in November 2009, to allow delegation of laboratory tasks to private bodies (as discussed in the previous section), and this is considered to be a step in the right direction.

It is noted that Regulation 882/2004 has been recently[240]reviewed, in particular in terms of the fees system applied (pursuant to Articles 26-29) to ensure that the official controls system is adequately financed. Following the external evaluation of the fees system[241], an impact assessment of the various proposed options is currently being carried out, for which a consultation process is in progress. This issue was discussed in more detail in section 3.11.5.

Many stakeholders and some MS have also expressed the need for more alignment to Regulation 178/2002 in the field of assigning responsibilities to business operators to ensure

[239] It is noted that Regulation 882/2004 is currently subject to a review in particular with reference to the fees system applied to finance the official controls system (Report from the Commission to the European Parliament and to the Council on the application of Regulation (EC) No 882/2004 on official controls performed to ensure the verification of compliance with feed and food law, animal health and welfare rules compliance with feed and food law, animal health and welfare rules. Brussels, 8.7.2009. COM(2009) 334 final.

[240] Brussels, 8.7.2009, COM(2009) 334 final. REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND TO THE COUNCIL on the application of Regulation (EC) No 882/2004 of the European Parliament and of the Council of 29 April 2004 on official controls performed to ensure the verification of compliance with feed and food law, animal health and welfare rules

[241] Undertaken for DG SANCO by the FCEC, final report February 2009.

plant health, as is currently done in the field of food and feed safety for food and feed business operators (Article 17). In this case, the system also foresees sanctions or penalties for non-compliance of operators to be laid down by MS (MS CAs retain ultimate responsibility for the supervision, control and smooth running of the system). The seeds sector, in particular, has made reference to the system set up in the US[242].

3.12.3 Coherence with environmental policy

The coherence with environmental policy was examined in particular with reference to forest protection, biodiversity and nature conservation (Natura 2000[243]). Some of these issues have already been explored in earlier sections of this Report (in particular the sections on natural spread and Invasive Alien Species (IAS)).

The extent to which the CPHR is currently suited to serve forestry and nature conservation objectives, and whether it would be desirable or feasible to extend the scope to this direction has been explored further in section 3.1.1.

Generally speaking, the results of the general survey indicate that several respondents consider the CPHR overlaps with environment policy, although a large number of stakeholders indicated 'do not know'.

General survey results
Q 9.1 Source of inconsistencies between CPHR and the environmental policy:
12 out of 25 MS CAs and 7 out of 22 stakeholders consider that CPHR overlaps with environmental policy and that such overlapping can be a source of conflict/inconsistency (6 MS CAs and 15 stakeholders do not know).
Q 9.2 Extent to which the revision of the CPHR in future should be guided by any of the principles developed under environmental policy:
13 out of 25 MS CAs and 13 out of 22 stakeholders consider that the revision of the CPHR should be guided by environmental policy (5 MS CAs and 7 stakeholders do not know).

In the area in particular of IAS, quarantine pests (in IPPC terms) and IS (in CBD terms) there is a conceptual overlap (as illustrated in Figure 3-3). As discussed in section 3.1.1, the CPHR is not explicit about the extent to which IAS are covered by plant health legislation. In practice, many regulated pests are IAS and are already listed in Directive 2000/29/EC (e.g. *Anoplophora spp*.) The EU strategy on IAS needs to complement the plant health regime and avoid overlaps/duplication. There needs to be a clear boundary between the two. Overlap and

[242] The example suggested in this case is the system developed by the US Agricultural Phytosanitary Inspection Service (APHIS), the so-called National Seed Health System (www.seedhealth.org).
[243] Natura 2000 is an EU wide network of nature protection areas established under the Habitats Directive (Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora) and the Birds Directive (Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds). The directives are concerned with the protection of natural habitats, fauna and flora. The habitats directive is the main Community instrument safeguarding biodiversity. It introduced the obligation to preserve habitats and species of Community interest. Each MS is responsible for identifying and designating as Special Areas of Conservation (SAC) sites (and Special Protection Areas (SPAs) under the Birds Directive) which are important for the protection of the species and habitats covered by the Directive. These areas benefit from statutory or contractual measures and, where appropriate, management plans which will ensure their long-term preservation by integrating human activities into a sustainable development strategy.

conflicts may develop in future, if the CPHR is not positively acknowledged in the EU-IAS strategy.

The responsibilities of national bodies with competence for plant health and environmental policy should be clearly indicated and coordinated, as implementation of the relevant legislation is often the responsibility of different authorities. Invasive species harmful to plants (either agricultural or other) should be managed by the phytosanitary authorities.

More generally, policy makers in the environment field consider that an overlap in objectives exists between the two policies, indeed also with agricultural policy, in that increasing problems in plant health are – to some extent seen as - an indication of degrading environmental conditions and agricultural practices that both affect the ability of plants to resist pathogens and increase the incidence of pathogens *per se*. Large scale monocultures and intensive farming methods are in particular considered to be one factor contributing to the degradation of the environment and biodiversity, increasing plant susceptibility to pests. Stronger coordination in pursuing objectives and designing measures is therefore needed as a matter of principle between these policies (e.g. through greater use of crop rotations to act as a mitigating measure to address both environmental degradation and plant health problems)[244].

Approximately one fifth (17%) of the EU land is covered by sites protected under Natura 2000 (Source: EC, 2009). To date, Natura 2000 comprises 22,419 Sites of Community Importance (SCIs) under the Habitats Directive and 5,242 Special Protection Areas (SPAs) under the Birds Directive (EC, 2009). Forest habitat types designated as Natura 2000 sites cover over 14 million ha, constituting almost 20% of the whole terrestrial Natura 2000 network[245].

The management of potential plant health problems (pest outbreaks) in these areas is subject to interpretation by the MS under the Subsidiarity principle of Art. 6, which requires the existence of "*imperative reasons of overriding public interest*" in order to undertake a plan or a project in an area in the network of Natura 2000, and this could create potential situations of incoherence in pursuance of PH vs. conservation targets. In Portugal for example, Natura 2000 network covers 20% of the territory (including the Setubal region, where PWN was detected for the first time in 1999).

[244] The Commission has launched a study on crop rotation (ENV B.1 contract "Environmental impacts of different crop rotations in the EU" (completion due in autumn 2010). Earlier studies on multi-functionality aspects of certain crops, including plant health protection, include: KBBE-2009-1-2-01 "Legumes: key multifunctional legume crops for an energy-efficient and environmentally friendly future European agriculture" (the subject is quite broad and includes, inter alia, environmental services associated with of legumes (soil fertility, impact on epidemiology of plant pests and pathogens in crop rotations, biodiversity, etc.).

245 Source: Green Paper On Forest Protection and Information in the EU: Preparing forests for climate change SEC(2010)163 final

3.12.4 Coherence with PPP legislation

The coherence with the current policy of plant protection products (PPPs), as laid down in Directive 91/414[246], was also examined.

The PPP legislation has been largely reviewed in 2009 and will soon be repealed and replaced by a new set of regulations, as follows:

- Regulation (EC) 1107/2009[247] describing the conditions for placing PPPs on the market;
- Framework Directive 2009/128/EC establishing a framework for Community action to achieve the sustainable use of pesticides[248].

The Regulation sets up the rules for the approval of active substances and commercial products, while the framework Directive defines how to ensure the correct use of these approved PPPs. The 'pesticides package' is to be completed with further legislation on this issue.

The new package introduces fundamental changes in the manner in which pesticides are placed on the market and used in European agriculture. The Regulation lays down that active substances meeting specific criteria in relation to toxicity and to environmental behaviour are excluded from an assessment and will not be approved. However, at the same time specific derogations are foreseen to control serious dangers to plant health, which will allow the approval of substances not meeting some the criteria under strict conditions, or, in emergency situations the limited use of non-authorised products. The new regulation has also a number of provisions which will allow a faster market access for plant protection products: it sets clear deadlines in the approval process and it introduces a system of obligatory mutual recognition of authorisations of PPP within defined zones in the EU (in total 3 zones). The Directive demands that MS adopt National Action Plans to set *"quantitative objectives, targets, measures and timetables to reduce risks and impacts of pesticide use on human health and the environment"*. Furthermore, MS must *"encourage the development of Integrated Pest Management (IPM) and of alternative approaches or techniques in order to reduce dependency on the use of pesticides"*[249].
Both the Regulation and the Framework Directive aim to take into account potential phytosanitary problems and therefore specifically allow for derogations for certain measures. The derogations aim at ensuring e.g. a better supply of PPPs for so-called minor crops and at allowing the use of PPPs in case of serious danger for plant health.

According to the general survey results, a minority of MS and of stakeholders considers that the CPHR overlaps with the PPP legislation and that such overlapping could be a source of conflict/inconsistency.

[246] Council Directive 91/414/EEC of 15 July 1991 concerning the placing of plant protection products on the market.
[247] Regulation (EC) No 1107/2009 of the European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC. This regulation will be applicable as of 14 June 2011.
[248] The Directive entered into force 25 November 2009.
[249] IPM becomes obligatory as of 1 January 2014.

General survey results
Q 9.1 Source of inconsistencies between CPHR and PPP legislation:
6 out of 25 MS CAs and 6 out of 21 stakeholders consider that CPHR overlaps with the PPP legislation and that such overlapping can be a source of conflict/inconsistency (3 MS CAs and 11 stakeholders do not know).
Q 9.2 Extent to which the revision of the CPHR in future should be guided by any of the principles developed under the PPP legislation:
7 out of 25 MS CAs and 9 out of 23 stakeholders consider that the revision of the CPHR should be guided by the PPP legislation (7 MS CAs and 11 stakeholders do not know).

Some interviewees and respondents to the general survey have highlighted their concerns on potential inconsistencies between the obligation of phytosanitary treatment against some HOs and the ban on usage of PPPs without provision of sufficient substitution solutions. They consider that the modifications to the Directive on PPPs should be taken into consideration as quickly as possible in the CPHR, e.g. through the consideration of alternative measures. Some interviewees also consider there is a need to allow derogations for the use of banned PPPs, depending on risks, for eradication purposes; it appears that the feasibility of applying these rules in practice remains questionable[250].

More specifically, MS CA comments on current or potential inconsistencies between the two sets of legislation mainly refer to the removal of risk assessment in the new PPP legislation versus the focus on hazard and the prohibition on the use of certain phyto-pharmaceutical products such as methyl bromide, versus the obligation to treat against certain HOs. In their comments, stakeholders insist on the need to have PPP available for seed treatments and indicate that certain control measures in emergency decisions imply extensive use of pesticides which contradict the aim of reducing their use.

Concerns have been expressed by certain stakeholders on the potential implications of the anticipated limited availability of PPPs due to the limited number of permitted active substances[251]. The trend in PPP registration over the past 10 years indicates that, overall, there has been a large reduction in terms of the products available to farmers and plant producers and that, due to the high costs for registering products, agrochemical companies tend to apply for authorisation of products in large agricultural crops and less in minor crops (i.e. small acreage and low value crops).

As a result, for some pathogens on some minor crops, no chemical solution may be available. This situation could create an issue for plant health as control of certain pathogens may not be possible if no authorised PPPs are available. The new Regulation requires that the Commission reports to the Council and Parliament about the possibility to establish a fund for minor uses. This report is scheduled for November 2011.

[250] Under the new package, derogations may be granted on a case by case basis, but this would likely lead to delays in approval of applications of the products.

[251] As indicated by the letter submitted to the FCEC on 5 may 2010 by the European Starch Industry Association (AAF); The European Flour milling association (The European flour millers); the European Oil and Proteinmeal Industry (FEDIOL). The associations indicated impact analyses studies of the UK pesticides safety Directorate, the Nomisma institute in Italy, INRA in France on the Reg. 1107/2009, which assess the impact on the management of pests and evaluate the risks of resistance of pests and diseases given the limited number of permitted active substances.

The reduction of active substances available for control measures may also lead to a situation where for a certain pest or even group of pests, only one family of products is likely to be available creating a risk of the development of pesticide resistance, as it becomes almost impossible to rotate the PPP used.

For example, as illustrated in the National Audit Office (NAO, 2003) report on protecting England and Wales from plant pests and diseases, the main pesticides used to combat *Thrips palmi*, are no longer available because they are prohibited from use in the EU. The study concludes that any outbreak might therefore be more difficult to contain and eradicate in future. The report concludes that the relevant competent authorities need to work more closely together to co-ordinate the phasing out of key pesticides alongside the development and use of other means of control, such as pest-resistant crops. Similar recommendations were indicated by several respondents to the general survey and during the interviews.

Another potential issue to consider is that the framework Directive on the sustainable use of PPP in principle prohibits aerial treatment[252], and defines buffer zones around aquatic areas (rivers, lake, etc...) in which the use of PPPs may be forbidden. These two elements may create refuge zones for some HOs, and this could put at risk eradication measures in certain cases. In particular, aerial treatments are in some cases the only solution if particular action is required in forestry.

An adverse effect of the increasing prohibitions on usage of PPPs in Europe, as mentioned by one interviewee representing farmers, is that the cultivation of some crops is moving to third countries, where less strict rules apply to the use of pesticides. The problem in this case is that some substances are detectable only for a limited period only after harvest (i.e. 15 days, but not one month); therefore when products on which such substances have been used are imported, the controls may fail to detect these substances.

Biological control measures may be an alternative to the reduction and/or ban on use of PPPs, However such measures are by definition never fully and immediately effective, particularly to address quarantine pests. Also, the availability of these alternative methods at large commercial scale is rather limited at the moment.

Due to the recent entry into force of the new PPP legislation, FCEC considers that it is premature to judge on the inconsistencies between PPP legislation and CPHR. The extent to which the possibility for derogation in case of minor crops and in case of serious danger for plant health will be used and granted in practice as well as the extent to which the PPPs for which derogation are requested are likely to be available to farmers (there is the risk that PPP manufacturers will not be producing products that would not be authorised just in case there may be a need for them) are not known at this stage.

[252] Aerial treatment is forbidden by the new Framework Directive 2009/128 (art.9 (1)) but case by case derogations can be granted by MS (art. 9 (2 and following)). For example in FR, aerial treatment is authorized in some cases, e.g. *Bacillus thuringiensis* against *Thaumetopoea pityocampa* in forests.

3.12.5 Coherence with Common Agricultural Policy (I and II pillars)

This section aims to explore the CPHR coherence with the Common Agricultural Policy (CAP), in particular in view of the evolving objectives and mechanisms of the later after the 2008 'Health Check', as the emphasis is shifting from pillar I (direct support) to pillar II (rural development) measures[253].

General survey results
Q 9.1 Source of inconsistencies between CPHR and Common Agricultural Policy:
2 out of 25 MS CAs and 3 out of 20 stakeholders consider that CPHR overlaps with the CAP (11 MS CAs and 14 stakeholders do not know).
Q 9.2 Extent to which the revision of the CPHR in future should be guided by any of the principles developed under the Common Agricultural Policy:
9 out of 25 MS CAs and 2 out of 21 stakeholders consider that the revision of the CPHR should be guided by the CAP (8 MS CAs and 16 stakeholders do not know).

The availability of resources to finance the new CPHR has to be examined in the context of the more general budget revision (EU financial perspectives) post 2013, including the review of the financial package available to agriculture. It is noted that this process has not started yet at political level, although the CAP has been adjusting with the re-allocation of funds from pillar I to pillar II under the 'Health Check'[254].

A measure introduced under the 'Health Check' (Council Regulation 73/2009EC[255]), by 'Article 68', allows MS to retain, per sector, up to 10% of their national budget ceilings for direct payments for use for environmental measures or improving the quality and marketing of products in that sector or, among other things, to support risk management measures in another sector such as insurance schemes (according to Article 70 of the above Regulation) and mutual funds (Article 71).

According to Article 70, MS may grant financial contributions to premiums for crop, animal and plant insurance against economic losses caused by adverse climatic events and animal or plant diseases or pest infestation. For the purpose of this Article, 'economic losses' shall mean

[253] The rural development policy is commonly referred to as the 2nd pillar of the CAP, whereas product and producer support is referred to as 1st pillar. The separation of the CAP into two pillars stems from the fact that they are funded through different budget envelopes with different rules. While pillar 1 is solely funded by the EU budget, pillar 2 is based on a multi- annual programming and Member States co-finance the programmes. As a result of the Health Check agreement, assuming that all foreseen direct payments are made, the distribution of expenditure for the period 2010-2013 would roughly be 69% for producer support (direct payments), 7% for market measures (product support), and 24% for rural development (source: DG AGRI). The rural development policy is commonly referred to as the 2nd pillar of the CAP, whereas product and producer support is referred to as 1st pillar.

[254] More information on this can be found at the DG AGRI website: http://ec.europa.eu/agriculture/cap-post-2013/index_en.htm

[255] COUNCIL REGULATION (EC) No 73/2009 of 19 January 2009 establishing common rules for direct support schemes for farmers under the common agricultural policy and establishing certain support schemes for farmers, amending Regulations (EC) No 1290/2005, (EC) No 247/2006, (EC) No 378/2007 and repealing Regulation (EC) No 1782/2003.

any additional cost incurred by a farmer as a result of exceptional measures taken with the objective of reducing supply on the market concerned or any substantial loss of production.

Article 70 further defines the conditions and limits for such contribution, as summarized below for the plant health area:

- The plant disease or pest infestation must have destroyed more than 30 % of the average annual production of the farmer in the preceding 3-year period or a 3-year average based on the preceding 5-year period, excluding the highest and lowest entry;
- The financial contribution granted per farmer shall not exceed 65 % of the insurance premium due. MS may limit the amount of the premium that is eligible for a financial contribution by applying appropriate ceilings;
- Coverage by crop and/or plant insurance shall only be available where the occurrence of the outbreak of a plant disease or pest infestation has been formally recognised as such by the competent authority of the MS concerned;
- Any financial contribution shall be paid directly to the farmer concerned;
- MS expenditure on the granting of financial contributions shall be co-financed by the Community (from the up to 10% of their national budget ceilings allowance under Article 68) at a rate of 75 % of the financial contribution.

Article 71 foresees that MS may provide for financial compensation to be paid to farmers for economic losses caused by the outbreak of an animal or plant disease or an environmental incident by way of financial contributions to mutual funds. Mutual funds are defined as a scheme, accredited by the MS in accordance with its national law, for affiliated farmers to insure themselves, whereby compensation payments are made to such farmers affected by the economic losses.

The financial contributions may relate to (a) the administrative costs of setting up the mutual fund, spread over a maximum of 3 years; (b) the repayment of the capital and interest on commercial loans taken out by the mutual fund for the purpose of paying financial compensation to farmers; (c) the amounts paid by the mutual fund from its capital stock as financial compensation to farmers.

As imposed for the contribution to premiums, any financial contribution shall not exceed 65% of the cost. Any cost not covered by financial contributions shall be borne by the affiliated farmers. Also, MS expenditure on the granting of financial contributions shall be co-financed by the Community at a rate of 75 % of the financial contribution.

France is currently analysing the possibility of using such a mechanism.

Because both mechanisms (i.e. insurance premiums and mutual funds) give the possibility to cover the economic losses incurred by farmers as a follow up to a pest outbreak, they are complementary with the solidarity regime as currently implemented. As outlined in the 2007 FCEC evaluation of the solidarity regime, this regime covers the costs paid by public funds for inspection and testing, destruction, and disinfection and does not cover the economic losses incurred by farmers. The solidarity regime had foreseen the coverage of financial losses other than loss of earnings due to prohibition or restriction but these have been only recently

used in practice for cases of replacement of destroyed trees in Spain and Italy in 2008 and 2009.

Traditionally, the financial support for the implementation of the CPHR (solidarity regime and other expenditure headings, as discussed in section 2.9) has been drawn from the EAGGF section of the CAP budget (pillar I).

Pillar II *inter alia* aims to provide incentives in new areas, including the provision of public goods (such as maintaining attractive cultivated landscapes, contributing to the cultural heritage of regions or enhancing the environment) and to meet various new challenges such as climate change and biodiversity.

Finally, forestry measures 225, 226 and 227 under the Rural Development Regulation 1698/2005[256] grant support in specific cases as follows:

- Pests and diseases prevention can be supported through measure 226 for restoring forestry potential and introducing prevention actions, only if they are connected to natural disasters or fire as the trigger for an outbreak;
- In the event no connection can be made between the outbreak and a natural disaster or fire but that it is considered as an exceptional outbreak, the application of forest environmental payments or non-productive investment measures (225 and 227) can be used for supporting the additional costs of environmental friendly prevention measures compared with the "normal" prevention methods.

The decoupled direct payments introduced after the CAP Mid Term Review in 2003 are linked to cross compliance standards, i.e. standards referring to a series of measures managed either by DG ENV or by DG SANCO and applying to farmers. These are: Statutory Management Requirements (SMR), Good Agricultural and Environmental Conditions (GAEC) as well as the Permanent Pasture Ratio.

'Cross-compliance' links direct payments to farmers to their respect of these standards set at EU and national levels. In the case of non-respect, direct payments can be reduced or withheld. In the case of negligence, the overall payment to be withheld is set at a maximum of 5%, or 15% for repeated offences. For intentional non-compliance, the fine is not less than 20%, and may go as far as total exclusion from receipt of payment for one or more years. 25% of the total receipts from cross-compliance penalties may be retained by the MS; the remainder is re-credited to the main CAP budget.

Cross-compliance can therefore be considered as an incentive for farmers to correctly apply measures managed by DG ENV or DG SANCO.

One of the GAEC standards concerns crop rotation. Considering that crop rotation is a quarantine measure under the emergency measures for *Diabrotica virgifera*[257], cross

[256] Council Regulation (EC) No 1698/2005 of 20 September 2005 on support for rural development by the European Agricultural Fund for Rural Development (EAFRD).

compliance can be considered to potentially contribute to ensuring adherence to plant quarantine requirements. Nevertheless, as analysed by FCEC during the study of the impacts of several options to manage *Diabrotica virgifera* in future, the crop rotation obligations set up by MS under the cross compliance scheme were not sufficiently robust to be considered as being useful in terms of combating *Diabrotica virgifera*. A study carried out in 2007 for DG AGRI[258] has identified nine MS with GAEC obligations for maintaining soil organic matter through crop rotations, i.e. CY, DE, EL, FR, IE, LU, MT, SL, UK. In these MS, the study concludes that these obligations are either formulated rather vaguely (e.g. IE, MT, UK) or seem to be easy to comply with, for instance in FR and DE where the obligation is defined at the level of the surface area cultivated by the farm.

More generally, crop rotation brings several advantages as follows:

- Improving or maintaining soil fertility and structure;
- Ensuring proper management of nutrients by balancing the fertility demands of various crops to avoid excessive depletion of soil nutrients, and by replenishment of nitrogen through the use of green manure in sequence with cereals, and other crops with resultant reduced need for reliance on chemical input;
- Reducing farmers' reliance on chemical inputs of fertilisers and PPPs, thereby having a positive impact on water and air quality, and on biodiversity;
- Reducing the risk of crops suffering adverse weather effects by the planting of different crops, which can be of particular relevance in the light of the climate change effects that agriculture is facing.

Here again, cross compliance measures appear complementary to the solidarity regime as currently implemented, by targeting pro-active prevention, whereas the solidarity regime has historically targeted the control and eradication of HOs.

As a conclusion, several means exist for EU financial support to plant health management in future such as the solidarity regime, the POSEIMA (as regards Madeira Island and the Azores) and POSEIDOM (for the DOM regions of France) managed by DG SANCO, the 'Article 68' measures of the 'Health Check' of the CAP as well as measures 225, 226 and 227 under the Rural Development Regulation 1698/2005, and - in a complementary role - cross-compliance to provide incentives for better prevention. Not all schemes have the same objectives, eligibility criteria and rules for co-financing by the EU. The existence of multiple schemes managed either by DG SANCO or by DG AGRI suggests a need for improved communication between both DGs in future, not least to ensure that there is no double funding for the same measures. The possibility of merging the different sources of funding in order to achieve better management and transparency, and the establishment of a financial instrument for plant health should be further explored (this is discussed further in section 5.9).

[257] Commission Decision 2003/766/EC of 24 October 2003 on emergency measures to prevent the spread within the Community of *Diabrotica virgifera* Le Conte imposes crop rotation in the demarcated focus and safety zones to be defined in case of an outbreak of *Diabrotica virgifera.*

[258] Alliance Environment, Evaluation of the application of cross compliance as foreseen under regulation 1782/2003, July 2007

3.12.6 Coherence with Community Customs Provisions

Generally speaking, the results of the general survey indicate that several respondents consider that CPHR is not coherent with the Community customs provisions.

General survey results
Q 9.1 Source of inconsistencies between CPHR and Community Customs Provisions:
12 out of 25 MS CAs and 6 out of 21 stakeholders consider that CPHR overlaps with Community Customs Provisions and that this can be a source of conflict/inconsistency (5 MS CAs and 13 stakeholders do not know).
Q 9.2 Extent to which the revision of the CPHR in future should be guided by any of the principles developed under the PPP legislation:
10 out of 25 MS CAs and 8 out of 21 stakeholders consider that the revision of the CPHR should be guided by the Community Customs Provisions (6 MS CA and 10 stakeholders do not know).

In particular, respondents to the general survey and interviewees have referred to the following aspects:

- The lack of consistency with customs codes is making phytosanitary controls impossible. The Annexes to Directive 2000/29/EC indicate the list of species to be controlled at border but this list does not correspond to customs codes;
- Customs codes do not reflect the complex categories listed in the plant health import requirements (customs codes are currently used for wood items only);
- Inconsistencies exist between the customs nomenclature (TARIC codes) and Annex V of Directive 2000/29/EC, where some codes used are outdated or incorrect;

There have been several comments that any modification to the TARIC codes should be directly taken into consideration in Annex V, but this is difficult to realize as modifications are numerous and frequent. According to one MS CA, the solution could be to replace the current reference to TARIC codes in the Directive with an Internet link towards the online TARIC codes.

One MS CA indicated the need to align phytosanitary regulations with the transit procedure. Nevertheless, full alignment of phytosanitary transit and custom transit is by definition impossible as the International Customs Convention has other definitions for transit than the IPPC and this cannot be reconciled.

Another MS CA referred to the concept of Authorised Economic Operator of the Customs provisions that could be applied in PH. According to this concept, if an importer imports same goods, same amount, through same channel every week, and there are good experiences with this importer, controls are not needed every time. An operator which is well organized and meets certain requirements is rewarded for this. If a problem appears, the operator can lose their status and go back into the more intensive inspection system.

Finally, during the interviews, several MS CAs have insisted on the importance of communication between Customs authorities and Plant Health authorities, at EC and national levels, to help to identify risks in relation to new trade flows and to ensure the control of risky consignments in case different approaches are used for their identification. For example, Customs often use software which identifies certain combinations ‘product X country of

origin' as 'risky' from a phytosanitary point of view[259]. The concept of 'country of origin' is defined as 'the country where the goods come from' by the Customs authorities whereas it corresponds to the 'country where the plants grew' for the phytosanitary authorities.

The cooperation of the implementation of plant health import rules with customs systems and procedures was also analysed in section 3.4.3 of the Report.

3.12.7 Coherence with EU Animal Health Strategy

Respondents to the general survey and interviewees did not identify any areas of inconsistency between the CPHR and the new EU Animal Health Strategy but their comments and opinions mainly focused on the principles that are of interest to the CPHR.

General survey results
Q 9.1 Source of inconsistencies between CPHR and EU Animal Health Strategy:
2 out of 25 MS CAs and 0 out of 21 stakeholders consider that there are inconsistencies between the CPHR and the EU Animal Health Strategy (7 MS CAs and 19 stakeholders do not know).
Q 9.2 Extent to which the revision of the CPHR in future should be guided by any of the principles developed under the EU Animal Health Strategy:
7 out of 25 MS CAs and 1 out of 23 stakeholder consider that the revision of the CPHR should be guided by the EU Animal Health Strategy (8 MS CA and 20 stakeholders do not know).

Overall, they consider that the CPHR should gain from with the experience of the EU Animal Health Strategy, in particular from the following principles or concepts:

- Higher formalisation and rigour due to strong public interest issues (e.g. for nature and forest conservation, rural landscapes, generally considered as public goods);
- The need for improved diagnosis, with the establishment of reference laboratories (at national level, possibly also at EU level), benefiting from the experience of NRLs and EU-RLs in the animal health sector;
- Approaches to improve the link to Community Customs Codes;
- Greater emphasis on prevention and early reaction at production level;
- Greater emphasis on prevention and early reaction at import level;
- Approaches to improve notification and traceability;
- Harmonisation of documentation and certification requirements;
- Approaches to regionalisation.

It is noted that the plant health sector requires a significantly more extensive and disperse plant health supervision system (number of plants, number of quarantine organisms, number of entities) than the animal health sector, and this needs to be taken into account when examining the feasibility of implementing the methods and measures applied in the animal health sector.

Some respondents to the general survey identified a certain overlap between the plant health and the animal health legislations as regards the import of invertebrates. It appears that the

[259] An example given was Quercus coming from the USA or Armenia, because of the risk of introducing *Ceratocystis fagacearum* in the EU

inspection of consignments of invertebrates is currently subject to veterinary surveillance, as well as plant health controls. They consider that an arrangement for the inspection of such consignments is needed to avoid potential incoherence or duplication of controls.

3.12.8 Conclusions on coherence with other EU policies

The coherence of the CPHR with other policy regimes was examined in relation to a number of policies, and the following conclusions can be drawn:

Policy	Conclusions
Coherence with the S&PM regime	Both the legal frameworks on CPHR and S&PM are covering HOs. Some inconsistencies were identified, such as the overlapping for some HOs, the unclear position of RNQPs, and the existence of two certification schemes for fruit plants. Particularly, inconsistencies are found with regard to inspections, as there is a duplication (for PH and for certification). Within the CPHR is not possible to delegate inspections to private operators, which is instead allowed for certification. It is recommended that more consistency between the two regimes is ensured in relation to inspections, the positioning of RNQPs, the registration definitions for operators, as well as the documentation required.
Coherence with General Food Law and Official Controls	Alignment to a number of elements of Reg. 882/2004 is recommended, such as the risk based official inspections and monitoring; the requirements for NPPO's performance, fees, the system of RLs (EU RLs/NRLs), contingency planning and alert, sampling requirements, integrated control measures to reduce chemical inputs, responsibility sharing.
Coherence with environmental policy	Areas of potential inconsistencies were identified. It is recommended that close collaboration is ensured in the future between plant health and environmental policies and authorities.
Coherence with PPP legislation	Some inconsistencies and concerns were expressed by stakeholders, such as the potential implications of the anticipated limited availability of PPPs due to the limited number of permitted active substances. However, due to the recent entry into force of the new PPP legislation, FCEC considers that it is premature to judge on the inconsistencies between PPP legislation and CPHR. The extent to which the possibility for derogation in case of minor crops and in case of serious danger for plant health will be used and granted in practice as well as the extent to which the PPPs for which derogation are requested are likely to be available to farmers are not known at this stage.
Coherence with Common Agricultural Policy (I and II pillars)	Several means exist for EU financial support to plant health management such as the solidarity regime managed by DG SANCO, the 'Article 68' measures of the 'Health Check' of the CAP as well as measures 225, 226 and 227 under the Rural Development Regulation 1698/2005, and - in a complementary role - cross-compliance to provide incentives for better prevention. Not all schemes have the same objectives, eligibility criteria and rules for co-financing by the EU. Given the existence of these multiple schemes, it is recommended that improved communication is ensured between DG AGRI and DG SANCO. The usefulness of a future plant health fund should be further explored.
Coherence with Community Customs Provisions	Suggestions for improved cooperation were made, such as better linkage of Plant health and Customs IT systems (e.g. correlation between the lists of products subject to quarantine and customs nomenclature), improved cooperation between competent services.
Coherence with EU Animal Health Strategy	No inconsistencies were identified. It is recommended that the CPHR gain from with the experience of the EU Animal Health Strategy, in relation to some principles or concepts.

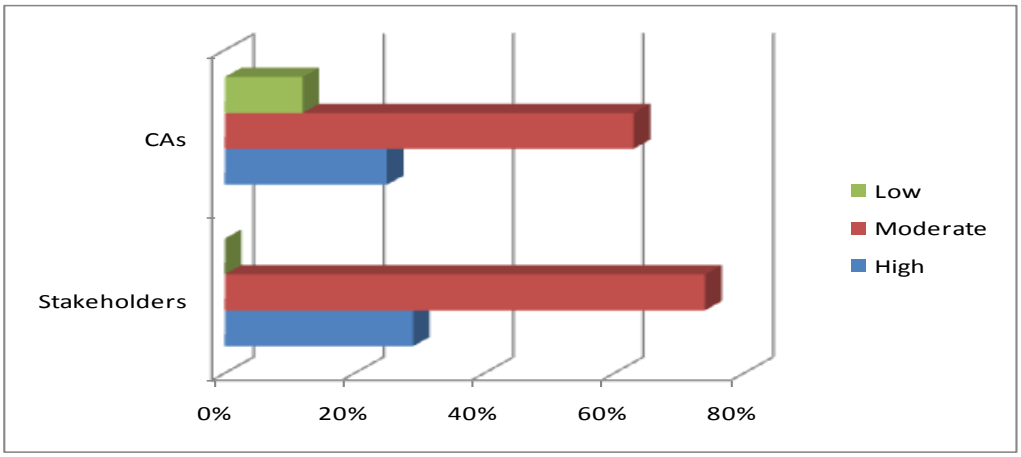
3.13 Key conclusions from comparison of the CPHR with third country systems

The presentation of the plant health regime in the selected five top trading partners demonstrates that important differences to the CPHR are present and that the regulatory framework is quite country specific in terms of import control and management of risks linked to the introduction of new pests. An overview and comparison of the key features of the plant health regimes in the selected countries is provided in the following table, and a more detailed description of each third country system is provided in **Annex 2**.

The large majority of respondents to the general survey (MS CAs and stakeholders) consider that the differences between the EU legislation and the legislation applied in third countries have had a negative impact on EU production costs and competitiveness in trade but that these impacts are moderate.

General survey results
Q10.3 Extent to which the differences between EU legislation and the legislation applied by key international trading partners have had an impact on EU production costs and competitiveness in trade:
6 out of 23 MS CAs and 12 out of 28 stakeholders consider that differences between EU and TC standards have a negative impact on EU production costs and competitiveness. (14 MS CAs and 13 stakeholders do not know)

Figure 3-22: Impact of difference in EU and third country phytosanitary standards on EU production costs and competitiveness (survey results)



Source : general survey results

The question of whether any of the regimes is demonstrably more effective and efficient compared to another was also raised during the interviews (with third country representatives, international organisations, MS CAs and stakeholders). It would appear that the EU is generally perceived (particularly by EU stakeholders, but also some CAs) to follow an approach that is generally more open to trade but at the same time higher risk from a phytosanitary point of view, while the approach followed by major trading partners such as the US and Australia is perceived to be stricter and more risk based/focused. However, it is difficult to demonstrate this is the case with hard evidence, for example there is no systematic comparable data on pest incursions as a result of trade in the various regions; even if the

information was available it would need to be related to the flow and pattern of trade to provide meaningful results.

The main difference between the CPHR regime and the majority of third countries is based on the import conditions that are conceptually different. The concept of the EU plant health regime states that '*everything can enter the Community unless it is prohibited*' while for the majority of third countries the approach tends to be based on '*guilty until proven innocent'.* Import permits are required even for individual consignments in the case of Argentina. These fundamental differences in approach have the following implications in practice for EU traders exporting to third countries:

- Imports of plants and plant products into some of the selected third countries require authorisation based on the evaluation of the import permit request (PRAs). This exercise can take several months to several years (sometimes decades);
- In addition to authorising imports, several third countries, e.g. the US and Canada, have in place offshore inspections (pre-clearance programs) and foreign site audits;
- Authorisation of imports of certain plants and plant products may be subject to the need to position products in post-entry quarantine.

In addition, several other differences between the current EU and selected third country phytosanitary regimes are noted, as follows:

- The number of HOs listed in the various regimes is quite different. It can range from less than 200 HOs listed in Canada to more than 400 in e.g. Argentina. In the US there is no comprehensive closed list of HOs defined in the regulation;
- As a possibility defined by the IPPC Convention, a limited number of IAS plants are already included in the list of regulated HOs by most of the presented third country regimes;
- No clear prioritisation system is in place in the majority of the studied regimes. The US national survey program (CAPS) follows some prioritisation, and is shifting its strategy from being "pest-specific" to surveying for several pests on a "commodity" basis[260];
- Passengers are inspected in several countries e.g. USA, Australia and NZ;
- Emergency teams are in place e.g. in the USA (Rapid Response Teams).

During the interviews with the selected third country official representatives, several comments were made on how third countries perceive the EU system, as follows:

- The fact that the EU legislation is applied to the whole EU territory is being seen as an inconsistency as agro-climatic conditions and hence plant health issues are different from one region to another. Therefore the application of a unique list of regulated pests to the whole EU-27 is not seen as being consistent e.g. regulation of citrus pests in countries with temperate climates in which citrus plants are not grown;
- The separation of responsibilities and competence between DG SANCO for the import regime and DG TRADE for export support to individual MS is being seen as a major

[260] The US CAPS model is examined further under the options for the future (prevention intra-EU: surveillance, section 5.3).

issue for the majority of traders exporting to the EU. Trade relations are based on a mutual consideration of import and exports aspects and in this case negotiations and/or identification of information and relevant authorities is not always easy for new traders to the EU;

- Several interviewees considered that the EU did not clearly review the pest situation in NMS before accession and this has led to several issues especially, when products were moved from a NMS to an old MS before being exported to third countries;
- Trading partners to the EU consider that the EU should provide a better information management system (IMS) for listing interceptions if they want exporting countries to implement corrective measures. This system should be updated on a daily basis to secure a quick reaction from exporting countries;
- Information on which strains of pests are present in the EU is not accessible for trading partners. The CPHR regulates "non-European strains" of common pests e.g. viral pests of potatoes that cannot occur in the EU.

In terms of the resources allocated to plant health policy implementation in the selected third countries, it would appear that in some cases these are proportionately more significant than in the EU (examples of the plant health budgets of the US, Canada and Australia are given in section 5.9).

A detailed quantification of the costs of the various phytosanitary systems, in relation in particular to the specificities of the agricultural systems in each region, and the value of agricultural production and trade, would be useful to undertake in future work. In the case of the US, for example, the expert view is that the system involves higher costs in view of the pre-clearance, post quarantine posts and import permit measures, although to some extent these costs are borne by business operators. As the data below shows, EU production of plant products is comparable to the US in total volume and value terms, but the budgets devoted to phytosanitary inspections and controls are markedly different (see section 5.9). However, the EU has a larger and more diversified production and trade base, with a more significant volume and value of production and trade, particularly in fruit and vegetable products, and also in forest products. In fact, for most of the key categories of products, the EU is by far the largest importer in the world. Both the large and diversified volumes of EU imports and the more diversified range of EU agricultural production systems increase the range of HOs to which the EU may be exposed.

Table : Production of agricultural (plant) products in the EU and selected TCs, 2007

Country	Volume of production (MT)	Value (million $)
US	585,881,796	71,684
Canada	71,290,987	8,211
Australia	61,837,530	4,774
EU	520,871,342	64,987

Note: The above data refer to the sum of the top 20 agricultural products produced in each country/area – excluding livestock products

Source: FCEC based on FAOSTAT data

Table 3-34: Production and trade of selected commodities, EU and selected TCs, 2007

	Production (MT)	Production ($1000)	Export Quantity (tonnes)	Export Value (1000 $)	Import Quantity (tonnes)	Import Value (1000 $)
Maize						
Canada	11,648,700	117,679	485,786	130,182	2,579,130	462,847
European Union	48,798,146	1,299,008	13,131,385	3,662,666	23,867,083	6,310,231
USA	331,175,072	20,891,120	57,014,420	10,099,898	334,398	257,340
Soybeans						
Canada	2,695,700	494,571	1,868,332	633,907	212,851	63,163
USA	72,860,400	14,910,080	29,840,182	10,016,225	275,703	96,766
European Union			1,777,098	639,335	17,236,647	5,957,705
Wheat						
Australia	13,039,000	1,382,139	14,684,211	3,887,832	25	21
Canada	20,054,000	2,275,904	17,551,674	4,359,492	25,125	6,811
European Union	120,103,234	9,821,794	29,573,118	7,684,261	27,353,543	7,515,596
USA	55,822,700	7,698,642	32,946,902	8,344,749	2,345,624	501,502
Cottonseed						
Australia	387,800	73,245	39,515	12,345	0	0
Canada			0	0	8,424	1,870
European Union			179,681	61,748	226,720	87,466
United States of America			574,857	122,426	3,415	1,655
Apples						
Australia	270,476	77,686	4,656	6,351	0	0
Canada	405,089	116,349	38,890	33,610	180,477	178,811
European Union	10,534,587	2,982,318	3,451,258	2,770,262	3,421,795	3,174,817
USA	4,237,730	1,217,161	663,465	651,292	206,600	170,184
Barley						
Australia	5,920,000	353,038	1,840,143	451,357	44	85
Canada	10,983,900	256,967	1,949,933	452,437	53,203	9,646
European Union	57,659,924	1,609,450	12,670,918	3,193,789	7,092,662	1,751,232
USA			733,225	160,614	458,134	100,909
Cotton lint						
Australia	274,000	406,747	327,599	466,414	0	0
USA	4,181,810	6,207,813	3,259,379	4,580,339	3,661	7,706
European Union +			242,486	340,124	433,329	656,549
Grapes						
Australia	1,530,439	709,970	40,156	78,114	12,003	38,430
European Union	25,096,075	12,191,010	987,858	1,845,155	1,579,677	3,029,913
USA	6,384,090	2,961,579	386,677	704,104	514,043	960,666
Potatoes						
Australia	1,211,988	154,621	25,538	12,214	86	37
Canada	4,999,424	677,519	610,142	169,349	172,373	76,629
European Union	63,778,523	7,393,508	7,019,881	2,516,950	6,640,912	2,339,638
USA	20,373,267	2,773,520	295,060	134,024	501,590	126,862
Tomatoes						
Australia	296,035	70,139	3,495	8,925	1,785	3,742
Canada	821,850	194,720	125,209	271,280	196,610	267,359
European Union	16,231,681	3,651,099	2,493,616	3,802,162	2,666,760	4,246,135
USA	14,185,180	3,360,895	245,315	311,067	1,070,808	1,220,498

	Production (MT)	Production ($1000)	Export Quantity (tonnes)	Export Value (1000 $)	Import Quantity (tonnes)	Import Value (1000 $)
Oranges						
Australia	470,673	82,716	128,322	125,924	9,858	15,694
European Union	5,960,071	1,039,561	2,121,697	1,747,057	2,868,264	2,305,208
USA	7,357,000	1,292,919	341,914	271,151	115,104	121,479
Rapeseed						
Australia	1,065,000	301,115	210,122	85,539	265	627
Canada	9,601,100	2,545,259	5,363,650	2,117,432	202,270	75,922
European Union	18,431,154	4,819,528	4,936,764	2,026,274	5,330,164	2,181,816
USA			375,830	114,127	636,287	241,816

Source: FAOSTAT

Table 3-35: Trade in forest products in the EU and in selected TCs, 2008

	Import Value (US $'000)	Export Value ($'000)
Australia	2,101,224	1,726,445
Canada	4,922,143	24,939,239
United States of America	24,410,964	22,460,431
European Union	108,404,813	115,762,957

Source: FAOSTAT

Notwithstanding the above important differences in the structure of production and trade between the EU and the selected third countries, the relatively unique EU context should also be highlighted. This includes the historical development of the regime out of the national MS plant health systems, the fact that it has more 'porous' borders than e.g. Australia, and has more endemic problems due to the very much longer history of trade, as well as the range of climatic conditions and plant production covered in the EU-27. All these factors increase the demands and complexity of the approach that would be appropriate for effective plant health risk management in the EU.

It is generally acknowledged that the current system of plant health controls in international trade is based on mutual trust between countries' NPPO authorities and other countries' regulatory systems. This general perception was confirmed by the feedback from the selected third countries, but also the EPPO and the IPPC interviews, and the review of the Commission's approach on trade and bilateral agreements.

More analysis on the implications of the CPHR for EU exporters and transit trade is provided in section 3.8, and on the wider context of the EU international and bilateral relations in section 4.2.2.

In terms of pest risk management in the case of outbreaks, it is noted that, in the context of PRATIQUE, a review of eradication and containment campaigns was undertaken covering some 171 campaigns around the world; it was concluded that there was no significant difference in the outcomes between European and non-European eradication campaigns. Out of the 64 European eradication campaigns covered by the review, 41% were successful, 22% are likely to be successful, whereas 21% are likely to fail or failed altogether (16%). Out of

the 62 non European eradication campaigns, the majority were successful (45%) or likely to succeed (18%), whereas 31% were considered likely to fail or failed altogether (6%).

Table 3-36: Key conclusions from the comparison of the selected third country plant health regimes

	Argentina	Canada	Israel	Thailand	USA
Scope, surveillance and categorisation	• Ongoing process of regionalisation • 2 lists of HOs (HOs not yet present and HOs present with official measures) – > 450 HOs in total • No consideration of environmental matters	• About 150-200 pests are listed • National survey program • Some plants are included • No prioritisation in place	• NPPO accredited ISO 9000 • General survey in place	• >350 HOs listed including 39 plants • No clear prioritisation system in place • IAS regulation under the responsibility of Min. of Environment	• Noxious weed/ IAS included • No comprehensive closed list of HOs exists • National survey program (CAPS) shifting strategy from being "pest-specific" to surveying for several pests on a "commodity" basis
Import	• Import permits required for individual consignments • Inspection at Point of Entry	• Import permits required • Offshore clearance programs • Inspections at Point of Entry and Point of Destination • Foreign site audit	• Import permits required • Post entry quarantine is applied to enable special imports • All plants of new varieties of fruits are put in quarantine	• PRA required for import • Import permit required for some products only • Plant quarantine station exists for prohibited articles • Import restriction for R&D purposes in specific cases	• Offshore preclearance program • Quarantine inspection integrated in customs protection services • Passengers inspected • Import permit required • Soil import is forbidden • Post entry quarantine established on a case by case basis
Export	• All citrus pallets are inspected • Traceability in place for citrus	• Certification of exports according to phytosanitary requirements • Export inspections	• Pre-export checks on cut flowers and fresh herbs at place of production • "Special quality system" of inspection is applied in certain cases (more stringent • Traceability in place • Exports organised through exporters serving approved	• Export certification is voluntary excepted for orchid cut flowers, seed and pomelos fruit for which certification is mandatory	• No certification of any export required • Provision of certification of commodities as a service to US exporters against fees payment

	Argentina	Canada	Israel	Thailand	USA
			growers • Inspection system covers only plant products which are intended for export		
Control measures for outbreaks and new findings	• 7 national programs for control and eradication in place to date	• Regulation to prohibit the movement of regulated articles when required • Supported by PRAs			• Rapid Response Teams in support to emergency measures • Pest specific surveys are funded by USDA

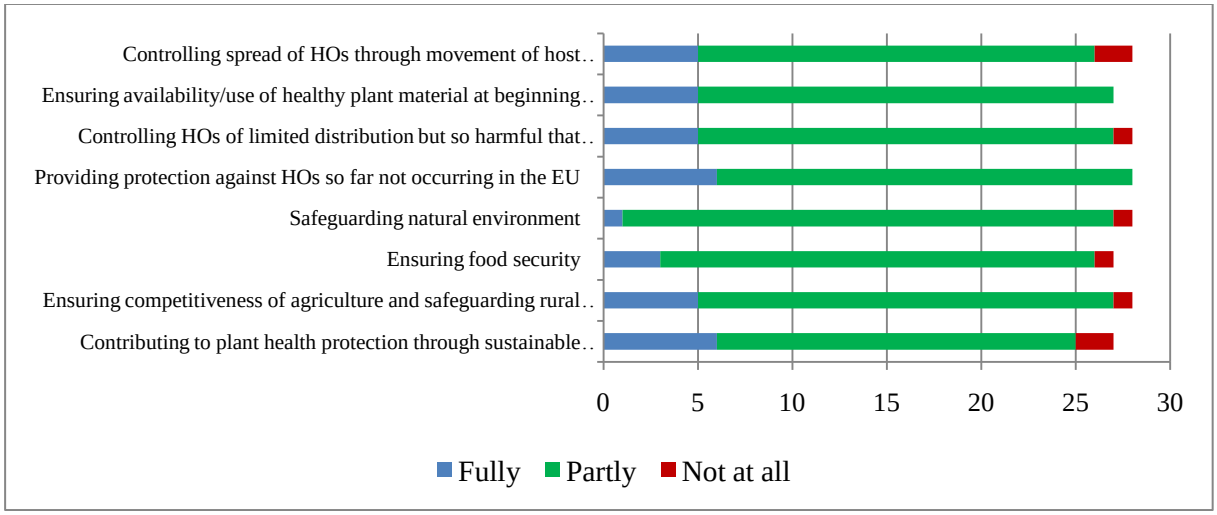
3.14 Overall conclusions on CPHR performance to date

EQ1: In how far are the objectives of the CPHR still met and are they still appropriate?
EQ4: Does the CPHR put appropriate emphasis on prevention in general (and what type of additional provisions on prevention might be useful)?

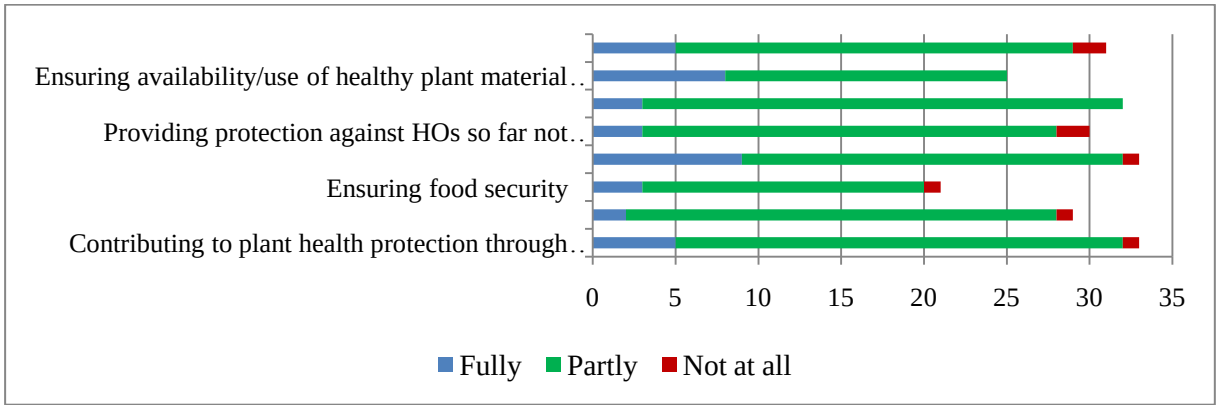
The majority of MS CAs and stakeholders believe that the CPHR scope and objectives, as it has developed in the period 1993 to date, are still being met and are still appropriate (general survey Q1.1). This concerns both the general and the specific objectives of the CPHR as these appear in the current intervention logic.

Figure 3-23: Fulfilment of general and specific objectives of CPHR (1993 to date)

Response of MS CAS:



Response of stakeholders:



Source: FCEC based on general survey results

Despite this positive perception overall, it is nonetheless noted that the general view of the regime is that it has only partly met its objectives. This concurs with the view that the regime

has been only partly effective in preventing the entry, establishment and spread of HOs in the EU, as outlined in the previous sections.

The outcome of the evaluation for each of the specific policy areas covered by the CPHR is summarised in the following tables. Several measures are assessed to have only partly been useful or effective and this is mostly attributed to the following underlying factors:

- Incomplete implementation by MS, or lack of harmonised approach in implementation between MS. Gaps in implementation are often due to variability in knowledge, training, interests and perspectives, traditions, and administrative structures, capacities and resources between MS in the EU-27;
- Constraints in availability of staff and resources devoted to plant health in general, which is evident at all levels (EC, MS, research bodies and diagnostic facilities etc.);
- Lack of clarity in certain provisions (e.g. on IAS and natural spread), which reinforced by differences in knowledge and perspectives, creates potential for wide interpretation of rules (it has often been argued, in this context, that a regulation would impose a stricter enforcement to MS, thus reducing the possibility for deviations);
- Limited public awareness, thus political support to finance and enact the policy: this is evident with the relatively limited resources made available to plant health administrations by national budgets, and lack of commitment to adopt/enforce certain actions, thus reducing the possibility for drastic measures at the start of the outbreaks;
- Lack of incentives and disincentives (including in the form of sanctions/penalties), in the current system, or – where such incentives/disincentives exist non enforcement. The lack of incentives to report and notify findings in a timely manner has been found to constitute a key reason for delays in notifications, which has ramifications on the speed, thus the effectiveness and efficiency, of action to address the outbreak;
- The limited support and lengthy decision-making process in emergency situations, which results in measures taken too slowly and too late (in this context, it is argued that a dedicated financial instrument, e.g. in the form of a 'plant health fund' would enable decision-makers to speed up the process); and,
- The changing context within which the policy operates, in particular the growing challenges of globalisation and climate change (as outlined in section 4.1.2).

In addition, the assessment of the financial framework of the CPHR, which has expanded and updated on the independent evaluation of the Solidarity Fund carried out in 2008, has concluded that a key deficiency of the current system is that it only acts *a posteriori* and does not cover any measures or activities taken on a preventive basis, before or as soon as, outbreaks or new findings occur. This results in loss of efficiency, as investment on prevention in the longer term ensures greater cost effectiveness than measures to address outbreaks, particularly measures taken at more advanced stages of outbreak when the targeted HO is established and may be fairly spread. The later action is taken the more costly and less cost-effective the remedy.

Beyond the solidarity regime as such, the current CPHR does not sufficiently address prevention. Emergency measures are generally adopted too late, and there is no formal framework or support to deal with emergency situations. Contingency plans are not systematically in place (either at MS, or at EU level). Furthermore, beyond compulsory

surveillance, the efforts for more general surveillance made by MS are relatively limited (with significant variation between MS) and are not systematic or coordinated. The current emphasis of the CPHR on prevention and early response, including the solidarity regime as such, is therefore judged to be largely inadequate.

General survey results
(Q 6.7)*: *Should the Community Plant Health Regime be revised in order to have more focus on prevention and early action*?
All the MS CAs (25) and 23 out of 27 stakeholders agree that more focus should be given to prevention and early action (1 stakeholder 'does not know'.

* Q6.6 for stakeholders

On the other hand, the evaluation has also addressed the question of the deadweight effects of the CPHR ('What if no Community financing was in place'). The analysis of the CPHR costs and benefits during the period from 1993 to date (section 3.11) demonstrates that: a) the budget devoted to the CPHR to date remains relatively limited; and b) on a case by case basis, the CPHR has had clear benefits (as discussed in particular in the context of 5 HOs: *Anoplophora (chinensis* and *glabripennis)*, *Ceratocystis (fagacearum* and *fimbriata)*, *Erwinia amylovora*, *Grapevine flavescence dorée* and *Phytophthora ramorum*). In conclusion, through the measures imposed in these cases, the CPHR has contributed either to the avoidance of the introduction of potentially injurious HOs or to slow down their spread, resulting in significant overall benefits in all these cases. Notwithstanding its successes, the CPHR can nonetheless be improved to maximise the effectiveness and efficiency of the measures taken.

Moving forward, it is noted that new challenges, notably globalisation and climate change as increasingly evidenced by the new risks and increase in solidarity budget spending of recent years, require the adjustment of the regime for the future.

The identified weaknesses and shortcomings, as well as future needs and challenges, point in the direction of potential options for improvement and these have been developed and assessed on the basis of the wide consultation carried out by the FCEC under this evaluation, as outlined in section 5.

At a conceptual level, the various options aim to respond to the need for:

- More prevention;
- Better risk targeting;
- More solidarity: moving from MS to EU approach for more joint action to tackle risks of EU significance.

Table 3-37: Evaluation of CPHR performance during 1993-2008 – synthesis of findings

Policy area	*Evaluation Question (a)*	*Summary of findings*
General approach of CPHR and scope:		
Control of natural spread	EQ2: Extent to which the control of natural spread is addressed.	Inclusion of natural spread in CPHR scope: the current legislation is not explicit on 'natural spread' (as opposed to man-assisted spread), leading to considerable confusion and divergence in interpretation amongst MS and stakeholders. Natural spread is covered by Directive 2000/29 in Article 16 which requires measures to deal with spread; however, Article 23 explicitly excludes natural spread from eligibility for solidarity funding, and past experience has shown the shortcomings of this approach in effectively targeting pests at the start of an outbreak (e.g. *Diabrotica virgifera*). Technically, the strong interaction between the natural spread and movement of plants, and the fact that natural spread is an inherent characteristic of any pest, make the distinction of causal effects on plant health questionable; ISPM 2 includes consideration of natural spread where the pest risk is considered not acceptable or if phytosanitary measures are feasible. Therefore, there is need for clarification of CPHR rules on natural spread. The potential longer term effects of climate change on altering patterns of natural spread of HOs in the EU need also to be taken into account. Consequently, options for the explicit inclusion of natural spread in the CPHR are explored further in section 5.1.3. This question also covers the suitability of the CPHR intervention logic for forestry, public green and natural habitats. The CPHR should continue to provide protection against non-EU HOs in these sectors as is currently already the case, and as is the practice in the plant health legislation of third countries. However, deciding on the best course of action in case of outbreaks of regulated non-EU HOs in EU forests, public green or natural habitats (e.g. PWN and Anoplophora), requires consideration on a case by case basis of whether the potential impact (economic, environmental and social) of the pest in these sectors continues to warrant drastic measures under quarantine regulation (= CPHR) when initial eradication fails. Such decisions may be ultimately political (Commission action vs MS subsidiarity) and need to involve close coordination between plant health and environment protection policy makers.
IAS	EQ3: Extent to which IAS are included in scope of the Directive.	There is currently lack of common understanding, leading to considerable confusion, on both the definition of Invasive Alien Species (IAS) and the extent to which IAS are covered by the scope of the Directive. The defining characteristic of IAS, according to the CBD definition, is their wider environmental impact on ecosystems. Historically, this has been considered as an indirect impact for the purposes of Directive 2000/29, but in recent years there has been a *de facto* shift in implementation, due to major pest incursions with significant indirect, non-commercial or purely environmental impacts. In practice, many regulated pests are IAS already listed in the Directive (recent examples including *Anoplophora spp*., *Phytophthora Ramorum*, also PWN). There have also been international developments in considering IAS at the level of IPPC and EPPO, and a more general EU strategy on Invasive Species (IS), following the CBD definition, has been developed. There are therefore extensive calls for clarification of the CPHR on this issue. The potential effects of climate change on altering patterns of alien species invasion in the EU need also to be taken into account. The options for the future regarding the inclusion of IAS in the CPHR are explored further in section 5.1.2.
Classification of HOs in	EQ5: Extent to which the classification of	The current approach for listing HOs in Directive 2000/29/EC (several Annexes with lists for which a range of measures are foreseen, 250 HOs in total) is based on historical approach of EU MS, therefore reflects MS and EU historic priorities

Policy area	***Evaluation Question (a)***	***Summary of findings***
Directive 2000/29/EC	HOs in Directive reflects the objectives of the regime and priorities on phytosanitary risks. Extent to which appropriate information for PRA (pest risk analysis and pest risk management) is available.	on risks. Although the number of listed HOs as such is not an issue for effective management at MS CA level in terms of imports from third countries, there is need for revising the lists (reviewing the approach to Annexes I and II in particular), and for considering prioritisation of HOs that are of EU-wide concern (e.g. in the context of pathway analysis for import inspections, or for intra-EU surveillance measures); especially as concerns HOs occurring on EU territory. If greater prioritisation is needed, then this could be based on criteria to be developed, and the general survey has already pointed in the direction these could take. The scope for prioritisation is explored further in relation to options for the future to ensure better prevention and to maximise the cost-effectiveness of current measures and resources (in particular for import inspections and for intra-EU surveillance, sections 5.2 and 5.3 respectively). Additions to the lists of the Directive, on the basis of PRAs, are constrained by current data availability and methodologies and this delays process for listing new HOs. Longer term, the EU FP7 funded project PRATIQUE is expected to support the development of generic methodologies with a view to improving PRA availability on a systematic basis and more proactively (before risks emerge). In the meantime, the use of fast-track risk analysis to speed up the adoption of measures (particularly in emergency situations), as well as improving cooperation between all bodies currently involved in PRAs (EFSA, EPPO, MS CAs, stakeholders where possible) should be considered. More generally, major limitations of the current approach are found to be the lack of horizon scanning and the lack of efficiency in dealing with emerging risks. Approaches to overcome these issues are explored further under the options for the future in sections 5.2 (prevention at import) and 5.4 (emergency action) respectively.
	EQ5(i): The appropriate positioning of RNQPs.	The approach followed for the positioning of Regulated Non Quarantine Pests (RNQPs) is questioned because in the EU, two sets of legislation currently cover the range of regulated pests: the Plant Health Directive 2000/29/EC and the Marketing Directives for Seeds and Plant Propagating Material (S&PM). The results of the evaluation indicate that the major issue of concern is the current overlap between the two sets of legislation rather than inconsistencies, and that a mechanism should be in place to allow careful consideration for transfer of eligible RNQPs between the two sets of Directives. Consequently, an analysis of options and recommendations on this are provided in section 5.1.4.
CPHR policy areas:		
Surveillance (intra-EU)	EQ6: Implementation of surveillance provisions by MS.	Surveillance is currently compulsory only in the case of emergency, control measures and PZs; the degree of application is variable by HOs (systematically undertaken only for potato diseases). Procedures for surveys (including protocols and reporting formats) are generally not harmonised at EU (with the notable exception of PWN), leading to varying implementation. Notification of findings is not done within the legal requirements in the great majority of cases; this has hindered the possibility for early action against HOs, and delayed communication of information to CAs and stakeholders. There is agreement on the need to introduce a quicker system for notification of findings and outbreaks (possibly to be developed within current EUROPHYT database). Other (general) surveillance is carried out by some MS for certain HOs, according to MS priorities and following different procedures and reporting standards. This affects the extent to which comprehensive information on the spread of HOs on the EU territory is available, thus leading to less effective and efficient eradication measures. The involvement of POs is generally limited, despite the importance of stakeholder involvement in early action.

Policy area	***Evaluation Question (a)***	***Summary of findings***
		There is general agreement about the importance and need of more and intensified surveillance, and support for introduction of compulsory general surveillance at EU level for priority HOs, although views on the process and criteria to be used for the identification and selection of HOs to be subject to such surveillance, as well as the scope and method of surveillance, are diverging. The introduction of surveillance on a compulsory basis is associated with a general support for introduction of EU co-financing for this measure. Consequently, an analysis of options and recommendations for future surveillance are provided in section 5.3.
Import regime	EQ7: Implementation of import regime by MS, effectiveness and critical success factors.	Overall, consensus view is that the current system of plant health procedures and requirements as applied during the last 15 years for commercial imports of plants and plants products have generally been effective in preventing the introduction of HOs into the EU. Nonetheless, the system has some shortcomings as demonstrated by the fact that it not been effective in all cases. A number of weaknesses were identified as follows: • Effectiveness of border controls is highly variable between MS, and import inspections are focused on regional/national plant health issues rather than pests of EU-wide relevance. Improving the uniformity of import inspections could be addressed by: EU training (e.g. BTSF); networking between inspectors; development of general guidelines; • Significant delays in notifications of interception at import (EUROPHYT): up to 90 days in certain cases. This, combined with limited processing of notifications in current system to provide targeted information, leads to limitations in use as a risk analysis tool, as evidenced by limited use for risk based inspections at MS level; • Identification of high risk pathways (in particular plants for planting including ornamentals, from certain third countries) indicates scope for a pathway approach on imports in some cases; • For some specific plants on which latent diseases can be present (particularly plants for planting), the need for more extensive post entry inspections has been identified; • Current implementation of derogations is considered to present a potential phytosanitary risk, in particular those regarding small quantities not used for commercial purposes, and regarding transit consignments; • Widespread concern for lack of traceability from PoD back to PoE could in theory pose a problem due to the complexity of trade patterns where controls at final destination are in place (consignments in transit); • Use of reduced frequency checks is very mixed between MS and remains rather limited (18 MS have not applied this possibility), although for the 8 MS that apply this system it is considered to have been effective. The limited use of reduced frequency is not necessarily a weakness as such, but suggests that some MS may not be prioritising inspection according to risk possibly leading to weaker focus on risk areas; • There is scope to improve and strengthen EU emergency measures, with a view to reducing delays and enhancing effectiveness and efficiency; • Third countries have difficulties understanding EU requirements through the reading of legislation and perceived lack of uniform interpretation between MS' inspection services; • Cooperation between plant health and customs authorities needs to be enhanced, *inter alia* to promote nomenclature and IT systems interoperability; • Lack of sufficient traveller awareness of the phytosanitary risks or private imports poses significant risk in the absence

Policy area	*Evaluation Question (a)*	*Summary of findings*
		of any measures on passenger transport and divergent policies and practices of MS in this area (passenger transport controls, passengers' personal luggage allowance); • Underlying above shortcomings, there is lack of sufficient staff resources and training for authorities at all levels, to ensure full and satisfactory implementation, particularly within current economic context. Moving forward, in the context of the significant expansion in trade volumes and change in trade patterns (new products and sources of supply), the EU is faced both with increasing and emerging risks of introduction of HOs. These trends, which have already been witnessed in the last decade, are occurring in the context of reduced administrative and financial resources at MS level for inspections. In conclusion, therefore, better risk targeting and maximising the effectiveness and efficiency of current resources, as well as improving the availability of staff and resources, are critical success factors and should be the basis for future improvements to address the challenges ahead. Consequently, an analysis of options and recommendations for the future import regime are provided in section 5.2.
Intra-EU movement	EQ8: Implementation of intra-EU movement regime (plant passport system) by MS, effectiveness, usefulness and critical success factors.	Overall, while the regime has succeeded in achieving the free circulation of plants and plants products within the EU, there are significant concerns on its effectiveness in terms of addressing plant health problems as such. Perceived inadequacies, related mainly to the implementation of rules, have demonstrated a certain conflict between the two objectives in practice. In particular: • The producer registration system is generally perceived to work reasonably well. The concerns are mainly related to the issuing of plant passports and the credibility of plant passport documents *per se*; • Although nearly all MS have implemented the option to delegate the issuing of PPs to registered private operators under official NPPO supervision, the majority of MS CAS has nonetheless expressed concerns on the functioning and reliability of the system. This appears to be partly linked to the resources available to carry out the appropriate level of inspections and controls and to ensure correct implementation. On the other hand, for stakeholders, the delegation of responsibilities to issue PPs to private operators has been a major step forward in terms of facilitating trade and introducing flexibility in the current system. • Lack of uniformity in the application of the PP system is a particularly significant concern. This is associated with the lack of a standardised format for the plant passport document and divergent practices on the information contained in the document and its attachment to products. Plant passports are difficult to read when too often plant passports information is being mixed with trade information. There is urgent need for rules/guidelines, including possibly a harmonised plant passport format; • Although the PP document was not intended by the legislation to be a traceability tool, it can offer certain elements of traceability. However, full traceability cannot be ensured by the PP document alone, as it is often used jointly with trade documents, and there is considerable difficulty combining the plant passport and the physical plant or plant products, particularly with smaller plants such as ornamentals. The plant passport only provides information on the previous stage in the supply chain and difficulties are being observed when there is a need to further trace back and/or trace forward; • Six MS have not implemented exemptions for "*small producers serving the local market*" and for "*products destined*

Policy area	*Evaluation Question (a)*	*Summary of findings*
		for final consumption" due mainly to potential phytosanitary risk, but risk considered minor relatively to the potential burden on these sectors by those MS that have implemented the exemptions. In conclusion, by and large, the implementation of the current PP system does not sufficiently take into account risk analysis nor does it provide a sufficient guarantee that products are safe to move within the EU. In many cases, the shortcomings identified in the implementation of the current system have undermined the trust of both MS CAs and stakeholders on some of the provisions, and this is a critical success factor for restoring overall credibility in the system. The above findings confirm that the situation remains as challenging as highlighted in the FVO Report of 2005 on this subject. These concerns are particularly acute in the case of protected zones (PZs) and call for a significant review of both systems. Consequently, an analysis of options and recommendations for the future intra-Community movement regime are provided in section 5.5.
Protected Zones (PZ) regime	EQ9: Implementation of PZ regime by MS, effectiveness, usefulness and critical success factors.	Overall, while the concept of Protected Zones (PZs) is generally considered to be useful and effective in slowing down the spread of certain HOs, continued persistent variability in implementation at MS level has led to loss of credibility, hence undermining the usefulness of the system as a plant health measure. Despite significant progress in providing technical justification for the current PZs at EU level, the general perception is that PZs are not designated only on technical grounds but that significant commercial/political considerations are present The evaluation has found that these concerns are largely linked to an on-going debate on the cost and benefit distribution of the current implementation of the PZ system. Moreover, the distribution of costs and benefits is generally assessed from the perspective of individual MS or regions, largely ignoring the cost-benefit distribution of the current system of PZs for the EU as a whole. Many of the problems of PZs have come from MS failure to apply the agreed measures, and are not due to flaws in the concept *per se*. There is evidence of MS failure to carry out surveillance and report the results in obligations; as well as evidence of certain failures in the correct implementation of the PZ plant passport system ('ZP' marking) as this creates additional administrative and financial burdens for traders. The consensus view is therefore that controls should be strengthened and legislation fully enforced (e.g. surveillance and reporting obligations) to restore the credibility of the PZ concept. In this context, options to pursue further the IPPC PFA concept, which is the approach followed internationally, could also be explored (the two concepts could potentially be applied in parallel). It is noted, however, that the credibility issue (vis à vis third countries) is not unique to the EU PZ system; in the WTO SPS and IPPC context, these are common and relatively frequently occurring problems with the application of the PFA concept. Alternative regionalisation concepts could also be considered, e.g. *Diabrotica virgifera* may be a good example of the need for a concept using definitions of demarcated infested zones and pest-free zones. However this approach should be restricted to limited cases and not be widely applied, to avoid excessive complexity in the implementation of plant health measures. Ultimately, a critical success factor for the application of any regionalisation concept will be to ensure a fair balance between the distribution of costs and benefits at MS level and for the EU as a whole. This will need to be determined on a case-by-case basis, considering infested and non-infested MS, and the consequences of potential infestation for the EU as a whole, taking into account liability aspects, incentives, feasibility and proportionality.

Policy area	***Evaluation Question (a)***	***Summary of findings***
		The options for the future of the PZ system are explored further in section 5.6.
Control and emergency measures	EQ10: Implementation of control and emergency measures by MS, effectiveness and critical success factors.	Overall, the control and emergency measures have been partly successful in preventing the entry, establishment and spread of HOs in the EU. The effectiveness of the measures taken tends to be specific to the HO being targeted and can vary between regions, and therefore has to be considered on a case by case basis. Additionally a distinction has to be made between emergency and control measures: while emergency measures are largely considered to have been ineffective on the basis that they are generally adopted too late (despite the fact that the legislative process as such – comitology - is relatively less cumbersome than for a Council Control Directive), control measures are generally considered to have been largely effective (despite the fact that the legislative process in this case – Council approval and since Lisbon Treaty (Dec. 1, 2009) co-decision Council and Parliament - is by definition longer and less flexible). Control measures for ring rot and brown rot in potatoes are considered to have been most effective. Critical success factors can be summarised as follows: • Adoption and implementation of very strict measures swiftly after the outbreak, with strict provisions in the infested fields and refined methods for analysis procedures, and movement restrictions (these apply for 4 years); • Application of common procedures through control Directives with detailed obligations restricting free interpretation; • A commercial crop and therefore producers/growers and industry are concerned and economically motivated to act; • Potato sector is of high commercial/trade value and is highly integrated. Early prevention is considered to remain the most effective and cost-efficient approach for plant health management. Consequently, an analysis of options and recommendations for improving emergency response are provided in section 5.4. Options to improve the system include speeding the adoption and adaptation of emergency measures (based on the evaluation of pest situation through PRAs developed step by step), and strengthening emergency approach for outbreak measures *inter alia* via creation of emergency team within SANCO (section 5.8.4) to coordinate EU response to emergencies (as in animal health sector).
CPHR support activities:		
Research and development	EQ19: Extent to which CPHR is adequately supported by R&D.	The number of HOs arriving and spreading within the EU is expected to increase in the coming years mainly due to globalisation trends and climate change. Against these trends, it is recognised that the R&D expertise in plant health is declining in the majority of the most important disciplines required for this sector (taxonomy, entomology, diagnosis, etc.), leading to the need to further coordinate R&D activities at EU level. In this context, the use of existing EU R&D programmes and funding schemes (e.g. ERA-net, networks of excellence, etc) is crucial, but currently not perceived to be sufficient. DG RTD supports the coordination of plant health research activities commissioned under national MS budgets (which roughly account for 90% of all such budgets available in the EU), through the ERA-net EUPHRESCO. The establishment of this network is perceived to be a significant step forward in the direction of establishing a coordinated EU R&D approach and there is wide support for its continuation in future. EFSA can contribute to the harmonisation of the framework for PRA and the identification and evaluation of risk

Policy area	*Evaluation Question (a)*	*Summary of findings*
		management options. However, the role of EFSA does not encompass the economic (cost/benefit) analysis required in full PRAs according to ISPM 11 and 21 and WTO-SPS. It is therefore important to find an appropriate platform to carry out this type of analysis, which at present is provided on an ad hoc and exceptional basis through impact assessments. In this context, the outputs of the EU FP7-funded project PRATIQUE are expected to provide generic economic and modelling techniques to support the development of decision support tools for pest management. Finally there is a concern that the PRA process *per se* is becoming increasingly complex and this can inhibit timely decision-making to the detriment of effective and efficient plant health management. Moving forward, the need to create a more permanent platform to ensure the continuity of the coordination and support of research and development in this field has been identified; this issue is explored further in section **Error! Reference ource not found.**.
Diagnostic capacity	EQ16: Extent to which CPHR is supported by rapid/reliable diagnosis of regulated HOs.	Overall, in the majority of MS the existing capacity is considered to allow only partially the rapid and reliable diagnosis of all regulated HOs, and this is mostly due to the relatively limited and decreasing financial and human resources. Gaps for the detection (in terms of methods and reference materials) are indicated by several MS, particularly with regards to rare or new HOs, as well as increasing difficulties to find experienced experts in specific fields as expertise is generally eroding especially in classical subjects (as also noted under previous section). Resources for diagnostics are in many cases limited even with regard to HOs for which detection is possible and in terms of activities that the laboratories would technically be able to carry out. The divergence in diagnostic capacity across the EU is largely due to the inherent characteristic of research on plant health which explains the difficulties of attracting financial support in this field: plant science is not a high priority compared to other scientific fields such as nanotechnology, engineering etc., and commercial interest remains limited. In those MS where plant health is important for trade and production, the diagnostic sector is more developed, with significant resources devoted to research, a clear structure and organisation in place, and there is additional funding by industry. However, only a minority of MS are in this situation. There is lack of cooperation and networking among MS, although considered crucial for overcoming current deficiencies. The contribution of EU Projects, particularly EUPHRESCO, is generally recognised for having a positive impact on networking between research bodies and laboratory experts, but this needs to be further strengthened. Experts stress the fact that coordination among activities at MS level remains the main weakness for research and diagnostics at EU level. A particularly weak aspect is the development of diagnostic methods, for which funding is not always available. There are several EU funded projects to improve diagnostic methods/protocols and update with latest technology in this field (including DIAGPRO (Diagnostic Protocols), QAMP (whole genomic DNA amplification methods), QBOL (DNA bar coding) and Q-DETECT). At EU level, binding protocols for diagnostic methods do not exist (with the exception of some HOs for potato diseases under control measures), but for a range of HOs, the EPPO and IPPC have issued standards for diagnostic methods and procedures (some 97 protocols to date). Many laboratories are currently in the process of preparing for accreditation, and EPPO is working to share the experience gained between laboratories. Moving forward, the need to establish reference laboratories (NRLs and EU-RLs) was identified, in order to provide

Policy area	*Evaluation Question (a)*	*Summary of findings*
		guidance on diagnostic methods and training, as well as to provide maintenance of reference collections. This issue is explored further in section 5.8.2.
Training	EQ17: Extent to which training needs are met.	The evaluation highlighted the reduced availability of training and significant variability among MS in the level and quality of resources for training activities. Coupled with the lack of communication and cooperation among inspectors of different MS, this contributes to the limited harmonisation of inspection practices and the variability in the effectiveness of import inspections among MS. Some EU-funded training in the field of plant health to EU NPPO services was provided in 2008 and 2009 under the BTSF (Better Training for Safer Food) program. It is recommended that this training is strengthened and continued, and that it is provided both for inspectors and diagnosticians (section **Error! eference source not found.**).
CPHR organisational issues:		
	Distribution of responsibilities: EQ11: Implementation of Single Authority / Responsible Official Body concepts by MS. EQ12: Distribution of responsibilities between national authorities and private sector in implementing the CPHR.	The NPPO is the Single Authority and the Responsible Official Body within the meaning of Article 1.A of Directive 2000/29 in the majority of MS; the current legal framework is considered to be adequate. As foreseen in the legal framework, delegation of certain tasks is possible under the authority and supervision of the responsible official bodies. This is currently done by approximately half of the MS and mainly concerns the conducting of official checks, control and inspections and the conducting of official laboratory analysis; these tasks are delegated mainly to public bodies. Although the majority of MS CAs consider that the public resources devoted in their country to the duties and tasks derived from the CPHR is not sufficient, .in the context of the present evaluation the majority view has been that there is limited need or opportunity for further delegation of tasks to other bodies or legal persons. However, in view of the recent amendment of Dir. 2000/29 with regard to delegation of laboratory testing, it is recommended that further study is undertaken on this issue. This would be particularly relevant in view of the resource constraints extensively reported and identified throughout this evaluation, and the need for increased collaboration and responsibility sharing among CAs and stakeholders. Delegation should be carefully examined considering the different capacities existing in the MS, to ensure a high degree of quality, independence and impartiality. The evaluation highlighted the general lack of incentives as regards the timely reporting of outbreaks and the effective implementation of control measures, and the limited current availability of mechanisms that would act as incentives, both for private operators and CAs (e.g. compensation schemes, solidarity regime). Options to improve these aspects are explored in section Error! Reference source not found..
	EQ13: Contribution of FVO activities in ensuring harmonised implementation of the CPHR.	The role and functions of the FVO are considered highly useful and important for monitoring and contributing to harmonising the implementation of the CPHR in the MS and for the improvement of compliance with EU import requirements from TCs. It is however noted that the follow-up of missions is as important as the missions, and therefore measures to ensure implementations of recommendations should be in place. The main constraint to the work of the FVO is the limited availability of resources; an increase in FVO resources would enable some of the suggestions made for future improvement (e.g. missions to TCs, as they are considered to be highly useful).
	EQ14: Implementation of EUROPHYT tool.	EUROPHYT has proved to be a useful tool for the exchange of information among MS on interceptions of HOs. However, this mainly applies to imports, as there is no legal obligation in place for systematic reporting of findings in

Policy area	*Evaluation Question (a)*	*Summary of findings*
		plant material from other MS. It is recommended therefore that the use of EUROPHYT for compulsory notification should be extended from trade with third countries to intra-Community movements. Another set of improvements is suggested in order to make the system more user-friendly (e.g. improved search engines), to increase readability and usability of data for inspection targeting (e.g. data elaboration) and to increase the usefulness for signalling upcoming threats (e.g. modification of information required).
	EQ15: Effectiveness of CPHR communication and consultation.	The current communication activities around the CPHR are generally perceived to be limited, and confined mainly at public level (between COM and MS authorities). A more transparent communication of the actions to stakeholders, based upon a risk analysis and action scheme would contribute to better results. The current level of consultation in CPHR decision-making is generally perceived by stakeholders to be relatively limited, with traders seen as more represented via their organisations than producers/growers (in part due to less divergence of interests within the representative organisations). It is generally acknowledged that the CPHR has to seek a sensitive balance between conflicting interests (i.e. trade interests versus production interests, divergent interests across MS depending on production and trade interests). Furthermore, it is stressed that interests of stakeholders may not fully correspond to plant health protection objectives. Plant health encompasses significant public good components and, in this context, plant health authorities consider that the interests of stakeholders should be taken into account insofar they are in line with plant health objectives, which are considered the overriding priority for policy making in this field. On the other hand, stakeholders call for a proportionate and balanced approach in deciding on plant health measures, based on appropriate PRA. More generally, the need for raising public awareness on public health was also identified. Moving forward, options to improve current communication and consultation procedures are discussed in section **Error! eference source not found.**.
CPHR financial framework:		
Solidarity Fund	EQ21/22: Costs and benefits of the CPHR versus impacts.	The impacts of plant diseases can be as devastating as animal diseases. The CPHR has been partly successful in preventing the entry, establishment and spread of HOs. An analysis of the costs and benefits of the CPHR on a case by case basis indicates that, for a relatively limited budget (solidarity regime), the CPHR has nonetheless managed to control the spread of HOs that have potentially high economic, as well as environmental and social, impacts. There is, however, scope to improve the efficiency balance (cost: benefits) and the cost-effectiveness of measures, by strengthening prevention, intensifying action at the very start of outbreaks (early response to emergencies), improving the availability of incentives and disincentives in the system. These improvements would address current shortcomings of the solidarity regimeThe evaluation has confirmed the results of the earlier (2008) evaluation of the solidarity regime, in that the incentives provided by the regime remain relatively limited in a number of areas (intervention ex-post; exclusion of production losses; difficulty of assigning responsibility, particularly in cases of natural spread; lack of disincentives; non effective enforcement of penalties). The justification and added value of EU funding is also noted, as discussed in the future financial framework of the CPHR (section **Error! Reference source not found.**).

(a) Includes the elements of the EQs that refer to existing provisions of the CPHR for the implementation of each policy area; excludes issues for which provisions are not currently stipulated.

Source: FCEC, based on results of the evaluation

Table 3-38: Evaluation of CPHR performance during 1993-2008 – utility and effectiveness of policy measures

Policy measure (a):	*Utility (b)*	*Effectiveness (b)*
Surveillance (intra-EU)		
• Compulsory surveillance (emergency and control measures; PZs)	+++	++
• Other (non-compulsory) surveillance	+++	+
• Reporting and notification of findings	+++	+
Import regime		
• Import inspections	+++	++
• Notification of interceptions (EUROPHYT)	+++	++
• Dealing with non-compliance	+++	+
• Cooperation with customs	+++	+
• Derogations (small quantities, local markets, private consumption)	+/+++ (c)	+
• Additional declaration and special arrangements (Annex VI)	+	+
• Checks at final destination	+++	+
• Emergency measures	+	+
Intra-EU movement		
• Plant passport system in general	++	+
• Plant passport document	+	+
• Producer registration	+++	+++
• Inspection of registered producers	+++	+
• Issuing of plant passports by registered nurseries	+++	+
• Exemptions	+++	++
Protected Zones (regionalisation)		
• PZ system in general	++	+
• PZ plant passports	+	+
Control and emergency measures (outbreaks and new findings)		
• Control measures	+/+++ (c)	+/+++ (c)
• Emergency measures	+	+
• Emergency preparedness	+++	+
Activities in support of the CPHR		
• Research and development	+++	+
• Diagnostic laboratories and training	+++	+
CPHR financial framework		
• Solidarity funding	+++	+

(a) Includes the CPHR instruments and tools currently foreseen for the implementation of each policy area; excludes issues for which instruments/tools are not currently provided.
(b) Utility: extent to which the impact of the measures corresponds to the identified needs;
Effectiveness: extent to which the measure has reached the objectives for which it was set
The extent to which each policy measure has been useful and effective was assessed against the specific objectives of each measure, as outlined in Table 2-2.
The utility and effectiveness are rated on a scale of: + (low), ++ (moderate), +++ (high).
(c) Depends on specific measure.

Source: FCEC, based on results of the evaluation

4 The development of the future EU plant health policy

4.1 Assessment of future needs

This section summarises the findings of the evaluation on the CPHR performance to date, taking into consideration EQ 23 and EQ 24 (area K) of the ToR.

4.1.1 Strength and weaknesses, opportunities and threats

EQ 23: What are the major strengths and weaknesses, opportunities and threats of the CPHR, based on the conclusions of all previous questions, and which areas of improvement can be identified?

The main strengths, weaknesses, opportunities and threats for each of the main themes of the CPHR were outlined in detail in the previous sections of this Report. The following table captures the main overarching elements, to provide a succinct SWOT analysis of the CPHR as it currently stands:

Table 4-1: CPHR SWOT analysis

Strengths	**Weaknesses**
• Regime successful in preventing the entry or limiting the spread of major HOs in the last 15 years (e.g. potato diseases); • Achievement of the internal market for plants and plant products (i.e. free circulation); • "Open" approach of the regime has avoided import trade disruption; • Efficiency of the regime in managing – with a relatively limited budget – the introduction and spread of HOs with potentially high economic, social and environmental impacts.	• Regime only partly successful in preventing the entry or limiting the spread of major HOs in the last 15 years (PWN, *Anoplophora chinensis*), or even failed this objective (*Rhynchophorus ferrugineus*, *Diabrotica virgifera*); • Lack of incentives for stakeholders and MS authorities for effective implementation and weak involvement of stakeholders; • Action provided mainly *a posteriori* / limited prevention; • Action frequently taken too late, leading to loss of efficiency and effectiveness in implementation; • Limited use of risk analysis, and constraints in PRA availability, for more efficient use of limited resources; • Limited visibility, No structural consideration of economic impacts (costs / benefit analysis); • Eroded credibility of plant passport and protected zones concepts; • Communication and public awareness of plant health issues; • Variety and divergence of interests amongst MS and stakeholders (sectors).
Opportunities	**Threats**
• Review of approach in animal health (new EU Animal Health Strategy) and food safety sector (Regulation 882/2004) provide opportunity for the development and application of new concepts on plant health, with a view to improving prevention (e.g. prioritisation and responsibility sharing); • Better coordination with Seed and Propagating Materials regime; • Several concepts tried and tested in other sectors could provide model for development in plant health (e.g. diagnostics, NRLs/EU-RLs, delegation of responsibilities, cost and responsibility sharing schemes); • Raise public and political awareness on plant health, by balancing objective of agricultural productivity with the objective of supply of public good; • Create/strengthen networks of expertise at research and diagnostic levels, by relying on existing networks (e.g. EUPHRESCO) or setting up new forms of collaborations (e.g. NRLs with a view of establishing EU-RLs); • Increase stakeholder involvement in among others surveillance, risk management; • Further alignment to international standards (IPPC, WTO-SPS).	• Budgetary constraints continue to affect the availability of resources/staff to implement CPHR measures effectively (at all levels: EU, MS, regions); • Diversity of problems and interests between MS and strong MS focus on national problems and interests undermines EU wide perspective and need for solidarity; • The erosion of classical scientific expertise threatens future capacity of diagnostics (at present very variable at MS level and depending on HOs) and pest risk analysis; • Unless the CPHR puts more emphasis on prioritisation and prevention/early reaction, the sustainability of the solidarity regime to address a rising number of emerging risks and potential outbreaks remains questionable, in view of the significant challenges anticipated by change in trade volumes and patterns and climate change,; • Political support for plant health will always lag behind higher profile issues potentially affecting human health and of major economic consequence, such as animal health and food safety.

In terms of the level of public awareness and political support for plant health, it is noted that this sector will always be in a less favourable position compared to the commitment made on the management of animal health/food safety issues.

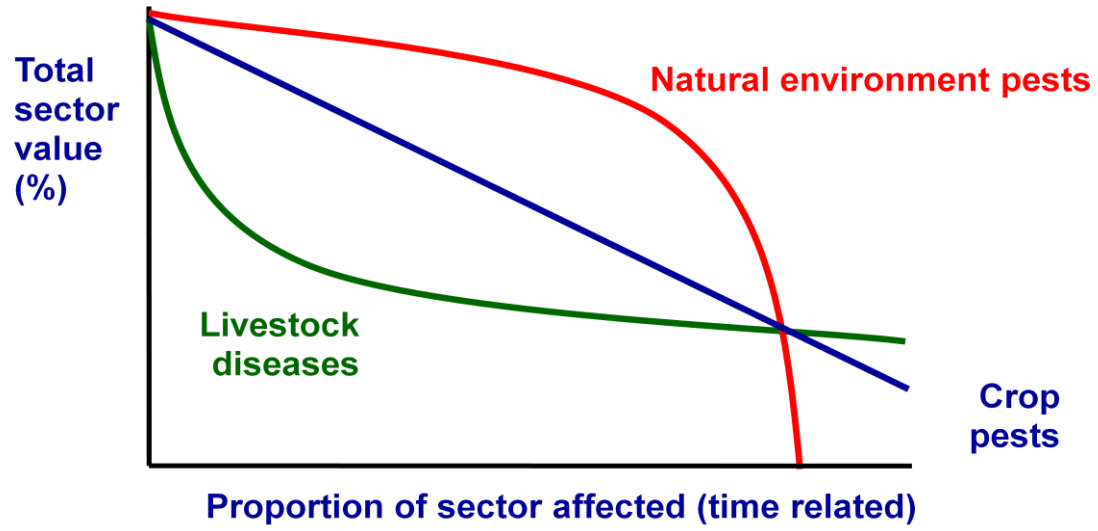
As the following graph demonstrates, in comparing plant health against other sectors exposed to the invasion of harmful organisms and natural hazards, three patterns of invasion impact drive resource allocation. In the animal health sector, even one isolated outbreak or single finding of a harmful organism (with relatively limited economic impact at the time) might suffice to trigger significant response to take measures against the outbreak. By contrast, in the plant health sector, the response tends to be delayed until a larger proportion of the sector is affected (the response is even more delayed in the case of environmental issues).

Key underlying factors for this difference in approach are: a) the close links of animal health and food safety with human health and animal welfare; and, b) the general awareness of substantial economic impacts that outbreaks in the animal health/food safety sector may entail. As demonstrated in the case of FMD, BSE and Avian Flu, the costs of such outbreaks can reach several billion €[261], but costs and losses of similar magnitude are incurred in the plant health field.

Raising public awareness on the significance of plant health for the EU plant resources and economic viability of the sectors affected, beyond agriculture and forestry as such, remains therefore a key challenge and opportunity for the future. Linked to this, an important objective of future policies needs to be the advancement of PRA methodology to assess and demonstrate the full potential economic impacts and benefits of different courses of action, and in particular action focused on prevention and early response.

[261] These costs are based on an economic analysis that takes into account all potential impacts, including direct and indirect effects to the wider economy. A review of the potential costs of animal health outbreaks and the benefits of prevention has been carried out for the OIE (The World Organisation for Animal Health): Prevention and control of animal diseases worldwide Economic analysis – Prevention versus outbreak costs, Part I (Agra CEAS Consulting, September 2007).

Figure 4-1: Public sector sensitivity to plant health compared to other sectors



Source: FCEC

4.1.2 Key challenges

EQ 24: In how far is the CPHR suitable to mitigate risks of future challenges, in particular the control of new HOs reaching or spreading in the Community as a consequence of climate change?

The challenges posed by globalisation (encompassing the impact of increased trade, transport, travel and tourism), and climate change effects on plant health in agriculture and forestry have been highlighted throughout this evaluation. The conference organised under this evaluation in February 2010[262] focused specifically on this issue, with several presentations highlighting the new dynamics introduced by globalisation and climate change, and the strong interactions between these two factors. These challenges are not unique for the EU plant health policy, but exert a wider impact on countries around the world.

It was generally acknowledged that globalisation is the overriding challenge, with climate change adding to the complexity and range of potential impacts. But within the debate of addressing future challenges for plant health it is important to bear in mind that a systemic approach is needed as plant health relates to ecosystems encompassing a wide range of components with complex and not always predictable interactions. It was also noted that these challenges are not unique for the EU plant health policy, but exert a wider impact on policy approaches for plant health and IAS in countries around the world[263].

For example, climate change has the potential to accentuate the incidence of natural spread in Europe both by directly affecting pest incursion and spread, and indirectly by altering cropping patterns in agriculture and forestry (as discussed in section 3.1.1). Natural spread in itself is triggered and accentuated by increased trade and/or movement of people (as discussed in section 3.4).

The evaluation has found that the impacts on plant health of globalisation (via the increase in interceptions with HOs, particularly from certain new trade pathways), and of climate change (inter alia via the increased incidence of natural spread and IAS) are becoming more and more evident in the enlarged EU27, and are only partly addressed by the current plant health policy.

In the general survey, the majority of both MS CAS and stakeholders consider that the CPHR, as it stands, is only partly suited to mitigate the risks of future challenges as outlined above:

[262] A number of presentations on this were made at the Conference organised under the CPHR evaluation: ***Modernising the plant health regime in view of globalisation and climate change*** (23/24 February 2010, Brussels). All presentations are available at: http://ec.europa.eu/food/plant/strategy/index_en.htm

[263] In September 2009, an EPPO Council Colloquium (Angers) had focused on the same subject: ***Increasing trade, changing climate, emerging pests: Is the plant health sector prepared?.*** The US, Canada and Australia have all re-evaluated their policy response to IAS and plant health to face these challenges (a review of the current US and Canada approaches is provided in Annex 2.

General survey results **Q 10.1 To what extent is the current CPHR suitable to mitigate risks of future challenges, in particular the control of new HOs entering or spreading in the EU as a consequence of climate change?**		
	MS CAs	**Stakeholders**
Fully	4 out of 23	3 out of 30
Partly	15 out of 23	19 out of 30
Not at all	3 out of 23	3 out of 30
Do not know	*1*	*5*

Evidence of the partial success of the regime to respond to new challenges is the fact that the current CPHR did not prevent some HOs to enter the EU (e.g. *Anoplophora sp*., *Rhynchophorus ferrugineus*, PWN), all of which indicate that new pathways that pose plant health risks are discovered too late.

The key reason for this is that the current CPHR is the product of 30 years of evolution in the legislation, but the original fundamental intervention logic was developed in the 1970s, adapted to the Single Market objectives in the early 1990s, to suit the objectives that were important at the time. As noted throughout the Report, the evaluation has found that as the needs and challenges have evolved since then, there is a need for shift in objectives to adapt measures to the new challenges. As it stands, therefore, the current CPHR is not fully suitable to mitigate the risks of these new challenges, in particular the control of new HOs reaching or spreading in the EU as a consequence of climate change. This is calling for a new approach to the EU plant health policy, as discussed in section 5.

4.2 The international context

This section summarises the findings of the evaluation regarding the international context, taking into consideration EQ 25 and EQ 26 (area K) of the ToR.

4.2.1 WTO-SPS Agreement and IPPC guidelines

EQ 25: Which IPPC guidelines and WTO-SPS rules should be better taken into account in the CPHR?

The adoption of the WTO SPS Agreement is undoubtedly the most significant international development relating to international plant health standards, therefore of impact to the CPHR, in the last 15 years. Article 5.3 of the WTO-SPS Agreement stipulates consideration of economic impact in the PRA, which is currently outside the remit of EFSA and largely undertaken on an ad hoc basis as discussed in section 3. The PRATIQUE project is currently investigating the development of generic methods for economic impact assessment, and the EU needs to identify the best approach for fully complying with this obligation.

For plant health, the SPS Agreement refers to the standards, guidelines and recommendations developed under the auspices of the International Plant Protection Convention (IPPC). These standards lay down requirements to contracting parties and their subordinate NPPOs, but are not legally binding as such.

At the international level, efforts for the harmonisation of phytosanitary legislation through the development of standards are led by the Commission on Phytosanitary Measures (CPM) which is the governing body of the IPPC. CPM's mission is to develop cooperation between countries in protecting the world's cultivated and natural plant resources from the spread and the introduction of pests of plants, while minimising interference with international trade and movement of plants and plants products. The IPPC secretariat is responsible for coordinating the IPPC work programme, which includes:

- Developing International Standards for Phytosanitary Measures (ISPM);
- Providing and facilitating information exchange between countries;
- Providing capacity building technical assistance to facilitate implementation of ISPM.

The IPPC started its standard setting work in 1991, with the first International Standard on Phytosanitary Measures (ISPM) approved in November 1993. It is noted that the EU acceded to the IPPC in 2004, and that all EU-27 MS are members of the IPPC on their own right (similar arrangements exist at the level of the EPPO).

So far, 29 standards have been adopted at IPPC level (see list in the table below) and there are about ten new ISPMs in development[264].

In the general survey, all of the MS CAS and stakeholders consider that the CPHR, as it stands, sufficiently takes into account IPPC guidelines, although a large majority consider this to be only partly the case, suggesting there would be scope for further convergence:

General survey results
Q 10. 10.2. Does the CPHR sufficiently take into account of the IPPC guidelines and WTO-SPS rules?

	MS CAs	**Stakeholders**
Fully	8 out of 23	8 out of 29
Partly	15 out of 23	12 out of 29
Not at all	0	0
Do not know	*0*	*9*

The evaluation of the implementation of the CPHR during the last 15 years in section 3, has highlighted several areas where greater convergence to IPPC standards should be sought. It is noted that IPPC standards are non mandatory, and that at international level all countries aim to abide but divergence in interpretation occurs due to the different approaches that countries follow to achieve the various objectives, as stated in the IPPC. In particular, this includes:

- ISPM 5 (glossary of phytosanitary terms): need for clarification of certain commonly used terms in the EU (e.g. HO, IAS, new finding, outbreak etc.) to ensure alignment with ISPM 5 definitions;
- ISPM 11 (PRA RQPs) and ISPM 21 (PRA RNQPs): need to complete the current PRAs conducted at either MS or EC level (EFSA) with the economic impact analysis

[264] FAO (2007) Independent Evaluation of the Workings of the International Plant Protection Convention and its Institutional Arrangements

(as requested be ISPM 11 and ISPM 21 as well as by the WTO-SPS Agreement). In this context, the EC funded project PRATIQUE is expected to yield generic methodologies that will allow such analysis to be carried out on a more harmonised and systematic basis across the EU (first outputs of PRATIQUE expected in 2010);

- ISPM 16 (RNQPs): scope to review approach on positioning of RNQPs in EU legislation with a view to ensuring full alignment to ISPM 16;
- ISPM 4 (requirements for PFAs), ISPM 22 (requirements for ALPP) and ISPM 26 (recognition of PFAs and ALPPs): scope for review of EU concept of regionalisation (PZs) with a view to clarify positioning vis-à-vis the objectives, principles and requirements of ISPM 4, ISPM 22 and ISPM 26.

Table 4-2: List of ISPM standards

Adopted ISPMs	Adoption (latest revision dates)
ISPM No. 01: Phytosanitary principles for the protection of plants and the application of phytosanitary measures in international trade	1993 (2006)
ISPM No. 02: Framework for pest risk analysis	1995(2007)
ISPM No. 03: Guidelines for the export, shipment, import and release of biological control agents and other beneficial organisms	1995 (2005)
ISPM No. 04: Requirements for the establishment of pest free areas	1995
ISPM No. 05: Glossary of phytosanitary terms	2008
ISPM No. 06: Guidelines for surveillance	1997
ISPM No. 07: Export certification system	1997
ISPM No. 08: Determination of pest status in an area	1998
ISPM No. 09: Guidelines for pest eradication programmes	1998
ISPM No. 10: Requirements for the establishment of pest free places of production and pest free production sites	1999
ISPM No. 11: Pest risk analysis for quarantine pests including analysis of environmental risks and living modified organisms.	2001 (2004)
ISPM No. 12: Guidelines for phytosanitary certificates	2001
ISPM No. 13: Guidelines for the notification of non-compliance and emergency action	2001
ISPM No. 14: The use of integrated measures in a systems approach for pest risk management	2002
ISPM No. 15: Guidelines for regulating wood packaging material in international trade	2002
ISPM No. 16: Regulated non-quarantine pests: concept and application	2002
ISPM No. 17: Pest reporting	2002
ISPM No. 18: Guidelines for the use of irradiation as a phytosanitary measure	2003
ISPM No. 19: Guidelines on lists of regulated pests	2003
ISPM No. 20: Guidelines for a phytosanitary import regulatory system	2004
ISPM No. 21: Pest risk analysis for regulated non-quarantine pests	2004
ISPM No. 22: Requirements for the establishment of areas of low pest prevalence	2005
ISPM No. 23: Guidelines for inspection	2005
ISPM No. 24: Guidelines for determination and recognition of equivalence of phytosanitary measures	2005
ISPM No. 25: Consignments in transit	2006
ISPM No. 26: Establishment of pest free areas for fruit flies (Tephritidae)	2006
ISPM No. 27: Diagnostic protocols for regulated pests	2006
ISPM No. 28: Phytosanitary treatments for regulated pests	2007
ISPM No. 29: Recognition of pest free areas and areas of low pest prevalence	2007

Source: FAO[265]

4.2.2 Bilateral and international relations with third countries[266]

EQ 26 What economic impacts do any differences in standards between EU producers and key international trading partners have on Community trade, and is there a need that EU societal concerns and legitimate factors would be better reflected in the implementation of international and bilateral rules?

At the international level, plant health regimes are being seen as supporting tools to trade. The more pests are regulated, the higher the costs, but exports are facilitated by establishing trust *vis-à-vis* trading partners.

Bilateral agreements are in place with key trading partners e.g. US, Canada, NZ, Switzerland, and the European Economic Area, but these for the moment include mainly SPS issues in relation to trade in live animals and animal products and to food safety. Phytosanitary issues are not yet covered by these agreements. Only the agreements with Switzerland, Mexico and Chile include a phytosanitary chapter. Discussions for the inclusion of a phytosanitary chapter are currently ongoing with Andean Community and South America, ASEAN countries, and at bilateral level with Korea, India, Ukraine, Georgia, Belarus and with Canada in the context of a CETA (Comprehensive Economic and Trade Agreement) phytosanitary issues will be discussed.

The bi-regional negotiations are much more difficult to conduct and slow-going, as the regions involved are often a political rather than economic region and may therefore have very different interests, concerns and approaches. It is also obvious that an unbalanced situation will be created when at one side the region is SPS wise highly integrated and the other region is not or hardly integrated in the SPS field. In such situation one party has access to one single market and the other party has only access to several fragmented markets.

With Russia a partnership and cooperation agreement (PCA) is in place. Negotiations are ongoing on a Deep and Comprehensive Agreement which includes a cooperation part and should also include in the future a FTA (including SPS), the latter being depending on the progress of the negotiations in the context of Russia's potential WTO accession . A series of memoranda of understanding (MoU) are currently in place to deal with EU exports of animals, plants and products including food products. One of the MoU's deals with transit through the EU, which is a key concern for Russia. One MoU signed in 2005 covers phytosanitary certification.

[265] FAO (2007) Independent Evaluation of the Workings of the International Plant Protection Convention and its Institutional Arrangements

[266] The distribution of responsibilities between Commission services in terms of bilateral and international agreements on SPS issues was outlined in section 2.4.

The main driver for establishing bilateral SPS agreements is the policy of the Commission to negotiate as much as possible bilateral trade agreements. They all include SPS chapters focusing on market access in both ways. It should be noted that third countries tend not to apply the IPPC rules in the same manner as the EU, i.e. in terms of identifying/listing HOs and adopting risk mitigating measures for these HOs. Therefore, it is the EU that mostly encounters export problems because of the system in place in key trading partners (Australia, US, Mexico etc.) where a trade restrictive approach is being followed. For example, Mexico is very strict on PH issues and the demands made on the EU are considered excessive. Issues with the US include lengthy negotiations for EU exports of potted plants, ongoing for 25-30 years.

By signing a phytosanitary agreement, the EU aims to provide a more formal framework for accepting EU plant health policy, but also IPPC rules, to facilitate EU exports to third countries. For example, following its agreement with the EU, Chile was forced to change its legislation to align to IPPC approach (i.e. define list of pests and then take risk mitigating measures). However, this has proven more difficult with Mexico, so the regime continues with risk assessments for each potential import concerning each product, each origin for each pest followed by strict import measures and possible risk mitigating measures (certificates, pre-export checks, chemical and heat treatment etc) instead of laying down the import conditions for each commodity in relation to certain pests.

Although the distribution of responsibilities on import and export matters in relation to SPS issues is shared at the level of the European Commission between DG SANCO and DG TRADE, the objectives work in the same direction, and mainly aim to facilitate EU exports to third countries. Import and export issues are related in terms of the need to demonstrate reciprocity on trade matters in the discussion with third countries: if the EU wants third countries to play by the rules, it should be able to demonstrate that it also plays by the rules.

As discussed in section 3.13, the large majority of respondents to the general survey (MS CAs and stakeholders) consider that the differences between the EU legislation and the legislation applied in third countries have had a negative impact on EU production costs and competitiveness in trade but that these impacts are moderate.

It is not only the approach followed by third countries, but also the approach followed by the EU (CPHR) on internal trade and imports that affects the EU trading position in international markets. As discussed in section 3.8, for EU exporters, EU plant health rules both on imports and on internal trade can have substantial implications for the export of plants and plant products, as follows:

- The more pests are regulated, the higher the costs, but export is facilitated by establishing confidence *vis-à-vis* trading partners;
- The slower measures are taken, the more barriers to trade as trading partners will consider that effective action is not taken to prevent and control these new HOs.

Additionally, having in place effective eradication and control measures may impact positively on trade in that it gives an advantage to the countries achieving this. Any importing country will prefer to get its supplies supply from low risk areas, if prices are similar.

Finally, the application of the concept of protected zones in the EU and its non full alignment to the pest free area concept (see section 3.6) can cause some confusion in third countries leading to difficulties for an EU exporter to explain the real pest status within the EU, in particular pest free areas for pests not regulated within the EU (e.g. *Tuta absoluta*).

During the evaluation, interviewees have highlighted the following points that lead to direct or/and indirect increase of costs:

- Third countries are not operating on the same transparent basis as the EU. Their approach tends to be based on '*guilty until you prove innocent'*. The costs borne by EU exporters to demonstrate products are free of pests (which generally involved the conducting of full PRAs) are often prohibitive and can be a barrier to trade. Only, large export trade justifies the costs of carrying out full PRAs;
- Many third countries do not apply the IPPC rules for import of plant and plant products;
- The fact that trading partners have substantially variable requirements for additional declarations on phytosanitary certificates, leads to very high complexity and costs to comply for EU exporters. This is particularly the case for seed trade which is very international and repeated re-export of seed lots is frequently occurring. This leads to the need for phytosanitary inspections for many different HOs;
- Accessibility of requirements of international trading partners is perceived as an additional cost as today there is no global searchable database containing the phytosanitary requirements per species and per country of origin;
- EU phytosanitary import requirements for many plants and plant products are perceived to be lighter than those of third country major trading partners. Trading partners are generally considered to apply more import restrictions or prohibitions. Thereby markets in third countries are perceived to be "protected" while for imports into the EU the doors are open. Differences in implementation and costs of phytosanitary import controls may therefore lead to distortion of trade;
- The concept of the EU plant health regime stating that '*everything can be entered in the EU unless it is prohibited*' offers a good position to third country exporters. In addition, plant health requirements are not difficult to be met. This, together with the eventual lower production costs in certain third countries, promote the competitiveness of imported commodities on EU markets, to the detriment of EU producers;

4.3 Intervention logic (future)

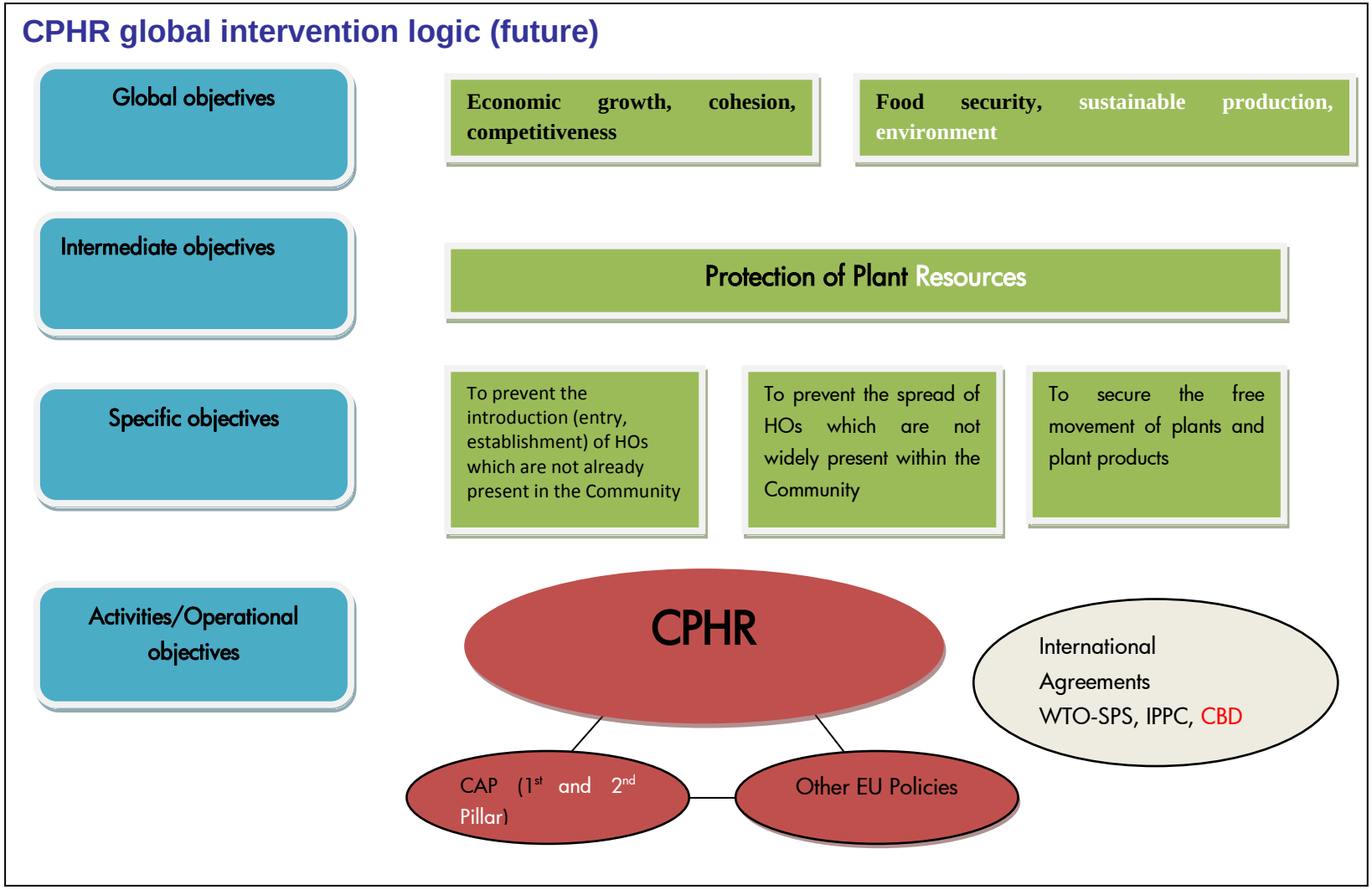
Following the analysis of the current performance of the CPHR, and the identified strengths, weaknesses, opportunities and threats of the regime, and in view of the evolving needs and challenges ahead, an adapted intervention logic was developed for the future EU plant health policy, as presented below.

A key feature of the new intervention logic is that it proposes an adaptation to the current regime rather than a complete change. It therefore responds to the identified need for 'evolution rather than revolution' in EU plant health policy. Thus, the top level objective includes the broader economic growth, cohesion and competitiveness goals of the Lisbon Treaty, while the historical objective has been amplified to reflect the broader EU goals in the

agricultural and environmental fields. The intermediate objectives have also been amplified from the protection of plant health as such, to the broader protection of plant resources which include biodiversity and environmental sustainability objectives. A greater and clearer forging of the links with key EU policies and international agreements is also advocated in the new intervention logic.

The adapted intervention logic forms the basis for the development and analysis of the options presented in section 5.

Figure 4-2: CPHR intervention logic (future)



Source: FCEC

5 Analysis of options for the future regime

EQ4: (Does the CPHR put appropriate emphasis on prevention in general) and what type of additional provisions on prevention might be useful?
EQ 28: What options exist to strengthen and modernise the CPHR, so as to better reach its objectives and serve the needs of society? Where is simplification possible, which areas need more harmonisation, and how can this be achieved?

Following the evaluation of the past performance of the CPHR, possible options for the future regime were developed, as follows:

A range of options were identified, based on the synthesis of the forward looking elements of the general survey, the expert interviews and MS visits. The key options that emerged from this process were grouped in themes to allow a systematic analysis in line with the intervention logic (**Table 5-1**). These were presented in a 2-day conference to which MS CAs and a wide range of stakeholders (industry; research bodies; other relevant departments of the Commission and international organisations) were invited to participate, and a brief consultation process was launched[267]. Following this process, a preliminary analysis of the key options was made, as presented in this section.

In addition, a number of further possible improvements have been identified by the evaluation in some areas, which concern issues for which a general consensus has already formed and which are budget-neutral or have relatively limited financial implications for the CPHR budget as such. These are presented in section 5.7.2 of this Report.

Table 5-1: Overview of themes for key options

Theme A: Definition of scope of CPHR
A.1: Invasive Alien Species
A.2: Natural spread
A.3: Positioning of RNQPs (plants for planting)
Theme B: Prevention strategies
B.1: At imports (risk analysis and targeting of risks)
B.2: Intra-EU (general surveillance and reporting
Theme C: Emergency action
Theme D: Functioning of the internal market
D.1: Plant Passport system
D.2: PZs - tightening the system (credibility issue)
Theme E: Incentives

[267] This involved an open discussion during the second day of the conference and the collection of comments during a 2-week period after the conference.

Notes on the presentation of the analysis of options:

In the presentation and analysis that follows, Option i under each theme is the status quo. In some cases, this includes the minimum action that could be prescribed for some improvement from status quo. Subsequent options assume that the improvements suggested under option i are implicit (i.e. each subsequent option includes and expands on improvements of option i). Similarly, where options are recommended beyond option i, the implicit assumption is made that, where improvements have been proposed under option i, these will be followed.

The analysis of each option indicates preliminary anticipated impacts, advantages and disadvantages.

The analysis of the 'impact' of each option is based on various assumptions and current costs or cost estimates (where available). Where a qualitative assessment is provided, in terms of *'low' – 'medium' – 'high'*, it is noted that the indicated scale of impact is relative between the set of options presented under each Theme and cannot be compared across Themes (i.e. 'low' under one Theme may not necessarily represent the same scale of impact as 'low' under another Theme).

5.1 Definition of scope of CPHR

5.1.1 Background

Historically, the CPHR has mainly focused on the objective of food security, by protecting plant health on an operational level so as to ensure viable and safe agricultural and horticultural production. More recently, the policy has also addressed certain plant health risks in the forestry production sector. The question that arises in this context is the extent to which a more explicit protection of the broad environment, and thereby including public green, forests and natural habitats, should be within the remits of the plant health policy.

More specifically, consideration of the scope of the CPHR includes the following aspects:

- The extent to which IAS are included in the scope of the Directive;
- The feasibility of a more explicit inclusion of measures against natural spread, particularly in relation to the presence of infection sources that are not themselves subject to movement in trade; and,
- The extent to which tolerance levels could be introduced for some pest diseases within the current system (for RNQPs) and whether the Directive provides the appropriate framework for the regulation of these pests.

The definition of the scope of the policy clearly impacts on the number and nature of quarantine HOs to be included in the Annexes to Directive 2000/29/EC, as well as the appropriateness of the measures currently provided by the Directive to prevent the introduction, spread and establishment of quarantine HOs within the EU.

General survey results (Q 1.4):
What should be done in future to improve the scope and objectives of the CPHR?
- The majority of MS (17 out of 26 MS CAs) consider that current scope and objectives need to be revised. 17 out of 33 stakeholders (4 do not know) are in favour of maintaining current scope and objectives.
- 25 out of 26 MS CAs and 27 out of 33 stakeholders (4 do not know) would like to define priority HOs on the basis of impact on agriculture, horticulture and forestry; whereas 19 out of 25 MS CAs (1 do not know) and 19 out of 32 (10 do not know) are in favour of defining priority HOs on the basis of the impact on the environment and public/private green.

IAS
- 11 out of 25 MS CAs (7 do not know) are in favour of including IAS that have an (indirect) impact on biodiversity in general, 12 out of 32 stakeholders (14 do not know) are against;
- The inclusion of IAS that have an impact on human health is rejected by 14 out of 26 MS CAs (7 do not know) and by 9 stakeholders (out of 32, 14 do not know).

Natural spread
- The inclusion of a more active prevention of natural spread is supported by 23 out of 26 MS CAs and 15 stakeholders out of 32 (1 MS CA and 7 stakeholders do not know).

RNQPs
- 11 out of 26 MS CAs (4 do not know) and 12 out of 32 stakeholders (15 do not know) are in favour of defining priority HOs on the basis of the prospects for listing under S&PM regime.

Prioritisation of HOs:
- 12 out of 26 MS CAs (3 do not know) and 12 out of 29 stakeholders (5 do not know) are in favour of restricting the scope of the CPHR to focus on priority HOs;
- 21 out of 26 MS CAs and 26 out of 32 stakeholders (3 do not know) are in favour of prioritization on the basis of presence or absence from the EU;
- 21 out of 26 MS CAs (1 do not know) and 28 out of 33 stakeholders (3 do not know) are in favour of defining priorities on the basis of prospects for early detection/successful eradication/control.

5.1.2 Options and analysis: Invasive Alien Species

5.1.2.1 Background

As discussed in section 3.1.2, there is currently lack of common understanding, leading to considerable confusion, on both the definition of Invasive Alien Species (IAS) and the extent to which IAS are covered by the scope of the Directive. Furthermore, there have been international developments in the consideration of IAS at the level of IPPC and EPPO, and a more general EU strategy on Invasive Species (IS), on the basis of the CBD, has been developed. Looking forward, the potential effects of climate change on altering patterns of alien species invasion in the EU need also to be taken into account. The evaluation has therefore concluded that there is need for clarification of the CPHR on the issue of IAS.

In terms of the EU context, clearly the definitions need clarification, i.e.:

> Invasive = what is meant by the term 'invasive': must be established; may mean spread and may mean impact?
> Alien = definition and degree of 'alienness' (i.e. how far back, establishment in new environment (e.g. American Beaver (Castor Canadensis))
> Species = subspecies strain or biotype (e.g. bumble bee)

Although many alien species offer benefits to a country (e.g. in agriculture, forestry, aquaculture), those species which become invasive can have devastating impacts[268]. The negative impacts may be: environmental through loss of biodiversity (plant communities and wider ecosystems); economic through loss of production by affected species or the cost of control measures; health-related (e.g. when the invasive organism is a host or vector for animal/human disease); or, political through effects on international trade, food security, water supply, regional stability, poverty, migration etc. Effects on plants include both cultivated plants (field crops, horticulture, forest plantations) and non cultivated plants (natural forests, plants in the landscape e.g. along rivers); many regulated pests have wider environmental effects and are regulated mainly for that reason, while many pests (directly or indirectly injurious to plants) have effects on both cultivated and uncultivated plants[269].

In terms of the international context, as explained in section 3.1.2, the IPPC also contains provisions applicable to IAS when the species concerned are pests of plants or plant products, including those found in natural and semi-natural habitats (the IPPC definition of a quarantine pest covers a significant part but not all of what is considered as an invasive alien species under the CBD[270]). In following the IPPC approach, since 2002, the EPPO has put in place a

[268] IPPC Secretariat. 2005. *Identification of risks and management of invasive alien species using the IPPC framework*. Proceedings of the workshop on IAS and the International Plant Protection Convention, Braunschweig, Germany, 22–26 September 2003. Rome, Italy, FAO.

[269] Conclusion of NPPO workshop on IAS, Budapest Oct 2009.

[270] The implementation of the IPPC is directly relevant to implementation of Article 8(h) of the CBD. ISPM 11 rev. 1: *Pest risk analysis for quarantine pests including analysis of environmental risks*, was adopted in 2003 and further revised and supplemented in 2004 to address in detail the environmental risks of plant pests. ISPM 5: *Glossary of phytosanitary terms*, was supplemented with *Guidelines on the understanding of* potential economic importance *and related terms including reference to environmental considerations*. This clarifies that the IPPC

special international Panel of experts on IAS. In the context of plant health, IAS are broadly defined by the EPPO as weeds which can harm both cultivated crops by means of competition, and biodiversity in the wild uncultivated environment. Traditionally, the EPPO – like the EU - has given priority to pests of cultivated plants, i.e. insects, nematodes, fungi, bacteria, viruses, but increasingly it has also been concerned with IAS.

Historically, the CPHR has dealt with what causes harm to agriculture and forest products, i.e. HOs which are plant pests directly harmful to plants or plant products, therefore within the IPPC definition (rather than CBD), although not in full alignment with it. All the EU MS are signatories to both, but these are quite different in scope, as IPPC-related activities are administered in many countries by agricultural authorities and CBD matters by environmental authorities. In only a few cases (e.g. DE and UK) there is a degree of internalization in that these competences fall within the same CA and NPPOs have the appropriate resources; in most MS these competences are segmented. Maintaining a segmentation in the decision making process can create conflicts of responsibilities, unless some form of cooperation or coordination can be achieved. Similar problems are encountered by third countries (e.g. US different bodies dealing with each issue versus NZ where conflicts are "internalized" with the same body dealing with the range of issues).

In conclusion, looking forward:

- The issue to be addressed is the extent to which the CPHR includes IAS (plant species) not directly injurious to plants and plant products (indirect harmful effects on plants/harmful effects on non-cultivated plants), and therefore fully aligning to the IPPC (ISPM no. 5 and 11: the scope of these covers pests of cultivated plants in agriculture including horticulture and forestry, uncultivated/unmanaged plants, wild flora, habitats and ecosystems);
- Furthermore, an assessment is needed as to whether IAS – taking the broader CBD definition – should be dealt with within the framework of the CPHR. At EU level, there needs to be a policy framework to deal with those IAS that do not fall within animal health, plant health (e.g. birds, aquatic plants etc): plants and animals that are invasive are covered under IPPC or OIE only if they qualify as plant pests or animal diseases, whereas there is no framework to deal with environmental pests. It is noted that on 3 December 2008, the Commission adopted a Communication on IS ("Towards an EU Strategy on Invasive Species").

5.1.2.2 Options for consideration

In this context, the options identified for further consideration are as follows (options are presented in order of progressive expansion of scope as we move from ii to v[271]):

can account for environmental concerns in economic terms using monetary or non-monetary values; thus the scope of the IPPC covers the protection not only of cultivated plants but also of uncultivated/unmanaged plants, wild flora, habitats and ecosystems. An overview of the current coverage of IAS in the scope of Directive 2000/29, and under the EPPO, IPPC and CBD is provided in Figure 3-3 (section 3.1.2).

[271] Each subsequent option includes and expands on scope of preceding option.

i. *Status-quo*
ii. *Explicit inclusion of IAS plants of economic impact [direct and indirect impact on plant health] (e.g. invasive weeds) [clarification of application] – examples here would be Cyperus esculentus and Striga spp.;*
iii. *Inclusion of IAS plants with wider/ environmental impacts (habitats and ecosystems) and/or economic impacts on wider range of stakeholders [Impact via plants on plant health and biodiversity] (this would include aquatic plants) – examples here would be Hydrocotyle ranunculoides, Eichhornia crassipes;*
iv. *Inclusion of IAS with important human health impacts [Impact via plants on human health] - examples here would be Ambrosia artemisifolia, Thaumatopoea processionea, and Toxicodendron radicans;*
v. *Inclusion of IAS vertebrae with impact on plants [moving in the direction of the DG ENV IAS strategy] – an example here would be the grey squirrel (Sciurus carolinensis).*

A key consideration in addressing IAS issues is the ability of current available CA structures and resources to manage the risk once identified[272]. The more the options extend the scope of the Directive the more complex the involvement of stakeholders and remits of competence of the various CAs likely to be involved. To illustrate this point, the table below presents a synthesis of the options, highlighting the scope of each option in terms of type of HOs and affected stakeholders (receptors), as follows:

HOs*: Receptors:**	**Invertebrates**	**Pathogens**	**IAS plants**	**Vertebrates**
Crops	i	i	ii	v
Forest	i	i	ii	v
Amenity	i	i	ii	v
Natural Environment	(i)	(i)	iii	v
Human health			iv	

* Main categories indicated only.

** In some cases, stakeholders are involved either as agent (i.e. related to introduction: e.g. seed importer) or receptors (e.g. park keeper); in some cases both.

A preliminary analysis of the various options is presented in the table below.

[272] If more attention is to be paid to indirect effects and impacts on biodiversity the existing responsible official bodies need to be strengthened and the training of staff developed accordingly (CBD guiding principle 7). The CBD guiding principles 7 and 10 call for the establishment of authorization procedures for the intentional introduction of alien species. The procedures should identify whether these species may be invasive and, if so, may require specific restrictions or prohibit introduction. The CAs for such procedures should be determined. Though the current EU system partially fulfils these requirements and the CAs are established, official procedures will need to incorporate HOs hitherto not in Directive 2000/29/EC. This would require a substantial development of the system. The legal basis is already established in Article 3(7) of the Directive but the details of the regulatory framework need to be developed and the procedures (e.g. risk analysis) need to be adapted in the NPPOs. Depending on how far the system is extended, additional communication lines with agencies responsible for nature conservation or human health may be useful. At all levels these activities will require additional resources within the established framework, as CBD guiding principle 7 indicates.

From the outset, the evaluation identified broad based support for fuller alignment to the IPPC standards (ISPM 5 and ISPM 11) and current practice in the field of IAS. This was confirmed by the conclusion of the interventions made at the February conference, notably that Directive 2000/29/EC should be used to include IAS of impact on plant health[273], but at some point the line needs to be drawn on how much to include. For the most part there was consensus that the line should be drawn after option iii. On the other hand, there have not been any strong arguments against the explicit inclusion of some categories of IAS (under options ii and iii in particular) in the scope of the Directive, with several contributors indicating that this has *de facto* already occurred.

In October 2009 a workshop was organised on IAS by the Hungarian NPPO with participation from 13 MS COPHs/NPPOs[274], and its conclusions are taken into account in the analysis. The workshop noted the importance of the explicit inclusion of IAS in the Directive to provide clarification in the current scope. In this context, it was noted that more knowledge and EU wide clarification is required on how infestation/introduction/further spread of new invasive plants can be prevented, and that Article 16 of Directive 2000/29/EC need to be clarified and strengthened. Also, it was suggested that an IAS Code of Conduct for pests relevant for the environment should be considered in addition to regulation (i.e. a two level approach: general legal obligation for measures against relevant IAS and details specified in the Code), in order to provide more detail and flexibility if needed, although implementation may be a challenge.

It should be noted that the scope of the IPPC comprises IAS pests included under options i, ii and iii. The scope of the Convention is however limited to plant health and does not include IAS pests impacting on human health only. In Pest Risk Analysis (ISPM No. 2), the impacts of IAS pests on human health are only taken into account in the context of the social impacts of a plant pest, along with its economic and environmental impacts. Inclusion of IAS pests impacting on human health as such would therefore expand the scope of the CPHR to beyond the protection of plant resources covered by the IPPC. In addition to classical pests such as insects and micro-organisms, ISPM No 2 specifically addresses the risks posed by plants as pests, biological control agents and living modified organisms, but not vertebrate pests (option v). Inclusion of these would thus also go beyond the scope of the Convention.

[273] Some delegates highlighted that the definition of HO in Directive 2000/29/EC has been fully aligned with that of the IPPC, thus already today officially including IAS.

[274] An Interactive International Workshop on Invasive Alien Species in EU countries was organised by the Ministry of Agriculture and Rural Development of Hungary in Budapest between 6-8 October 2009, inviting COPHs and NPPO inspectors of EU MS and the neighbouring countries of Hungary. There were 40 participants from 13 EU MS (AT, BG, CZ, DE, FR, HU, IE, LU, MT, NL, PL, RO, SI), including the Commission (DG SANCO) and a scientific officer responsible for the issue in the EPPO Secretariat. During the two sessions of the Workshop, plant health aspects of IAS, distribution, monitoring, control and legal regulations of common ragweed *(Ambrosia artemisiifolia)* and experiences of control measures of western corn rootworm *(Diabrotica virgifera virgifera)* were discussed. The workshop has resulted in the following conclusions and proposals, and it was agreed that conclusions should be sent to the Presidency of the European Council.

Recommendation 1:

Based on an analysis of the scope of the IPPC and the consensus view as it emerged in the process of the evaluation and the FCEC analysis, **option iii** [Inclusion of IAS plants with wider/environmental impacts (habitats and ecosystems) and/or economic impacts on wider range of stakeholders] is recommended, on the basis that it represents the best balance of advantages/disadvantages against anticipated impacts.

Table 5-2: Preliminary analysis of options: IAS

		IAS: preliminary analysis of each option		
Option:	**Description**	**Impact (compared to baseline)**	**Advantages**	**Disadvantages**
i. Status quo	Some IAS may be included in the current scope, but lack of clarity and systematic approach on IAS, and lack of harmonised/consistent definitions on IAS categories.	Neutral.	Continuity. Recognises limited resources.	• Several failures (e.g. *PWN, red palm weevil*) blamed *inter alia* to lack of consistent approach on IAS (i.e. large potential agricultural/ amenity/ environmental costs); • Current wording in Directive creates confusion and divergence in application – non explicit inclusion does not allow for action in a harmonized way across MS; • Evidence of conflict of responsibilities and pursued objectives, where separate CAs have competence and cooperation/coordination is not ensured; • Ignores parallel policy development in broader IAS field (DG ENV strategy); • Ignores the increased risk from future challenges (due to climate change and globalisation); • Considered unacceptable by majority of survey respondents (MS CAs). • Not fully aligned to IPPC scope.
ii. Explicit inclusion of IAS plants of economic impact [direct & indirect	Include explicitly IAS of impact on plant health (crops and forestry). Key IAS for inclusion: invasive plants (weeds). Direct impact: competition;	*Assumption: IAS plants eligible for any of measures currently provided by Directive.* Low. Expected to add 5-10 new HOs in the lists. Would result in 'clarification' of	• Clarification of current scope; • Further alignment to IPPC/EPPO (compared to current rules), thus allowing better EU engagement in international fora; • Possibility for sharing of responsibilities between the	• Degree of uncertainty for risk assessment higher for IAS than for (agriculture) quarantine pests;

		IAS: preliminary analysis of each option		
Option:	**Description**	**Impact (compared to baseline)**	**Advantages**	**Disadvantages**
impact on plant health]	Indirect impact: interference/ reservoir of pathogens/ post harvest effects. Examples: *Cyperus esculentus*; *Striga spp*.	application rather than extension of scope. COM: Increase in management costs (low). MS CAs: Increase in management costs (low). Stakeholders: Increase in responsibilities and costs (low). The above increase in costs has to be balanced against the potential benefits of prevention/early detection (control at import), and increased productivity for growers (see Table below)	various actors involved is feasible; • Strong support from MS/stakeholders; • Paves the way for more coordinated response to broader EU strategy on IAS; • Prepares system for more effective and consistent response to future challenges and increased risk of IAS incursion (due to climate change and globalisation)	
iii. Explicit inclusion of IAS plants with wider environmental impacts and/or economic impacts on wider range of stakeholders	Impact via plants on plant health and biodiversity extends to habitats and ecosystems. Would include aquatic plants. Examples: *Hydrocotyle ranunculoides, Eichhornia crassipes* (water hyacinth);	Medium. To manage, IAS related PRA-work and regulation should be focused on a limited number of IAS (prioritisation needed). With some prioritisation, expected to add 10-15 new HOs in the lists (including those of option ii). Impact could be additional but there could also be substitution depending on change in prioritisation. COM: Increase in management costs (medium). MS CAs: Increase in management costs (medium). Stakeholders: Increase in	• More serious risks would be dealt with in a harmonized regime (CPHR). It would be more relevant (CPHR provides umbrella of resources and tools), more effective and efficient (than having multiple regimes (PH is the only harmonised regime; ENV not fully harmonized); • Fuller alignment to IPPC/EPPO (than option ii), allowing fuller EU engagement in international fora; • May provide a stronger political rationale for support and wider public acceptance; • Strong support from MS/ less from PH stakeholders; • Response to future challenges	• Widening pool of stakeholders (which some existing stakeholders may consider a dilution) with diverse interests and capacities; • Widening range of CAs involved (competences and interests); • Potential pool of HOs for assessment of risk likely to increase very substantially (at MS level), while the ability to look at these risks would be a limiting factor, therefore some prioritisation is needed; • Degree of uncertainty for risk assessment higher for IAS than for (agriculture) quarantine pests; • May be less feasible to share responsibilities between the larger pool of various actors involved (including ideally wider public and

		IAS: preliminary analysis of each option		
Option:	**Description**	**Impact (compared to baseline)**	**Advantages**	**Disadvantages**
		responsibilities and costs (medium) related to obligation to eradication. The above increase in costs has to be balanced against the potential benefits of prevention/early detection (control at import), and increased productivity for growers (see Table below).	becomes more effective than option ii.	NGOs).
IPPC and EPPO application of current definitions and current practice stop here; Feedback both from MS CAs and stakeholders suggests that inclusion of IAS to the Directive should stop here.				
iv. Inclusion of IAS with important human health impacts	Impact via plants on human health (primary impact is human health; plant health impacts may be secondary or indirect). Examples: *Ambrosia artemisifolia, Thaumatopoea processionea, and Toxicodendron radicans*	Low-medium.	• Provides a single policy framework within a harmonized philosophical approach for dealing with such IAS, which are not currently covered by any other regime (except perhaps public health policy?); • Could theoretically attract additional resources;	• Difficult to manage under the CPHR if primary impact is human health, not plant health. Although NPPOs have the tools to run a control or eradication program, a multi-sectoral approach is needed[275]; • Mixed plant health / human health competence required in comitology (plant health CAs do not have the expertise nor the competence for regulation of human health related HOs); •
v. Inclusion of IAS vertebrates with impact on plants	*Examples: Sciurus carolinensis* *Wider group of vertebrates including birds, fish, mammals, etc.*	Big jump: moving in the direction of the DG ENV IAS strategy. High. Inclusion of more species, more effort, higher protection. <u>COM:</u> Higher costs for resources	• Provides a single policy framework within a harmonized philosophical approach for dealing with such IAS, which are not currently covered by any other regime;	• Wide scope of inclusion is a constraint. Assessing costs /benefits becomes more complex as scope widens; • The wider the scope the more potential for conflict over priority setting;

[275] This was the conclusion of Budapest workshop on IAS with regards to *Ambrosia artemisiifolia*

		IAS: preliminary analysis of each option		
Option:	**Description**	**Impact (compared to baseline)**	**Advantages**	**Disadvantages**
		for assessment and planning. Different skills required for assessment and management. MS CAs: Higher costs for resources for assessment and planning. Different skills required for assessment and management.		• Becomes much less feasible to share responsibilities between the various actors involved; • As scope expands, dealing with natural spread (theme A.2) becomes more challenging; • Lack of support and guidelines at international level. Absence of organisation with competence on such IAS (demonstrated by CBD analysis some years ago) means no possibility to develop legal framework at international level. • Watering down of CPHR reduces its effectiveness

Table 5-3: Examples of IAS under each option and preliminary anticipated impacts

Option/Example of HO to be included	Affects	Economic impact	Current classification	Type of measures
Option ii:				
Cyperus esculentus	Agriculture	Evidence from NL: *Phytosanitary measures*. The successful elimination of yellow nutsedge from the entire gladioli propagation crop had a cost of approximately €1.5 – 3 million. Calculations In the NL showed considerable damage. *Losses for operators*: In 1984 calculations showed that a standard arable farm would face a decrease in net profits from € 1000 (no infestation) to less than €100 /ha per year. The total loss of a flower bulb crop may easily account to over €50.000 /ha, not counting the loss of land value that could be estimated to be the same.	Non-classified organism without any EPPO status.	Measures in NL (aimed at *containment)* included the following: • Prohibit import of nutsedge infested PM; • Surveys; • Official declaration of infested status of fields; • Prohibit the use of infested fields for the production of PM other than seed or cuttings; • Destruction of infested PM. • Cleaning of machinery used on infested land. For eradication purposes effective measures did also include a ban of growing all rootcrops on all land declared nutsedge infested (lifting of the declaration after at least three consecutive seasons without any visually presence of nutsedge).
Option iii:				
Hydrocotyle ranunculoides (aquatic plant)	Freshwater systems (slow flowing waters, degradation of aquatic ecosystem, loss of biodiversity)	Medium to high risk. Economic impacts include management costs of the species and flooding of areas. Any economic benefit of the introduction of this plant as an ornamental aquatic plant is heavily outweighed by management costs. Flooding may also occur. It is very likely that these impacts would occur when the plant is introduced. *Source (EPPO PRA, 2005 – revised by EFSA)*	Listed by EPPO as A2 in 2005.	Import controls (no trade of plant)

Eichhornia crassipes (aquatic plant)	Environment (high - loss of biodiversity, modification of habitats)	High - water loss for irrigation and abstraction, impacts on some crops (e.g. rice) with high costs of control	Listed by EPPO as A2 in 2008	Import controls (no trade of plant)
Solanum elaeagnifolium	Agriculture (high-causes serious losses in infested crops, e.g. maize, wheat, sorghum) Environment (limited in comparison with cultivated land; may replace native vegetation)	High - causes serious losses in infested crops, e.g. maize, wheat, sorghum. The plant is poisonous for livestock, mortality has been observed.	Listed by EPPO as A2 in 2006	
Option iv:				
Thaumatopoea processionea	Environment: intrinsic damage to oak trees (loss of growth and reduction in timber values) it is also regarded as an important contributor to oak decline Human and animal health: extreme irritation that can arise from contact with the urticating hairs of mature larvae.	High :on wood yield and quality, especially due to the weakening of the tree (direct loss of growth increment) and consequent interaction with secondary pests such. Impact on tourism with significant oak components. It may also become necessary to replace recent plantings of semi-mature oaks in order to provide the landscape benefits .		

5.1.3 Options and analysis: natural spread

5.1.3.1 Background

As discussed in section 3.1.1, the concept of natural spread is not explicitly mentioned in Directive 2000/29/EC[276]. This concept is however explicitly treated in the Solidarity Regime, which clearly excludes from reimbursement cases of natural spread. The reason explaining such exclusion lies in the basic principle of the Solidarity Regime, according to which a MS may receive funding on the condition that it is not responsible for the appearance of the HO on its territory. The two elements used to assess the non responsibility of the MS have been the "identification of the source of contamination" and, when the source of contamination is not known, "the non-introduction of the HO by natural spread".

The results of the general survey, the interviews and the MS field visits point clearly in the direction of the need for an active prevention of natural spread. This reflects both the acknowledged advantages of such action to effectively and efficiently address natural spread and a perceived gap in early/preventive action. The issue here is how to address control of natural spread, at which stage and with which tools (i.e. inclusion in the solidarity funds?). Evidence, including notably from studies on *Diabrotica virgifera* (Dvv), and also PWN, points to the difficulties of addressing natural spread when the spread has already attained certain levels, and the need to act early to prevent these levels from being reached; it is noted that recent research on Dvv suggests that when Dvv is dispersing by natural spread, eradication is almost impossible and that the only feasible action is containment.

In the definition of natural spread that appears to be commonly followed, 'natural' is defined as not related to human activity, whether the 'unnatural' is related to human activity.

5.1.3.2 Options for consideration

In this context, the options identified for further consideration are as follows:

i. Status quo;
ii. Inclusion in scope of regime of measures concerning presence (in addition to movement, which is current focus);
iii. Inclusion of prevention measures (for natural spread) in solidarity regime.

Option iii goes a decisive step further than option ii by making solidarity funding eligible for natural spread in specific cases. The implementation of this option is linked to the application of several other principles and conditions, as presented in the Solidarity Regime evaluation as follows:

[276] Article 16 of Directive 2000/29/EC indicates that: *'Each Member State shall immediately notify in writing the Commission and the other Member States of the presence in its territory of any of the harmful organisms listed in Annex I, Part A, Section I or Annex II, Part A, Section I or of the appearance in part of its territory in which their presence was previously unknown of any of the harmful organisms listed in Annex I, Part A, Section II or in Part B or in Annex II, Part A, Section II or in Part B. It shall take all necessary measures to eradicate, or if that is impossible, inhibit the spread of the harmful organisms concerned.*

- Priorities are defined among pests, on the basis of epidemiological analysis, PRA, and/or cost/benefit analysis when available;
- Natural spread is eligible for solidarity funding under certain conditions, e.g. when eradication/containment is "technically" possible and brings clear benefits to the plant health status, the environment and/or the economy in the EU and to prevent an outbreak in a given country from naturally spreading to a neighbouring country, or to reduce the risk of such spread. If a given HO is widespread in the EU, eradication and/or containment is no longer possible;
- The conditions for funding in this case become more dependent on the achievement of eradication results, what implies the definition of clear targets together with indicators to measure the results of specific campaigns;
- The necessary resources (financial or non financial) are devoted by the MS with the support of the Commission to the eradication or containment of prioritised pests;
- The Commission financial support is complemented with the provision of assistance: 1) for better preparedness to emergency situations; and, 2) to ensure early and rapid eradication in the event of outbreaks of prioritised pests or suspicion thereof.
- The first line of responsibility for plant health rests with the MS and, in each of them, with those who directly manage plants and plant products including growers, exporters, importers, wholesalers and retail traders.

Recommendation 2:

The evaluation results, confirmed by the outcome of the conference of February, indicate that in the context of an increased demand for better prevention and timely action against outbreaks, but also to improve the consistency of the current approach, natural spread needs to be explicitly included in the regime (option ii), and covered by the solidarity regime (option iii) would maximise the relevance, effectiveness and efficiency of this approach (costs and benefits of the approach to be established on a case by case basis). On this basis, the analysis of the options suggests that **option ii** is generally recommended but consideration of **option iii** would be most recommended in certain specific cases.

Table 5-4: Preliminary analysis of options: natural spread

	Natural spread: preliminary analysis of each option			
Option:	**Description**	**Impact**	**Advantages**	**Disadvantages**
i. Status quo	MS have the obligation to take all necessary measures to eradicate, or if that is impossible, inhibit the spread of the HOs that appear on their territory. Solidarity regime continues to exclude eligibility for funding in cases of natural spread.	Neutral.	• Retains current emphasis on control of movement, which is main factor for introduction/ spread in majority of cases • Budget for solidarity regime is kept down with the exclusion of cases of contamination through natural spread	• Lack of incentive to provide optimal surveillance • Continued exclusion from solidarity funding of cases where natural spread is an important factor, leading to erosion of objectives, e.g. eradication not feasible in advanced cases of spread (e.g. experience of D*iabrotica vv.*); • Inconsistent approach in cases where both movement and natural spread are important factors and/or cannot be isolated due to interaction between the two • Despite the obligation to do so, there is no guarantee that a MS will take all necessary measures to eradicate HOs of high priority to the EU, in particular when the HO is not of high priority to the MS.
ii. Explicit inclusion in scope of regime of measures concerning presence	Pest presence (through natural spread) to be systematically included in CPHR, in addition to movement which is current focus: provisions for the monitoring and eradication/ containment of HOs whether they have the potential to spread naturally or not.	Medium positive impact: increased relevance and effectiveness of the CPHR. Expected impact qualified as medium due to the exclusion of natural spread for solidarity regime	• Provides clarification of current rules (it is argued that natural spread is already *de facto* covered by scope); • Improves consistency of objectives (currently, if natural spread is included in Directive, it is explicitly excluded from solidarity funding); • Allows a holistic response to pest introduction and spread	• May dilute focus on control of movement, as the primary factor of introduction/spread in most cases.

	Natural spread: preliminary analysis of each option			
Option:	**Description**	**Impact**	**Advantages**	**Disadvantages**
			(particularly in cases where strong interplay between natural spread and movement factors); • Assuming appropriate criteria/conditions are established, can improve effectiveness in pursuing CPHR objectives (e.g. timeliness of action is a key criterion/ condition to foster emphasis on prevention and early action, with a view to achieving eradication when more feasible (early phase of introduction).	
iii. Inclusion of natural spread in solidarity regime	Consideration of solidarity funding for natural spread to be opened on a case by case basis (e.g. in line with conclusion of solidarity regime study of 2008 for DG SANCO).	High positive impact: increased relevance, effectiveness and efficiency of the CPHR. Number of solidarity dossiers may increase, but there may be significant savings in some cases if solidarity payments cut down on potentially higher payments for the continued pursuance of eradication objectives. As an example, the solidarity regime evaluation estimated that over the period 1997-2007, only 20% of cases of HO outbreaks have been covered by solidarity funds; one of the reasons to explain the low percentage was the difficulty in identifying the source of contamination.	• Should improve the scope for implementation in practice of the Directive, if financial incentives/disincentives are established; • Therefore, improves the scope for the potential advantages identified in option ii; • Increase visibility of plant health issues through increased demand for EC co-financing	• Potential increase in the number of applications for solidarity funding, associated with potential increase of administrative burden. • May create incentives for late action or inaction, if no criteria or conditions attached, or no sanctions/penalties imposed (e.g. funding to become dependent on the achievement of eradication results; introduce penalties/sanctions for late action or inaction); • On the other hand, feasibility of pursuing implementation of sanctions/penalties is not known.

5.1.4 Options and analysis: positioning of RNQPs (plants for planting)

5.1.4.1 Background

As outlined in section 3.2.2, the question to address here is what would be the right positioning of those HOs considered as suitable to be regulated as RNQPs: the plant health regime or the S&PM regime? Based on the IPPC defining criteria (ISPM 16) and the results of the 2004 Commission WG report on RNQPs, this would most likely concern some of the HOs listed in Annex II, Part A, Section 2 to Council Directive 2000/29/EC, and some HOs listed in the various S&PM Directives.

During the evaluation, it was generally observed by several MS that a number of HOs qualify for transfer between the two *acquis* – such 'borderline' cases' would include:

- HOs currently included in the S&PM Directives but which could be transferred to Directive 2000/29/EC because a zero tolerance is required: potential examples include *Bruchus* spp. on legume seed, certain vine viruses (tolerance level is zero);
- HOs currently included in Directive 2000/29/EC but which could be transferred to the S&PM Directives because the objective is to ensure plant health quality at the start of the production chain: potential examples include *Aphelenchoides besseyi* as regards seeds of *Oryza* sp. on the assumption that it is present in the EU (which seems to be the case)*; fragariae var. fragariae* as regards plants of *Fragaria L*., intended for planting, other than seeds*; Plum pox virus* as regards plants of *Prunus L*., intended for planting, other than seeds.[277]

ISPM No 2 (*Framework for PRA, 2007*), describes the key factors that should be considered to determine whether a pest has the characteristics of a RQP or RNQP, (Step 2 of PRA: pest categorization), as follows:

- Assessment of introduction and spread:
  - Candidates for RQPs: the identification of the endangered area and assessment of the probability of introduction and spread;
  - Candidates for RNQPs: assessment of whether the plants for planting are or will be the main source of pest infestation, in comparison to other sources of infestation of the area.
- Assessment of economic impacts:
  - Candidates for RQPs: assessment of economic impacts, including environmental impacts;
  - Candidates for RNQPs: assessment of potential economic impacts associated with the intended use of plants for planting in the PRA area (including analysis of infestation threshold and tolerance level).

For the formulation and analysis of options on how best to position RNQPs, the difference in perspectives, objectives and available tools of the two regimes (CPHR, S&PM) need to be

[277] Conclusions of the Commission Working Group on RNQPs in EC legislation (May 2004)

considered. The objective of the CPHR is the prohibition of entry (Annex 1 and 2), the prohibition of spread and, ultimately, in case of introduction/spread the eradication of pests; the principles of quarantine and zero tolerance therefore apply in this case. The objective of the S&PM regime is planting material quality, guaranteed through official examination; in this case, the principle of quarantine does not apply, and the principle of zero tolerance may apply in certain cases. From a review of the above ISPM No 2 provisions on pest categorisation, against the objectives and tools of the PH and S&PM regimes, it is clear that both sets of legislation provide suitable scope for inclusion of some RNQPs.

Departing from these two principles (quarantine (zero tolerance) and tolerance), a range of options unfold, as presented below.

5.1.4.2 Options for consideration

In this context, the options identified for further consideration are as follows:

i. Status quo (PH remains quarantine regime, with some improvements);
ii. Zero tolerance regime: manage RNQPs by positioning within PH regime all HOs for which zero tolerance is required;
iii. Specified tolerance regime: introduce RNQPs with threshold levels other than zero within the PH regime, as a specific Annex to the Directive 2000/29/EC.

These options are described in the text below, in terms of what they would entail for the PH and S&PM regimes, for a more direct comparison:

Option i: Quarantine regime (PH: RQPs; tolerance = 0)

- *Objective*: prevention of entry, establishment and spread of harmful organisms that are not naturally indigenous to the EU territory
- *Coverage CPHR*: non-indigenous HOs (unless already spread throughout EU)
- *Coverage S&PM*: HOs requiring regulation to protect production/trade chain (zero tolerance + RNQP)
- *Consequences*: HOs listed for other reasons than territorial protection move from CPHR to S&PM, when desirable maintaining zero tolerance – example: certain viruses.

Option ii: Zero tolerance regime (PH: RQPs + RNQPs; tolerance = 0)

- *Objective*: prevention of entry, establishment and spread of HOs which should not be spread to free EU territory + prevention of spread of HOs whose spread across the production chain from propagating material cannot be tolerated
- *Coverage CPHR*: all HOs for which a zero tolerance is required
- *Coverage S&PM*: all HOs for which a tolerance can be set or for which "substantially free" is satisfactory
- *Consequences*: HOs with zero tolerance move from S&PM to CPHR – example: *Ditylenchus dipsaci*, apple proliferation mycoplasm

Option iii: *Specified tolerance* **regime (PH: RQPs T=0; RNQPs T ≥ 0)**

- *Objective*: prevention of the entry, establishment and spread of HOs either to protect free EU territory or to protect production/trade
- *Coverage CPHR*: all HOs with zero tolerance + RNQPs with tolerance levels other than zero
- *Coverage S&PM*: all HOs for which "substantially free" is satisfactory
- *Consequences*: most HOs move from S&PM to CPHR. New annex of CPHR is created for HOs for which non zero tolerance is applied– example: potato scab

The simplest option would be to maintain the status quo (i.e. PH regime remains quarantine as currently) and simply review some of the 'borderline cases' (option i). A disadvantage of this approach might be that being determined on a case by case basis rather than by a systemic review of the overall approach, the differences in objectives and intervention logic of the two regimes, and the consequences for listing HOs in one or the other set of legislation, might remain unclear and sustain the existing confusion.

The two variants (options ii and iii) introduce RNQPs in the current PH regime, but in option ii tolerance remains zero and in option iii tolerance can be greater than zero. In terms of the suitability of the plant health regime to cover RNQPs with threshold levels other than zero (option iii), the question to address is whether RNQPs should be introduced into what has so far been a quarantine regime, as this would imply the introduction of the principle of tolerance levels and may therefore alter the objectives and the appropriateness of the measures foreseen by the current plant health regime.

Option ii largely concurs with the outcome of the Commission's 2004 WG on RNQPs (see section 3.2.2), which concluded that the concept of RNQP with tolerance > 0 may be very complex, expensive and difficult to implement under the mechanisms provided by the Directive 2000/29/EC.

Due to the overlap of this theme with the S&PM *acquis*, the potential benefits of synergies between the CPHR and S&PM could not be considered in the context of the present evaluation and would need to be explored further if options ii or iii are to be followed.

Recommendation 3:

The analysis of the options suggests that **option ii** (Zero tolerance regime, PH: RQPs + RNQPs; tolerance = 0) would be the most recommended, on the basis that it represents the best balance of advantages/disadvantages against anticipated impacts. It is noted that the assumption is made that the improvements suggested in the status-quo will also be taken on board.

It is also recommended that the potential benefits of synergies between the CPHR and S&PM are further explored.

Table 5-5: Preliminary analysis of options: positioning of RNQPs

	Positioning of RNQPs: preliminary analysis of each option			
Option:	**Description**	**Impact**	**Advantages**	**Disadvantages**
i. Status quo (quarantine regime, with some improvements)	Improvements: potential transfer, as appropriate, of certain 'borderline' cases	Low. Expected to add a limited number of HOs in the Directive. Would result in 'clarification' of application rather than extension of scope.	• Clarification of application of rules; • Remove partially overlaps between CPHR and S&PM regimes; • Proportionate increase between the risk and the requirements.	• Case-by-case rather than systemic approach might entail risk of sustained legal and practical confusion on how best to position new 'borderline' cases; • May lead to confusion for inspection services (increase of activities, needs for training, practical organisation of the inspections); • Reduced control on phytosanitary risks for HOs moving from CPHR to S&PM (focus on seed only and not on seed + crop production).
ii. Zero tolerance regime	**Positioning within PH regime all HOs for which zero tolerance is required**	Low. Only change is that HOs for which a zero tolerance is required may move to the responsibility of another governmental service.	• Possibility to apply plant health measures to phytosanitary issues (mandatory official controls); • Eliminates overlaps / improves coherence between CPHR and S&PM regime; • No need to introduce the RNQP concept within the EU legislation (CPHR and/or S&PM).	• Mixture of HOs that are currently managed differently at the level of inspection (official inspection in CPHR vs inspection under delegation in S&PM) may raise administrative and operational re-organisational issues.
iii. Specified tolerance regime	Introduce RNQP concept within CPHR with HOs with threshold levels other than zero, as a specific Annex to the Directive 2000/29/EC	High. Expected to add a significantly larger number of HOs in the lists, compared to option ii. It may also 'destabilise' current management structures and tools under CPHR.	• Clarity and simplicity for intra-EU trade (simplified plant passport) and external trade based on one unique regulation for all PH requirements; • More effective control of re-introduction across MS; • The plant health Directive can ensure more protection;	• Fundamental review of the CPHR approach and tools (RNQP concept to be included in EU regime); • Creates dichotomy of objectives, therefore high risk for confusion and contradiction in implementation; • Current tools may not be appropriate;

	Positioning of RNQPs: preliminary analysis of each option			
Option:	**Description**	**Impact**	**Advantages**	**Disadvantages**
		However, potential savings from synergies with S&PM regime have to be considered, if this option was to be followed.	• Promote the integration of inspection services (CPHR and S&PM); • Avoid duplication of inspections; • Alignment to IPPC.	• Difficulty of practical implementation may increase the risk of poor/weak implementation for RQPs; • Difficulties to separate plant health aspects from seed quality aspects in S&PM *acquis*.

5.2 Prevention strategies at import (risk analysis and targeting of risks)

A clear outcome of the evaluation is the need for more and better prevention in the system. Prevention measures start with controls at external borders (and before that, from compliance to requirements by the exporting country). The monitoring of the internal EU territory is another key factor that allows a quick action in case HOs have been introduced. Improving prevention strategies touches upon the extent to which there is a need to prioritise and how to achieve this, so as to better target measures, in view of the evolving challenges and current resource constraints. The emphasis of any prioritisation would be to improve prevention, and does not therefore imply a narrowing of the scope of the regime.

Measures within the EU could also be strengthened for a more coordinated and consistent approach than is the case at present, and to face up to the new challenges.

5.2.1 Background

The EU is currently the largest food importer in the world. As discussed in section 4.1.2, in the context of the significant expansion in trade volumes and change in trade patterns (new products and sources of supply), the EU is faced both with increasing and emerging risks of introduction of HOs. These trends, which have already been witnessed in the last decade, are occurring in the context of reduced administrative and financial resources at MS level for inspections. The current system of import controls may therefore not be fully appropriate to cope with these new challenges. The question is therefore whether new tools or strengthening of the existing ones should be foreseen. Measures within the EU could also be strengthened for a more coordinated and consistent approach than is the case at present (as discussed in section 3.4), and to face up to the new challenges.

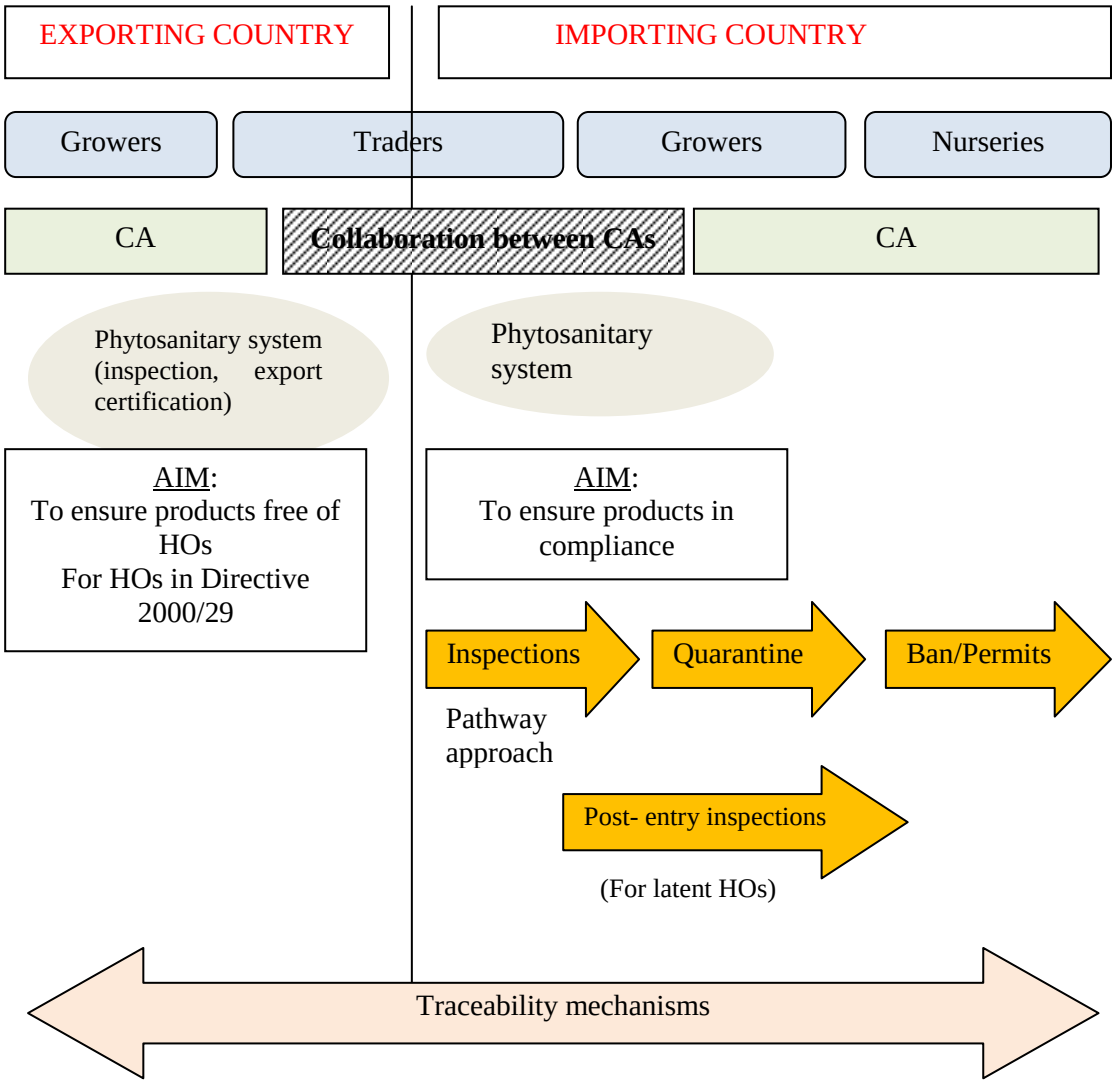
A range of measures can be envisaged to improve prevention at point of entry. The need for a more precautionary approach via a long list of HOs to be subject to specific import controls (adjusting current Annexes 1 and 2 of the Directive) has been identified, along with a specific approach for risk analysis of new trade in plants for planting and plant propagating material based on commodity pathway analysis. In all cases, any revisions to the lists need to be based on Pest Risk Analysis (PRA), but the process needs to be accelerated (fast track) in emergency situations. The existing EPPO lists (A.1 and A.2 as well as the Alert list) and PRAs need also to be taken into account in this process.

Within the continuum of risk and risk management (presented in following figure), in an ideal system, the exporting country's certification system should be first in the spectrum of risk management; in accordance with international principles (IPPC, EPPO) the primary responsibility for ensuring phytosanitary compliance in international trade rests with the exporting country. Import inspections follow next, their role being to provide a check on the first point. The less the objective of phytosanitary controls is attained at the first point of the spectrum (i.e. by exporting country), the more there is need for intervention at the following point (i.e. by the importing country). Furthermore, the less the importing country is effective in detecting risks at an early phase (for which collaboration with exporting country is essential), the more it would be obliged to increase the severity of the measures taken, moving towards the end of the spectrum. Post-entry inspections, quarantine and prohibitions are

placed at the end of the spectrum. A traceability mechanism providing horizontal safeguards, that enables tracing back to the various points in the process down to the individual grower, is a key component of an ideal system.

In this context, there is a growing consensus that efforts should be redirected from those large established trades in fresh produce which have a good record of compliance, to new and emerging trades in plants and propagating material which pose a potentially high risk, or for which there is a high degree of uncertainty about risk.

Figure 5-1: Risk management continuum – Prevention of introduction of HOs at border



Source: FCEC

In addition to the above, there is a number of recommendations for 'soft' interventions, for which there is significant consensus (see results of general survey). These include:

- improving the use of EUROPHYT in risk analysis; promoting information exchange and cooperation between MS;
- harmonising the approach to import inspections between MS by means of EU level training (e.g. BTSF) and exchange programmes and the provisions of EU-wide general guidelines to inspection services;
- promoting information exchange and cooperation with third countries, including via training (e.g. BTSF);
- improving the system of reduced frequency checks and derogations, with a view to increasing trust in the system for better and wider application;
- introducing appropriate sanctions for infringements;
- improving and strengthening EU emergency measures and,
- improving cooperation between customs and plant health services both at Commission and MS levels, improving the cooperation between plant health and customs authorities, the nomenclature and IT system.

General survey results (Q 3.9):

What should be done in future at EU/MS level to improve controls on the presence of HOs on imports from TCs, and possibly to facilitate trade?

- All MS (CAs) that responded to the survey (26) highlighted the need for an improvement of the link between PH and customs nomenclature as well as the link between PH and Customs IT system(15 stakeholders out of 24, 7 do not know). 25 out of 26 MS CAs also highlighted the need of improvement of cooperation between PH authorities and customs (20 out of 24 stakeholders, 2 do not know);
- The improvement of the risk basis of controls is an option supported by all MS CAs (26) and 18 out of 23 stakeholders (5 do not know);
- With regard to the EC emergency measures, 23 MS CAs out of 25 (1 do not know) highlight the need for strengthening the implementation of the system (12 stakeholders out of 25, 10 do not know), and 22 out of 25 (1 do not know) MS CAs highlight the need for an improvement (14 stakeholders out of 24, 7 do not know);
- The enhancement of capacity building in third countries (TCs) is suggested by 18 out of 26 MS CAs (7 do not know) and 20 out of 24 stakeholders, 3 do not know;
- The development of a notification system similar to RASFF is supported by 19 out of 26 MS CAs (4 do not know), 14 out of 24 stakeholders, 6 do not know;
- 16 out of 22 MS CAs are in favour of tightening the enforcement of current provisions concerning import controls at CA and industry levels (8 out of 22 stakeholders, 3 do not know);
- According to 16 out of 26 (4 do not know) MS CAs and 21 out of 24 stakeholders (2 do not know), appropriate sanctions for infringement should be introduced;
- 22 out of 26 (2 do not know) MS CAs are in favour of evaluating temporary derogations after several years (20 stakeholders out of 24, 2 do not know);
- Improvement in the use of notifications by the MS and in the control of the correct use of the additional declaration are needed, according respectively to 21 out of 26 MS CAs (2 do not know) and 16 out of 23 stakeholders (4 do not know) and 21 out of 26 MS CAs (1 do not know), 12 out 23 of stakeholders (6 do not know);
- The system of reduced frequency checks should be improved/revised according to 11 out of 25 MS CAs (7 do not know) and 12 out of 24 stakeholders (10 do not know).

The introduction of measures for passenger transport is favoured by the majority of MS CAs and stakeholders and should be considered, following the same approach as in the animal health field.

5.2.2 Options and analysis

In general terms, the evaluation results as confirmed by the February conference have demonstrated that there is need to reassess the current system of import controls with a view to improving its role in the overall EU phytosanitary regime. In particular, consideration should be given to defining the appropriate tools for effective and efficient risk assessment and risk management, within the continuum of risk (see figure above).

In this context, the options identified for further consideration are as follows:

i. *Status quo with improvements ('soft' interventions);*
ii. *Widen the list of HOs subjected to import controls (Annexes to Directive 2000/29/EC);*
iii. *For emerging risks (particularly new trade in plants for planting/ propagating material (PM): commodity pathway analysis;*
iv. *For plants for planting/propagating material strengthen measures:*
    a. *Official post entry inspections for latent HOs;*
    b. *Improve collaboration with country of origin, including via pre-export inspections where necessary (e.g. on the basis of repeated interceptions for certain products from certain origins);*
    c. *On the basis of commodity pathway analysis, introduce import bans where necessary.*

As indicated within the above figure on the risk management continuum, a more targeted approach by pathway is suggested to target higher risk import flows. This would differentiate between:

- Fresh produce: for which entry inspections appear to provide sufficient control. For this category of products, further improvements to the current reduced frequency checks system could also be considered, to improve both the effectiveness and the efficiency of the inspections (thereby releasing resources to focus on higher risk products). Also synergies with existing certification systems where these are established to cover quality issues could be considered, e.g. to extend coverage to phytosanitary issues;
- Plants for planting/PM (e.g. entry and post-entry inspections at growing sites): for which there should be some shift from inspections at the point of entry, where detection of latent pests and diseases is difficult, to inspections at growing sites. For this category of products, in addition to strengthening inspections, a series of further measures can be taken, the severity of which will depend on risk analysis. Such measures range from a more targeted approach for new types of trade by modelling risks of imports from emerging supply sources, to pre-export inspections, or even import bans where necessary. Within this sector, a more specific approach may be considered for the seeds industry (seeds for planting), which is generally already using extensive certification systems to monitor product quality, and – subject to further examination of the appropriateness of these systems in the context of phytosanitary inspections - there may be scope to take these into account to adjust accordingly the level of inspections that may be required for these products.

Recommendation 4:

Based on the consensus view as it emerged in the process of the evaluation and the FCEC analysis, it is recommended that complementary measures, such as described above, are taken. These measures are those described under **option iii (**For emerging risks, particularly new trade in plants for planting/ propagating material (PM): commodity pathway analysis**), option iv (a) (**For plants for planting/PM strengthen measures: official post entry inspections for latent HOs**)** and **option iv (c) (**For plants for planting/PM strengthen measures: on the basis of commodity pathway analysis, introduce import bans where necessary**)**. These options are recommended on the basis that they represent the best balance of advantages/ disadvantages against anticipated impacts. It is noted that the assumption is made that the improvements suggested in the status-quo will also be taken on board.

Depending on severity of non-compliance or infractions (both at the level of individual traders and at the level of the CAs involved), sanctions could be introduced in the system. This issue is more broadly considered under Theme E (Incentives).

Table 5-6: Preliminary analysis of options: improving prevention at import

	Improving prevention at import: preliminary analysis of each option			
Option:	**Description**	**Impact**	**Advantages**	**Disadvantages**
i. Status quo with improvements	Improvements in the form of 'soft' interventions, including: • measures to improve harmonisation of inspection standards (e.g. training, restore and update SANCO vademecums); • improvements to EUROPHYT; • ensure follow up of FVO recommendations after FVO inspections; • horizon scanning; • improvement of coordination and collaboration between PH and customs at all levels (EC, MS).	Low-medium. Impact to depend on range of interventions that are adopted. Relatively lower cost than options ii, iii and iv.a / iv.b). Costs to be borne primarily by CAs (EC, MS); benefits for both CAs and stakeholders.	• Significant improvements can be made relatively readily and at low cost;	• In-depth review of the approach to improve prevention at import is postponed; • Lack of proactive tools to tackle risks related to new trade • Current inspections do not detect latent HOs • Variability of border controls and efficiency of import controls
ii. Widen list of HOs subjected to import controls (Annexes to Directive 2000/29/EC)	This measure addresses entails a revision of Annex I and II and the extension of the list of plants and plants products which should be subject to mandatory inspection controls. Revisions to the lists to be based on PRA, and the existing EPPO lists (A.1 and A.2 as well as the	Medium-high. Costs will depend on implementation, including the use of other complementary options, in particular commodity pathway analysis (iii) to improve targeting of risks and channel resources to higher risk imports (plants for planting/PM). These higher costs have to be balanced against the potential longer term savings from wider detection of risks (compared to current situation).	• Improves prevention, more precautionary approach (compared to current situation); • Widens the target of the inspections; • Provides objective improvement to target base, in line with EPPO lists and PRAs; • Potential long term savings	• Potentially substantial increase in inspection costs and additional resources required, including for the revision of the lists; • Targeting of risks remains too open if this option alone is followed; • Delays in revision of lists could be significant, but the process could be accelerated

	Improving prevention at import: preliminary analysis of each option			
Option:	**Description**	**Impact**	**Advantages**	**Disadvantages**
	Alert list).	<u>COM:</u> Increase in management costs (medium-high). <u>MS CAs:</u> Increase in management costs (medium-high). <u>Stakeholders:</u> Increase in responsibilities and costs (medium-high). Above increase in costs to be balanced against potential benefits of prevention /early detection (control at import).	from wider detection of risks;	in emergency situations using existing and fast track PRAs.
iii. For emerging risks: commodity pathway analysis	Proactive approach which entails assessing the risk posed by all pests for a single commodity originating from specific region(s) when exported to the EU (or to specific MS) by analysing a pathway, usually an imported commodity, that may allow the introduction or spread of quarantine pests. This concerns particularly new trade in plants for planting/ propagating material (PM).	Medium-high. Costs will depend on implementation, in particular whether some of the required increase in resources for inspections could be compensated by reduction in resource use on lower risk products (i.e. efficiency gains). E.g. studies in the NL suggest that import inspection has a high marginal benefit (each additional € on inspection capacity decreases expected costs of pest introduction by €18-49, while *ceteris paribus*, emphasis of inspection should be allocated to high risk pathways of potentially most significant economic impact[278]. There may be additional savings in resources, and improved efficiency in use, if measures for higher risk products are further strengthened according to option iv.	• Allows more targeted prevention, from lower risk (fresh produce; certified products) to higher risk; • More proactive and targeted approach than option ii; • Can optimise effectiveness and efficiency of inspections, if current use of resources redirected from lower risk to higher risk products; • Potential long term savings from more targeted and early detection of risks; • Depending on implementation, process could be made more transparent compared to current practice (?); • Can draw from experience of	• Potentially substantial increase in inspection costs and additional resources required; • Cost of pathway analysis could be increased burden on both trade and admin, with relatively few tangible benefits if trade is not subsequently realised (e.g. US experience: disproportionate to value of trade); • Depending on implementation, there may be a risk of politicizing process: species RA is generally more independent than commodity pathway analysis.

[278] Source: Surkov, I. et al. (2006). Actual level of potential cost savings depends on the initial inspection capacity. Furthermore Surkov et. al (2008), shows that the optimal allocation of a fixed inspection budget halves the cost of pest invasion compared to allocating the same budget equally over all imports. A budget increase that enables 42% more inspection can reduce total societal costs by 81% compared to smaller, constrained budget that ignores risk differentials. In the studies the model is applied on Dutch imports of chrysanthemum cuttings.

	Improving prevention at import: preliminary analysis of each option			
Option:	**Description**	**Impact**	**Advantages**	**Disadvantages**
		Higher costs to be balanced against the potential longer term savings from more targeted and early detection of risks (compared to current situation). To improve the proportionality and cost/benefit of the measures, consideration needs to be given to level of risk and level of trade (case-by-case approach).	similar approaches followed by TCs (e.g. US, Australia: PRAs through trade request, but 90% of fresh produce based on long-standing agreed practices in TCs). • Gains from more efficient use of inspection capacity.	
iv. *For plants for planting/PM strengthen measures:*				
a. Official post entry inspections for latent HOs	"Official" refers to form of inspection and not agent (the issue of whether the agent would be a CA or licensed private sector inspector is not addressed here).	Medium/high. Costs will depend on implementation, e.g. number of potential HOs and products to be subjected to post entry inspections. COM: Increase in management costs (low). MS CAs: Higher costs for inspections (e.g. in the NL, total costs for post-entry inspections estimated to additional € 274,000 per year[279]). Higher costs to be balanced against potential longer term savings from early detection of risks (compared to current situation).	• Enables detection of latent diseases, thus overcoming weakness of current system; • Can draw from the experience of similar approaches followed by TCs (US and Australia) • Potential long term savings from early detection of risks;	• Feasibility depends on structure of production/trade and interactions between POs; • Traceability systems will need to be put in place; • High throughput probes alternative for checking for pest presence but physical access may be difficult; • Increase required in resources could be substantial.
b. Collaboration with country of origin	Including via pre-export inspections and/or FVO audits where necessary (e.g. on the basis of repeated interceptions for certain products from certain origins,	Low-medium-high. Costs will depend on implementation, e.g. collaboration as such will require some increase in resources, but this would be significantly higher if FVO inspections are to be carried out, and even higher in the case of pre-export inspections. Higher costs to be balanced against the	• Improved targeting of risks at source, thus a more preventive approach; • Carrying out FVO inspections rather than pre-export inspections may be more feasible in the first instance, due to high costs of the latter;	• Experience has suggested pre-export inspections are expensive with limited benefits; • Increase required in resources (e.g. FVO/SANCO etc.) could be substantial.

[279] Source: PRA on *Anoplophora chinensis*. In the NL about 130 nurseries grow *Acer* spp. from China and Japan. Assuming 2 visits per nursery per year with a total time of 20 h needed per nursery, the total costs for post-entry inspection will be: 130 x 20 h x € 100/h = € 274,000. It is concluded that for the NL these costs are relatively high compared to the total value of the imported Acer (3-6 million euro). Source: PRA *Anoplophora chinensis,* Plant Protection Service, Wageningen, The Netherlands, September 2008

	Improving prevention at import: preliminary analysis of each option			
Option:	**Description**	**Impact**	**Advantages**	**Disadvantages**
	or for new trade).	potential longer term savings from detection of risks at source.	• Potential long term savings from detection of risks at source.	
c. Introduce import bans where necessary	Measures to be considered on the basis of commodity pathway analysis, and evaluation of risk.	Low – could actually save on resources. Transfer of costs to the exporting countries.	• A more drastic precautionary approach could significantly save on resources or optimise use of current resources; • In line with approach followed by majority of countries in the world;	• Reverses current EU system philosophy, but could be defended on the basis that it targets a specific category of products (high-risk);

5.3 Prevention strategies intra-EU (general surveillance and reporting)

A clear outcome of the evaluation is the need for more and better prevention in the system. Prevention measures start with controls at external borders (and before that, from compliance to requirements by the exporting country). The monitoring of the internal EU territory is another key factor that allows a quick action in case HOs have been introduced. Improving prevention strategies touches upon the extent to which there is a need to prioritise and how to achieve this, so as to better target measures, in view of the evolving challenges and current resource constraints. The emphasis of any prioritisation would be to improve prevention, and does not therefore imply a narrowing of the scope of the regime.

Measures within the EU could also be strengthened for a more coordinated and consistent approach than is the case at present, and to face up to the new challenges.

5.3.1 Background

As discussed in section 3.3, currently MS conduct surveillance programs for HOs listed in emergency and control measures, and for those for which PZs are established. Additionally, MS conduct voluntarily surveillance on HOs of priority of the country. This approach has shown the limited benefits for the EU as a whole, as clearly a prioritization based on national interests is followed.

Given the importance of an updated knowledge on the pest status in the EU, a more coordinated approach is needed. This need emerged clearly from the survey, from the interviews and from the conference. Monitoring of the EU territory is crucial to identify and tackle risks at an early stage and prevent the spread to other areas or MS of the EU. The early detection of outbreaks, in conjunction with the pest status, also allows adjusting the level of action in a timely way. This also needs to be done in a harmonized way, in order to reach uniform interpretation and comparability of the results. The broad majority of MS indicated in this context that that explicit EU legislation for general surveillance and monitoring for listed and non listed HOs should be introduced. In the context of limited resources, however, it is not realistic to demand MS to have in place surveillance plan for all the listed HOs. Thus, prioritization on a more common basis is needed.

As regarding prioritisation, several views are expressed. Some MS point out that priority should be common at EU level, i.e. legislation on mandatory surveillance should be adopted with the aim of establishing obligatory active monitoring for some listed HOs with the highest priority for the EU. Other MS suggest the need of a prioritization at EU level, but regionalised as appropriate.

It is stressed by several MS that any adoption of measures in order to improve surveillance would have an impact on financial and human resources, which are currently already limited; some MS in this context asked for a specific plan for co-financing from the Community.

The possibilities of involving other organisations in surveillance should be considered, it is suggested that public green/forest management organisations may play a role in this sense for HOs in public and private green.

Finding an appropriate forum for coordinating all these actions at EC level will also be needed.

General survey results (Q 1.4):

What should be done in future to improve the scope and objectives of the CPHR?

- 17 out of 26 MS CAs (1 do not know) and 18 out of 32 stakeholders (6 do not know) are in favour of introducing mandatory surveillance for listed HOs.

General survey results (Q 2.7):

What should be done in future to improve surveillance of HOs?

- The majority of MS CAs (18 out of 25, 4 do not know) and 19 (out of 25 stakeholders, 2 do not know) are against the increase of number of HOs;
- 11 MS CAs (out of 25, 4 do not know) and 14 out of 25 stakeholders (5 do not know) are in favour of decreasing the number of listed HOs;
- 10 MS CAs (out of 25, 5 do not know) and 11 out of 26 (6 do not know) stakeholders are in favour of changing the approach for structuring Annex I and II;
- 21 out of 25 MS CAs (1 do not know) and 22 out of 26 stakeholders (3 do not know) expressed a preference for focusing surveillance on priority HOs, on the basis of phytosanitary risk and significant socio-economic impact;
- 19 out of 25 MS CAs are in favour of introducing explicit Community legislation for global surveillance/monitoring for listed/not listed HOs (4 do not know). 13 out of 26 stakeholders are against (9 do not know).
- 21 out of 25 MS CAs (11 out of 26 stakeholders, 4 do not know) underlined the need for reinforcement of phytosanitary import control;
- 19 out of 25 MS CAs (2 do not know) 15 out of 26 stakeholders (5 do not know) seek the involvement of persons/organisations not belonging to the CA in surveillance and rapid alert/early warning systems;
- The need for improved staff resources/training for national authorities is supported by 24 out of 25 MS CAs and 20 out of 25 stakeholders (1 do not know); the same result is reported with regards to enhancement of capacity building in MS by 25 MS CAs (16 out of 25 stakeholders, 5 do not know);
- 18 out of 24 MS CAs (3 do not know) and 17 out of 26 (7 do not know) stakeholders are in favour of developing a notification system for outbreaks and new findings similar to the RASFF.

5.3.2 Options and analysis

In this context, the options identified for further consideration are as follows (options are presented in order of progressive expansion of scope as we move from ii to v[280]):

i. Status quo (with emphasis on improving enforcement);
ii. Development of common principles and guidelines for harmonized surveillance and reporting;
iii. General surveillance mandatory at EC level for priority HOs (other than Emergency Measures and Control Directives) (agreed at EC level and carried out by MS; covering areas where pests could be established):
iv. Introduction of co-financing for surveillance.

[280] Each subsequent option includes and expands on scope of preceding option.

The evaluation results, confirmed by the February conference, identified significant support for general epidemio-surveillance for priority HOs, although the process and criteria to be used for the identification and selection of HOs to be subject to such surveillance, as well as the scope and method of the surveillance, remain to be discussed.

From the feedback received from MS CAs and stakeholders to date, it can be concluded that the level of prioritisation needs to be restricted to key HOs of EU significance and cover the EU-27, although more regional surveillance models could also be considered for HOs of regional significance. An approach that could be followed could be the differentiation among high priority HOs (for the EU), for which mandatory surveillance and contingency plans should be introduced, and low priority HOs (or HOs with a more regional importance) for which MS could be left with a higher degree of subsidiarity.

The level and method of surveillance could include both passive (for non identified HOs or other species/subspecies of identified HOs) and active surveillance (for identified HOs/species). To maximise effectiveness, such surveillance needs to involve the full network of actors in this field, including professional stakeholders who are the first link in the network; in this context, parallels can be drawn from the approach followed in the animal health sector (bio security best practices at micro-level, for individual operators). At macro-level, the network could extend beyond EU-27, to cover for example Euro-MED or other regional third country trading partners.

Within options iii and iv, further consideration needs to be given to the following elements:

a. *How to prioritise HOs?* Definition of criteria and method to be followed for the prioritisation of HOs needs to be explored: e.g. on basis of Annex I and II, section I: HOs not present; Annex I and II, section II: HOs locally present. Key criteria may include: extent to which the HO presents a risk to the EU as a whole, including in terms of economic impact; the current knowledge base in terms of the availability of updated pest status at EU level for selected HOs.
b. *What should be the degree of subsidiarity?* Criteria may include: prioritisation of HOs at EU level (e.g. following US approach: representativeness of broad range of methods and classes of pests and ranking); regional prioritisation could also be followed in some cases. A key guiding principle could be that surveillance would be more consistent, relevant, effective and efficient if done at a higher level. The US approach (CAPS) is presented here as a case study on this.

Recommendation 5:

The evaluation results, confirmed by the February conference, identified significant support for global epidemio-surveillance for priority HOs, although the process and criteria to be used for the identification and selection of HOs to be subject to such surveillance, as well as the scope and method of the surveillance, remain to be discussed.

Considering the views of MS CAs, stakeholders and experts, and taking into account the Council conclusions of 2009, **option ii (**Development of common principles and guidelines for harmonized surveillance and reporting**)**, **option iii (**Global surveillance mandatory at EC level for priority HOs**),** and **option iv (**Introduction of co-financing for surveillance**)** are the most recommended.

These options are recommended on the basis that they represent the best balance of advantages/disadvantages against anticipated impacts. It is noted that the assumption is made that the improvements suggested in the status-quo (option i) will be taken on board.

Table 5-7: Preliminary analysis of options: improving prevention intra-EU

	Improving prevention intra-EU: preliminary analysis of each option			
Option:	**Description**	**Impact**	**Advantages**	**Disadvantages**
i. Status quo (with emphasis on improving enforcement)	Better enforcement (surveillance for emergency measures and PZs) to be promoted , including via sanctions or penalties for non enforcement	Low. Relatively low cost (lower than options ii-v). COM: Low impact in terms of additional resources (currently 0.5 persons involved in summarising MS survey reports). MS CAs: Low. Appropriate surveying/reporting would require some addition to current resources.	• Some improvements can be made relatively readily and at low cost;	• In-depth review of the global approach to prevention intra-EU is postponed if only this option is considered. • Feasibility of pursuing implementation of sanctions/penalties?
			Further advantages and disadvantages discussed under option D.2 below.	
ii. Development of common principles and guidelines for harmonized surveillance and reporting	Definition of protocols for surveys and for reporting done at EU level	Low-medium. COM: Low. Development of guidelines as such would be of relatively low cost, especially in cases where existing surveillance models provide good basis for replication. MS CAs: Medium. Implementation of these guidelines might incur more significant costs, depending on extent to which these require significant increase from current levels of surveillance. Stakeholders: Depending on degree of involvement, low-medium.	• Aims to improve the harmonisation of current surveillance; • Allows systematic data availability for key HOs, to use in risk analysis; • Can create opportunity for stakeholder involvement; • Can lead to improved detection of risks if better enforcement is also pursued (option i).	• May focus attention on surveillance of pests with wide impact at the expense of localised risks.
iii. General surveillance mandatory at EC level for priority HOs (other than Emergency Measures, Control Directives and PZ)	Introduction of the obligation for MS to conduct surveillance. Surveillance scope, coverage and method to be agreed at EC level and carried out by MS; covering areas where pests could be established.	Medium-high. Increase in costs and required resources could be significant. Impact depends on approach followed for prioritisation, which will ultimately determine number of HOs. COM: Low. Higher resource inputs for coordination. MS CAs: High (costs of surveillance). On the basis of current costs for mandatory surveys (section 3.11.4), the additional resources required would be dependent on number and type of HOs surveyed. On this basis, estimated range of increase in costs:	• More prevention, more precautionary approach; • Improves systematic data availability for key HOs, to use in risk analysis; • Opportunity for stakeholder involvement; • Improved coordination (between MS, between CAs and stakeholders); • Improved targeting from an EU/regional perspective of priority-setting;	• Increased costs, although co-financing and wider participation (extended network of MS and – possibly – stakeholders) could spread/reduce costs; • May lead to more detection, more eradication measures, therefore more costs (more requests of funding if co-financing applied) but at the same time earlier action and therefore opportunity for cost

	Improving prevention intra-EU: preliminary analysis of each option			
Option:	**Description**	**Impact**	**Advantages**	**Disadvantages**
		€1-2 million per HO for EU-27[281]. Stakeholders: Depending on degree of involvement, costs for survey actions could range significantly (low-high). Introduction of co-financing by EC could spread costs more equitably (option iv). Higher costs to be balanced against the potential longer term savings from early detection of risks.	• Potential savings from synergies and better coordination of current parallel surveillance programmes between MS; • Potential savings longer term from early detection of risks.	reduction in the long term.
iv. Introduction of co-financing for surveillance	Extension of funding for MS (with co-financing) to carry on surveillance.	Medium-high. Increase in costs and required resources could be significant. Impact depends on approach followed for prioritisation, which will ultimately determine number of HOs COM: Higher costs related to co-financing of the activity. On the basis of the current costs for surveillance (see option iv), and current co-financing rate (50%), estimated costs could range between €0.5-1 million per HO for EU-27[282]. MS CAs: as in the case of COM (€0.5-1 million per HO for EU-27). Stakeholders: Depending on degree of involvement, low-high. Higher costs to be balanced against the potential longer term savings from early detection of risks.	• Spreads costs (EU:MS); • Provides incentive for effective implementation, provided support is made conditional on adequate implementation; • More equitable, provided level of co-financing takes into account certain criteria: e.g. increased support for poorer MS or MS that are at highest risk of exposure acting as the frontier for the EU (e.g. borders with third countries); • Demonstrates commitment to action.	• Potentially significant increase in costs and required resources, at both EU and MS level; • Moral hazard (needs control system and possible sanctions; needs to specify performance targets)

[281] Significant variation in costs depending on HO. Main costs will relate to labour, followed by diagnosis (lower). There may be higher start up costs in year 1, followed by cost reductions in subsequent years.

[282] Assuming a 50% co-financing rate, as in current solidarity funding, with significant variation likely in costs depending on HO (see previous footnote). On an exemplary basis, in the US, a total amount of US$ 45 million was provided by Federal funds in 2005 to survey over 100 high risk exotic insects, diseases and weeds, on the basis they are considered to constitute a public good.

Case study: US surveillance prioritisation programme (CAPS)

In the US, a nationwide pest-surveillance program (the Cooperative Agricultural Pest Survey – CAPS[283]) is managed cooperatively by USDA–APHIS and State Departments of Agriculture. Universities, industry groups, and natural resource protection organizations are also partners in the program. The primary function of CAPS is to survey, identify, and monitor pests of concern to U.S. agriculture and plant resources. To prioritize survey and response efforts, CAPS maintains a comprehensive list of target species that are potential threats to the Nation's agricultural and environmental resources. Each year, a range of 50-60 priority pests (e.g. 58 for the year 2010) for the National Survey are identified by the National CAPS Committee, together with a number of State-level discretionary surveys, among which the State CAPS Committees determine survey priorities for their States. The method followed in order to rank the pest is the Analytic Hierarchy Process[284], which prioritizes pests on the basis of the following criteria:

- Economic impact:
  - Foreign trade
  - Production costs and domestic trade
  - Public costs
- Environmental impact
  - Human health
  - Health of native flora and fauna
  - Health of livestock and pets
  - Health of plants with aesthetic value
- Impact to CAPS Program[285]
  - Survey feasibility
  - Identification feasibility

The plan is co-financed by the Federal Government[286] and the States, through cooperative agreements (funds provided to State Departments of Agriculture and other cooperators administered through the PPQ Regional Offices). The funding allocation process is linked to justifications from each State for: (I) infrastructure, (II) surveys to address national priority pests, and (III) surveys to address pests of state concern. The overall funding formula is as follows: *Infrastructure (capped at* $100,000, in certain cases to *$150,000*) *+ Priority Surveys (minimum of 75 percent of survey dollars) + State Discretionary Surveys (up to 25 percent of survey dollars) =Total funds awarded.*

The National Survey Coordinator provides overall direction for the Program, and it is also responsible for the Cooperative Agreement with Purdue University, which provides administrative and financial framework for the National Agricultural Pest Information System[287] (NAPIS) database and websites. NAPIS collects data to help plant health officials make policy and management decisions in the event of pest incursions (a list of contacts is also available), evaluate market-access bids for U.S. exports, and justify quarantine measures to exclude potentially foreign HOs.

[283] http://www.aphis.usda.gov/plant_health/plant_pest_info/pest_detection/survey2010.shtml

[284] Saaty, T. L. 1980. The Analytic Hierarchy Process. McGraw Hill, New York.; Saaty, T. L. 1994. Fundamentals of decision making and priority theory with the AHP. RWS Publications, Pittsburgh, PA.

[285] *This set of criteria was not used to create AHP Prioritized Pest List. Pests were ranked separately using these criteria, and this information is intended to highlight needs for research and methods development and to be used in combination with the AHP PPL to select high priority targets that are not excessively difficult or expensive to survey and identify.

[286] The annual PPQ Pest Detection "line item" appropriation is the major funding source for CAPS. In 2009 the budget for this line amounted to 31 million$.

[287] http://pest.ceris.purdue.edu/index.php

5.4 Emergency action

5.4.1 Background

Article 16 of Directive 2000/29/EC sets out the basis for emergency measures at EU level (or initial control measures taken by MS). Measures are taken and reviewed/revised (or repealed) at the Standing Committee on Plant Health on the basis of Pest Risk Analysis (PRAs).

The need for more rapid action in emergency situations was repeatedly identified in the context of the various themes covered by the evaluation, both with regards to the imminent danger posed by imports from third countries and other findings or outbreaks within the EU. In many cases there is a call for action in advance of any emergency situation arising, in particular in the form of horizon scanning and contingency plans, the uptake of which is currently very variable amongst MS.

The need to find an appropriate forum for coordinating emergency action at EC level has also been identified, and the idea of an EU/MS emergency team has been put forward in the context. This can draw on the experience of similar initiatives in the animal health sector, where an EU/MS Veterinary emergency team (based in SANCO with support from an extensive network of MS experts[288]) was created following the CAHP evaluation.

General survey results (Q 6.8):
What should be done in future at EU/MS level to ensure better preparedness to prevent and control the introduction/spread of HOs?
- 25 out of 26 MS CAs (6 out of 7 stakeholders) expressed the need for an improvement of the availability of up-to-date MS Contingency Plans;
- Improvement of the knowledge of private operators in the production and trade chain is sought by 23 MS CAs (6 out of 7 stakeholders);
- The development of an EU emergency team is sought by 19 out of 26 MS CAs (5 do not know) and 8 out of 27 stakeholders (9 do not know);
- 19 out of 26 MS CAs (4 do not know) are in favour of introducing new legal instruments for rapid intervention by the EC in case of outbreaks of new HOs (6 out of 26 stakeholders, 5 do not know);
- The improvement of the knowledge on HOs of private operators in the production and trade chain is advocated by 23 out of 26 MS CAs (3 do not know) and by 22 stakeholders (out of 26, 1 do not know);
- The improvement of the import control system to deal with emergency situations is sought by 22 out of 26 MS CAs (1 do not know) and by 17 stakeholders (out of 27, 1 do not know).

5.4.2 Options and analysis

In this context, the options identified for further consideration are as follows:

i. Status quo, with improvements;
ii. Horizon scanning;
iii. Compulsory development of contingency plans according to harmonized framework;
iv. Minimum mandatory emergency actions (e.g. definition of demarcated areas, intensifying monitoring);

[288] For more information on the veterinary emergency team see: http://ec.europa.eu/food/animal/cvet_en.htm

v. Speed up process for adoption and adaptation of both emergency and control/eradication measures.

In terms of improvements that can be considered under option i (status quo), a key improvement concerns the development of an EU/MS Emergency Team (this option is discussed further in section 5.8.4).

The evaluation results, confirmed by the February conference, identified significant support for strengthening emergency action, along the basic structure and concepts developed in particular by options ii (horizon scanning) and iii (harmonised development of contingency plans). However, the refinement of these options (particularly of option iii, for which a number of elements need to be considered) will need further analysis and discussion. With the feedback available to date, it is clear that there is significant scope to improve contingency planning and make it more systematic and harmonized across the EU. In this context, the development of a harmonized framework could be based on recently developed EPPO guidelines outlining the generic elements of contingency plans[289]. Pursuing these options can also provide opportunity for involving stakeholders, thus responding to demand for more transparency, communication and consultation in adoption of emergency measures.

An additional point to be addressed should be the quick adoption of emergency measures at EU level, ensuring that the risk assessment process does not lead to delays in the decision-making. In this context, a group within DG SANCO, made up by the FVO and some MS experts, could coordinate action, i.e. to supervise and develop measures based on existing evidence. Emergency measures should also be evaluated periodically in order to assess the need for revision in the context of changed situations.

Recommendation 6:

Based on the analysis of the options for emergency action, **options ii** (Horizon scanning), **option iii** (Compulsory development of contingency plans according to harmonized framework) and **option v** *(Speed up process for adoption and adaptation of both emergency and control/eradication measures)* would be the most recommended, on the basis that they represent the best balance of advantages/disadvantages against anticipated impacts. It is noted that these options are complementary (i.e. can be adopted in parallel), and that, in all cases, they include the improvements suggested in the status-quo (option i).

[289] EPPO standard PM 9/10(1) for contingency planning.

Table 5-8: Preliminary analysis of options: emergency action

	Emergency action: preliminary analysis of each option			
Option:	**Description**	**Impact**	**Advantages**	**Disadvantages**
i. Status quo (with improvements)	Improvements in the form of 'soft' interventions. This includes the creation of an EU emergency team with support from MS (similar to EU/MS Veterinary emergency team).	Low. Relatively low cost (lower than options ii-v). The emergency team should be set up drawing on available experience at MS/EU/international level (setting up of a list of experts on the model of veterinary emergency team in AH) COM: Cost of setting up and funding the team relatively low (i.e. indemnities for veterinary team 300€/per day/per expert). MS CAs: Positive impact derived from quick adoption of right measures for outbreaks.	• Significant improvements can be made relatively readily and at low cost; • Quicker and independent assessment of outbreaks • Quicker action and assisted response in terms of eradication measures	• In-depth review of the global approach for responding to emergencies is postponed if only this option is considered;
ii. Horizon scanning	Introduction of systematic examination of potential threats and future developments. This can build on experience of existing initiatives (e.g. UK)[290].	Low-medium. COM: Increase in costs and required resources depend on implementation (e.g. the cost to undertake such studies in the UK ranged from circa €10 to €100,000 /study). If built upon existing studies in MS, lower resources required for coordination. Cost increases to be balanced against potential savings longer term from early detection of risks.	• Improves prevention and precautionary approach; • Can inform the need for emergency measures and adjustment to rules (e.g. lists of HOs) to enable more rapid action; • Opportunity for stakeholder involvement in peacetime; • Opportunity for wider cooperation across EU (exchange of information, cooperation between MS and	• Requires increase in resources; • May require more fundamental change in mind set (to achieve information exchange and cooperation between MS).

[290] This process is currently undertaken by the UK, in the context of the "Horizon scanning Project of DEFRA". It consists of setting up a group of experts (at MS or EU level) interacting with a range of other stakeholders (e.g. universities, industry) in order to explore potential future issues. The horizon scanning Project in the UK has undertaken two studies, one on IAS and one on plant health.

	Emergency action: preliminary analysis of each option			
Option:	**Description**	**Impact**	**Advantages**	**Disadvantages**
			stakeholders); • On the basis of wider cooperation, can allow coordinated monitoring of emerging risks, and can improve transparency; • Potential savings longer term from early detection of risks.	
iii. Compulsory development of contingency plans according to harmonized framework	Obligation for MS to develop contingency plans, according to harmonised framework[291]. To be further defined whether such contingency plans should be generic or pest-specific[292], or by commodity. The compulsory actions may be subject to co-financing. On an administrative level, need to set up decision-making structures and procedures, as well as coordination body.	Medium-high. COM: Development of harmonised framework as such would be of relatively lower cost, especially with recent adoption of relevant EPPO standard; there may also be cases where existing contingency plan models (e.g. AH) provide good basis for replication. Also, MS who have in place contingency plans may provide models for other MS. Increase in resources for coordination. If co-financing applied, low-medium increase in funds needed for mandatory measures. MS CAs: Development of contingency plans might incur more significant costs, depending on model to be followed (possibility of relying on existing CP as from above). Positive impact in terms of quick adoption of measures/early action. Stakeholders: Depending on model to be followed, there may be a certain degree	• Coordinated preparedness for emerging risks; • Opportunity for stakeholder involvement in peacetime, thus improving transparency of action in emergency situations; • Development of plans could stimulate increased stakeholder involvement, paving the way for responsibility and cost sharing (e.g. AUS experience)*; • Operational problems are addressed before they arise (i.e. definition of additional resources needed, in terms of staff and diagnostics, before emergency occurs); • Recently adopted EPPO standard on generic elements for contingency planning provides basis on which to	• Feasibility of practical application to depend on model of contingency plan to be followed.

[291] The roles and responsibilities of COM vs MS vs stakeholders in plan development and implementation needs to be further defined. The Commission should define objectives to be achieved and minimum mandatory measures to be undertake by MS.
[292] ISPM No. 9 Guidelines for eradication, section 1.2, IPPC, 1998 recommends the development of pest-specific contingency plans for those pests which have a high potential for introduction and for which an eradication plan is deemed necessary

	Emergency action: preliminary analysis of each option			
Option:	**Description**	**Impact**	**Advantages**	**Disadvantages**
		of involvement, with clear responsibilities defined (and sanctions). Positive impact if mechanism of cost/responsibility sharing is in place. *See case study of Australia EPPRD scheme provided below.*	build a harmonised framework; • Easier definition of minimum mandatory emergency actions. • Time saving by avoiding lengthy deliberations	
iv. Minimum mandatory emergency actions (for high priority pests)	Introduction for obligations for MS to undertake obligatory actions in case of outbreaks. Such actions could include definition of demarcated areas, intensifying monitoring, and eradication measures. Mandatory actions could be subject to co-financing and sanctions for non compliance could be introduced	Low-medium. COM: Low impact in terms of resources for definition of mandatory actions. Medium increase in resources needed in case of co-financing. MS CAs: Medium impact in terms of resources needed (lower in case co-financing introduced). Overall, positive impact from effectiveness of measures to be undertaken (i.e. savings from failures related to incomplete or incorrect implementation of measures) Stakeholders: Low-medium in terms of costs as obligations would arise. Lower in case co-financing is introduced.	• Greater effectiveness and efficiency in case of emergency (as AH) • Harmonised response • Defined responsibilities and liability	• Steps difficult to define given range of PH problems (depending on prioritisation and existing contingency plans)
v. Speed up process for adoption/ adaptation of both emergency and control/ eradication measures	Decision-making to be based on available evidence on phytosanitary risk (includes the use of fast-track PRAs) and consequent evaluation of appropriateness of emergency and control/eradication measures.	Low-medium. Increase in costs and required resources to depend on implementation. Cost increases have to be balanced against potential savings from timely response to emergencies.	• More emphasis on prevention/early response; • Decisive action in emergency situation will encourage exporters to provide evidence of action taken to reduce risk; • Potential savings from timely (therefore more effective) response to emergencies • Improves credibility of EU among TCs.	• Excessive measures may be taken if fast track PRA, but long term objective remains to allow/facilitate trade (conditions relaxed when evidence provided). Also review after a period may allow revision of measures

Case study: Australian Emergency Plant Pest Response Deed (EPPRD)

The most extensively implemented contingency planning programme that includes stakeholders at world level is the Emergency Plant Pest Response Deed (EPPRD) [293]developed in Australia. The EPPRD is a formal legally binding agreement between Plant Health Australia, the Australian Government, all state and territory governments and national plant industry body signatories. It formalises the role of plant industries' participation in decision making as well as their contribution towards the costs related to Emergency Plant Pests (EPP) responses. A list of categorized pests (78 high priority pests) are covered under the EPPRD; a mechanism is also in place to cover EPP not listed but determined by a Categorisation Group to meet the criteria for classification.

It covers the management and funding of responses to Emergency Plant Pest incidents, including the potential for owner reimbursement costs for growers (only the direct costs incurred by the owner in complying with the response plan in assisting eradication efforts: therefore loss of crop destroyed, including stored produce, but not income losses).

In particular, Government and Industry parties share the costs of the Response Plan based on four Emergency Plant Pest categories. The EPPRD provide that EPP will be categorized based on potential impacts on public health, environment or amenity values, regional and national economies, trade and market access, and control or production costs. The four EPP categories determine the cost sharing arrangement between Industry and Government Parties, as follows:

Category	Funding Ratio	Summary of category characteristics
Cat.one	100% government	Large impact on the environment, human health or amenity flora values and relatively little impact on commercial crops
Cat.two	80% government 20% industry	Significant impact on amenity flora and/or environmental values and/or effects on households, or very severe regional and national economic impacts
Cat.three	50% government 50% industry	Minor adverse impact on public amenities, households or the environment, and/or moderate trade implications and/or national and regional economic implications
Cat.four	20% government 80% industry	Primarily affects commercial cropping industries, with minor or no economic, trade or environmental impacts

Underpinning the EPPRD is PLANTPLAN, the agreed technical response plan used by jurisdictions and industry in responding to an EPP incident.

It provides nationally consistent guidelines for response procedures under the EPPRD, outlining the phases of an incursion (investigation, alert, operational and stand down), as well as the key roles and responsibilities of industry and government during each of these phases. It incorporates best practice in EPP responses is updated regularly to incorporate new information or address gaps identified by the outcomes of EPP incident reviews.

[293] http://www.planthealthaustralia.com.au/go/phau/epprd

5.5 Functioning of the internal market: Plant Passport system

Measures of the intra-EU plant health regime have aimed to guarantee the functioning of the internal market (through the plant passport system), as well as establishing the possibility of maintaining the quarantine status of certain HOs even though these had been introduced or established in some areas within the EU (through the concept of Protected Zones).

The limitations of these tools have been highlighted in the evaluation of the CPHR to date, and therefore there is need to understand what changes would be needed in order to ensure the proper functioning and the achievement of objectives.

5.5.1 Background

As concluded in section 3.5, the current plant passport system was set up at the time of the introduction of the EU Single Market, with the dual objective of ensuring plant health and facilitating trade within the EU, but its implementation during the last 15 years appears to have often created a contradiction between these objectives.

The evaluation identified a number of weaknesses in the implementation of the current system for the EU as a whole. In several MS, significant evidence of interceptions of HOs on intra-EU trade raises questions on the credibility of the system. Within this overall conclusion, it is noted that the implementation of the system as such is not uniform across the EU. Although in some cases (MS/regions/sectors) the system appears to work sufficiently well and significant effort has been put to this since its introduction in 1993, in other cases implementation continues to face serious shortcomings (inadequate compliance, sanctions/penalties not imposed). The lack of harmonisation in implementation is particularly serious in the case of the plant passport system as this is the backbone of internal EU controls.

These shortcomings point to the need for revision with a view to improving harmonisation and ensuring that objectives are being met.

Moving forward, all MS clearly want to continue with the plant passport system, but are strongly in favour of revising it (Q4.7 f). The options for which MS CAs are, as a strong majority, in favour include tightening rules and inspections, harmonising the plant passport document, and setting up an EU wide electronic database of plant passport information for consultation and information exchange by MS CAs. The improvement of staff/resources for the implementation of the requirements is considered a necessary condition in all cases.

General survey results (Q 4.7 CAs / Q 4.5 stakeholders):
What should be done in future at EU/MS level to ensure that plant health rules make a greater contribution to improved and safe intra-Community trade in plants and plants products?

- All MS CAs (25 MS) that responded to this element of the survey and 19 stakeholders (out 24, 5 do not know) are against abolition of the plant passport system;
- 24 out of 25 MS CAs (1 do not know) agreed on the need for a revision of the system (9 out of 25 stakeholders, 10 do not know); 25 MS CAs (out 26, 1 do not know) are in favour of harmonization (18 out of 25 stakeholders, 5 do not know);
- 24 MS CAs (out of 26, 2 do not know) highlight need for improvement of risk analysis in current system (20 out of 24 stakeholders, 3 do not know);
- 19 out of 25 MS CAs (1 do not know, 6 out of 24 stakeholders, 4 do not know) are in favour of tightening up rules and increasing the number of official inspections, while none of the MS CAs and only 2 out of 25 stakeholders (7 do not know) are suggesting a decrease in number of official checks or relaxation of rules;
- 19 out of 25 MS CAs (4do not know)are in favour of setting up an EU-wide e-database of plant passport information (15 out of 25 stakeholders, 5 do not know);
- 14 out of 26 MS CAs (3 do not know) are in favour of dropping the option that plant passport can consist of two documents (4 out of 24 stakeholders, 12 do not know);
- 13 out of 25 MS CAs (3 do not know) would like to modify the system for exceptions of small producers (12 out of 24 stakeholders, 9 do not know);
- 13 out of 25 MS CAs (2 do not know) are in favour of modifying the system of exceptions for final consumption products (12 out of 24 stakeholders, 9 do not know);
- 13 out of 26 MS CAs (3 do not know) are in favour of expanding the scope of plants/plant products for which plant passports are required (3 out of 25 stakeholders, 11 do not know);
- 13 out of 25 MS CAs (6 do not know) are in favour of simplifying documentation requirements (19 out of 25 stakeholders, 4 do not know);
- 13 out of 26 MS CAs (4 do not know) are in favour of attaching the plant passport to the individual plants or smallest units, (2 out of 25 stakeholders, 9 do not know);
- 12 out of 26 MS CAs (1 do not know) are in favour of improving the producer registration system (10 out of 25 stakeholders, 2 do not know);
- 25 out of 26 MS CAs (and 18 out of 24 stakeholders, 4 do not know) agree on the need of an improvement of staff resources and training for national authorities, 23 out of 26 MS CAs (1 do not know) to improve resources for implementation of requirements (22 out of 25 stakeholders, 3 do not know).

5.5.2 Options and analysis

In this context, the options identified for further consideration are as follows:

i. Status quo (with emphasis on improving enforcement);
ii. Revise the scope of application, in terms of:
  a. Adjust and define application specificities, e.g. lot or individual plant, source and species to improve transparency and administrative manageability;
  b. Define stage of marketing chain to which plant passports should apply (chain extends from importer/grower to final consumer);
iii. Harmonise plant passport document;
iv. Setting up an EU wide database.

The evaluation results identified a strong need for improving the current system. As it stands, the system was found to have met its trade objectives (facilitating trade within the EU) but to have significant shortcomings in ensuring that the plant health objectives are being met. In particular, the current system in many instances was not found to provide sufficient guarantees that phytosanitary conditions are being met, either by the products to which plants passports are being attached, or by the operators authorised to issue plant passports (due *inter*

alia to the currently system of inspections, deemed to be insufficient, as demonstrated by the 2005 FVO review of the plant passport system[294] and subsequent FVO report updates), nor to allow product traceability back and forward in the chain to ensure corrective action can be taken in case of outbreaks.

These findings were largely confirmed by the feedback of participants to the February conference, with participants generally acknowledging that there is need to review some aspects of the system, although the views on what this may involve were more mixed. This may be due to the fact that implementation and the experience of MS has been so uneven, that it will be difficult to find consensus. There is also lack of sufficient incentives, as compliant cases have invested heavily in implementing the current system, while non compliant cases have no incentive to strengthen implementation. Reluctance and the lack of incentives to revise the system has been demonstrated by the failure of past attempts e.g. to improve harmonisation of plant passport document. These issues need to be taken into account when examining possible options for the future.

A variant option which has emerged from the discussion at the February conference would be to cancel the plant passport document (i.e. going further than option *iii)* below) and replace it by a plant health mark or logo. This draws in particular from the identification system applied in the animal health sector, where a health mark is used on products of animal origin when stipulated by the legislation[295] and in conjunction with the electronic traceability system established in this sector (TRACES[296]). The objective of this option is to improve traceability via a fully harmonised product identification system, supported by an electronic database. Anticipated benefits would therefore include improved identification, traceability, and simplification from the current system. However, the costs of moving to this system could be substantial. TRACES records some 50,000 movements of intra-EU transactions in products of animal origin per month, and the management of the database costs some €2 million per year and involves 10 IT specialists (costs at the level of the Commission alone, excluding MS costs/resources in providing inputs to the database). In the plant health sector, where the scope of products/trade flows is larger, the number of movements is expected to be significantly higher (provisional estimates are that there may be more than a million of intra-EU exchanges per month).

Certain stakeholders and a few MS CAs are advocating the need for increased business operator involvement in the way official inspections are carried out under the plant passport system, with more responsibility given to business operators to carry out checks, particularly

[294] Overview report of the result of a series of missions carried out in MS in order to evaluate the implementation of the Plant Passport System (2005). It covered the results of the missions carried out in 17 MS (BE, EL, DE, DK, IT, SE, SK, UK, NL, PT, FR, SI, CZ, PL, HU, LV, ES).

[295] Where required by Regulation (EC) No 853/2004 (laying down specific hygiene rules for food of animal origin), products must be given a health mark applied in accordance with Regulation (EC) No 854/2004 on official controls on products of animal origin or, failing this, an identification mark applied during or after production; this mark must be legible, indelible and clearly visible for the CAs, and must show the name of the exporting country and the establishment's approval number.

[296] TRACES: TRAde Control and Expert System) is a trans-European network for veterinary health which notifies, certifies and monitors imports, exports and trade in animals and animal products

where self-control and certification systems are in place, and the CA retaining a supervisory and overall control role. This approach is currently followed in the food and feed sector, based on the provisions on food/feed business operator responsibility to ensure food safety under Article 17 of Regulation (EC) No 178/2002.

This issue could be explored further in the context of the option for increased responsibility and cost sharing (Theme E), or under a more fundamental review of the plant passport system. It has not been explored further in this evaluation because the plant passport system was not found to be performing to a standard that would allow taking on this option at this stage. As it stands, the system already allows some delegation of responsibility to operators for plant passport issuing, the implementation of which was found to have some shortcomings. Also, as evidenced by the results of the general survey, the majority of the response has been for at least some tightening of the rules and increase in the number of official controls. Thus, the options which were identified here refer to components of the current system that need to be addressed as a priority, before consideration could be given to whether the delegation of current responsibilities to private operators is further extended to carrying out inspections under own control.

It is noted, however, that an effective and efficient system should optimise the use of resources and synergies that can be created and, in this context, improving the role, responsibilities and involvement of business operators is an important objective longer term.

Recommendation 7:

The analysis of options on the Plant Passport (PP) system suggests that **option ii (**Revise the scope of application) **and iii** *(Harmonise PP document)* are the most recommended, on the basis that they represent the best balance of advantages/disadvantages against anticipated impacts. It is noted that these options are complementary (i.e. can both be adopted), and that, in both cases, they include the improvements suggested in the status-quo (options i).

Table 5-9: Preliminary analysis of options: Plant Passport system

	Plant Passport system: preliminary analysis of each option			
Option:	**Description**	**Impact**	**Advantages**	**Disadvantages**
i. Status quo (with emphasis on improving enforcement)	Improvements with a view to promoting enforcement, including via sanctions or penalties for non compliance.	Low. Relatively low cost (lower than options ii-iv).	• Improves credibility and confidence in system; • Some improvements can be made relatively readily and at low cost.	• In-depth review of the approach to plant passport system is postponed if only this option is considered; • May not be feasible to apply sanctions and penalties; • Do not establish full traceability (back and forward) • Needs uniform application and perception of uniform application to work (*level playing field*).
ii. Clarify the scope and level of application, in terms of:				
		Low-medium-high. Actual costs to depend on implementation.		
a. Plants	Adjust and define application specificities, e.g. lot or individual plant, source and species to improve transparency and administrative manageability.	Medium positive impact on effectiveness in trading pest free plants and plant products. Low negative impact on efficiency as additional work will be required to label each individual plant.	• Increases relevance and effectiveness of the system • Improve traceability • Clarification and transparency	• Unless it is linked to improved enforcement it does not increase credibility of system or plant health status
b. Marketing stage	Define stage of marketing chain to which plant passports should apply (chain extends from importer/grower to final consumer).	Medium positive impact on effectiveness in trading pest free plants and plant products Low negative impact on efficiency as additional work will be required to label plants and plant product at final consumer.	• Increases relevance and effectiveness of the system; • Clarification and transparency in which stages of marketing chain plant passports should be required	• Unless it is linked to improved enforcement it does not increase credibility of system or plant health status
iii. Harmonise plant passport (PP) document	**Harmonisation could be:** • **Full (common**	Low-medium. Actual costs to depend on implementation.	• Improves PP visibility, thus product traceability; • Upgrades the value of the PP as a	• Experience of past attempts has shown excessive difficulties in pursuing this option, particularly

	Plant Passport system: preliminary analysis of each option			
Option:	**Description**	**Impact**	**Advantages**	**Disadvantages**
	document template); • **Partial (common fields in free document template);**	Some distinction may be needed between categories of plants, and harmonisation pursued within each category (rather than across categories), but the number of categories would be limited (e.g. young plants versus others).	plant health document; • Easier to find information; could result in reduced administrative burden for private operators and for NPPOs; • Facilitates inspections • Improve coordination between NPPOs	in the case of full harmonisation; • In case of PP information is included in trade documents, redefinition of trade documents • May lose flexibility for specific sectors with specific requirements.
iii variant	A variant to option iii would be to replace PP document by a health mark or logo, with all the necessary information and details stored in an electronic database.	High. Pre-requisite is full development of electronic database to ensure traceability (option iv).	• Full harmonisation; • Improves visibility (further than PP), thus further product traceability; • Simplification/modernisation of current system; • Can draw from experience of similar system used in animal health (veterinary health mark + TRACES)	• Costs of setting up and running (option iv) can be very substantial; • Only feasible in conjunction with option *iv)*
iv. Setting up an EU wide electronic database	To store electronically plant passport related information. Database accessible only to CAs and registered operators (different access levels and options could be considered, as under EUROPHYT or under TRACES systems).	High. Actual costs to depend on implementation. Can result in potential savings if used in conjunction with option iii, to replace rather than add to detailed information provided in PP document, particularly with variant to option *iii)* (logo/mark).	• Improves degree of transparency between MS; • Improves traceability, especially when combined with option *iii)*; • Can contribute to simplification of used in conjunction with option iii, particularly its variant; • Facilitates updating, referencing and exchanging information between relevant parties; • Can draw from experience of similar system used in animal health (TRACES);	• Can carry significant costs (depending on implementation); • Need to identify appropriate body and resources (COM/MS) for managing database development, maintenance and running; • Feasibility, given the large scope of products/pests (compared to animal health sector) is an issue.

5.6 Functioning of the internal market: tightening the system of PZs

Measures of the intra-EU plant health regime have aimed to guarantee the functioning of the internal market (through the plant passport system), as well as establishing the possibility of maintaining the quarantine status of certain HOs even though these had been introduced or established in some areas within the EU (through the concept of Protected Zones).

The limitations of these tools have been highlighted in the evaluation of the CPHR to date, and therefore there is need to understand what changes would be needed in order to ensure the proper functioning and the achievement of objectives.

5.6.1 Background

As discussed in section 3.6, the evaluation identified a number of weaknesses in the implementation of the current PZ system for the EU as a whole. As in the case of the plant passport system, within this overall conclusion, the implementation of the system has been very variable between MS but also within MS. Despite these variations, it is the performance of the system as a whole that matters because there is significant evidence that the guarantees the system aims to provide are no longer credible. Also, although sanctions or penalties are foreseen, for example removal of PZ status, these are not imposed or are imposed with great delay, therefore contributing to non enforcement.

The identified shortcomings point to the need for revision of the PZ system, with a view to improving enforcement and restoring confidence in the system as well as ensuring that objectives are being met. A significant majority of respondents to the general survey are in favour of the EU moving closer to the IPPC (PFA) concept (ISPM 4), although it is noted that there is significant lack of clarity amongst respondents in the use of the PZ and PFA terms and the manner in which these apply and compare.

5.6.2 Options and analysis

In this context, the options identified for further consideration are as follows[297]:

i. *Status quo with improvements (enforcement):*
    a. *Improve surveillance targets (more proportionate approach);*
    b. *Involve stakeholders;*
    c. *Harmonised eradication programmes;*
    d. *Ending status on time (timing and procedure);*
ii. *Moving to PFA concept:*
    a. *Maintain PZ in addition to PFA;*
    b. *Abolition of PZ system;*

[297] An inherent weakness of the current system appears to be that PZs are defined at the level of administrative borders rather than regions actually experiencing (or susceptible to) the emergence of a certain pest. Some MS are therefore calling for more open models of regionalisation that may group parts of MS or more extensive regions. This option was not pursued further by the evaluation as it is largely seen to be administratively and politically non feasible in the context of the current EU internal market (as concluded in section 3.6.3.2).

Although the findings of the evaluation on the significant failures of the current implementation of the PZ system were largely confirmed by the feedback of participants to the February conference, and despite earlier indications in the general survey response, the conference and subsequent response identified insufficient support for a more profound revision of the system. As in the case of the plant passport system, to some extent this reflects the fact that implementation of PZs and the experience of MS has been very varied, and this makes it difficult to find consensus[298]. MS that currently benefit from PZs largely want to maintain the status quo, while MS that do not benefit or may actually incur costs from the system (for example because their products cannot enter a PZ) want to revise the system. These issues need to be taken into account when examining possible options for the future.

An analysis of the PFA concept and comparison to the EU PZ system was already provided in section 3.6.3). It is important to note that the PZ and PFA concepts are not necessarily alternatives and indeed could be complementary. Both concepts aim to guarantee freedom from pests. However, while the PZ concept in practice focuses on guarantees to prevent the introduction of a pest into the protected zone via intra-EU movements and imports (with the ability to export under the same guarantees being a subsidiary objective), the PFA focuses on ensuring that products can be exported from the area free of pests (with the ability to enforce requirements on guarantees for imported products as a subsidiary objective). In this sense, the PZ system allows protection via specific requirements on imports while the PFA system allows freedom to export via certification. It is therefore possible that a MS or area within an MS applies the two concepts simultaneously.

As also previously noted (in section 3.6.3), the credibility issue (vis à vis third countries) is not unique to the EU PZ system, but these are common problems and relatively frequently occurring with PFA recognition in the WTO-SPS and IPPC context (IPPC established an open-ended working group to examine the feasibility of international recognition of PFAs and concluded that this was not seen as achievable).

In conclusion:

- The key problem with PZ system is loss of credibility from poor implementation, but PFAs can also be difficult to implement and can thus result in poor implementation;
- In this sense, whatever option will be selected the key objective needs to be to restore credibility;
- PFAs are not an alternative to PZs, indeed in the context of the single market (i.e. no internal controls on movement of products within the EU) the PFA concept would be difficult to implement without the form of regionalization currently offered by PZ (protection within the area);

[298] It is noted that in the general survey a large number of respondents (6 MS CAs and 15 stakeholders) indicated '*do not know'*, and it was confirmed that this largely reflects the divergence in positions even within organisations.

Recommendation 8:

The analysis of options for tightening the Protected Zones (PZ) system suggests that **option i (**Status quo with improvements) is the most recommended starting point, on the basis that it represents the best balance of advantages/disadvantages against anticipated impacts, while appearing to be the most acceptable. Longer term, there is also a need to further examine the implications of applying more widely the PFA concept (ISPM 4).

Table 5-10: Preliminary analysis of options: Protected Zones system

	Protected Zones system: preliminary analysis of each option			
Option:	**Description**	**Impact**	**Advantages**	**Disadvantages**
i. Status quo (with improvements)	Improvements suggested with a view to improving enforcement:			
a. Improve surveillance targets	Surveillance scope, coverage and methodology to be agreed at EC level on a case by case based on identified risks and implemented by MS.	Medium Increase in costs and required resources could be significant. Impact depends on approach followed in current surveillance programmes. These higher costs have to be balanced against the potential longer term savings from effective/early detection of risks. Medium positive impact on effectiveness (harmonisation)	• More effective, on the condition that thresholds are defined by resource and statistical level of sampling density (if only sampling density is defined, in effect this defines thresholds); • Improves communication and transparency across MSs (NPPOs and research community).	• Requires careful implementation with extensive surveillance [due to statistical basis for low presence (low threshold with high time period leads to low stat. confidence) – but if criteria relaxed (e.g. density within a certain timeframe) can get statistically valid]; • Could results in significant costs increases in some cases.
b. Involve stakeholders		Low positive impact on costs.	• Lower cost, higher efficiency in addressing risks at source; • Usage of private expertise (e.g. plant breeders, technical institutes, etc.); • More flexibility for operators.	• May take some time to establish optimal relationship between public and private actors.
c. Harmonised eradication programmes	Improve eradication targets, by defining, at the EU level, pan European eradication measures and programmes.	Medium negative impacts on costs Development of eradication plans might incur significant costs. Positive impact on effectiveness, and efficiency depending on model currently followed.	• Coordinated eradication activity across EU (currently very fragmented activities and results); • May enable systematic data collection (significant data gaps currently) thus allowing comparison of experiences and informing	• Feasibility of development of harmonised framework is questionable at this stage, due to significant knowledge gaps on eradication success and failure factors (but outlook promising after outcome of PRATIQUE project).

	Protected Zones system: preliminary analysis of each option			
Option:	**Description**	**Impact**	**Advantages**	**Disadvantages**
			future eradication campaigns with a view to improving success	
d. Ending status on time	Reduce delays (within the 2 year framework foreseen by Directive) by improving both the timing and the procedure for ending status.	Low positive impact on the effectiveness and the efficiency of the PZ system	• Can be done relatively readily and at low cost; • Can significantly improve credibility of the system, both within EU and *vis a vis* third countries;	• Feasibility of pursuing implementation of sanctions/penalties? • PZs
ii. Moving to PFA concept	PFA is a different approach. (ISPM 4 and Supplement 1 to ISPM 5 (guidelines) for official controls within protected area), e.g. status lost immediately in case of outbreak.	Medium to high positive impact on effectiveness Medium negative impact on costs as optimal surveillance will have to be established	• Stronger legal basis for losing status; • Could restore credibility and transparency to system, especially vis a vis third country partners, depending on implementation (specifications for surveillance); • Alignment to IPPC may make this easier to defend (than PZs) to third countries; • Provides new opportunity to restore EU image; • Improves extra-EU trade opportunities; • May lead to harmonisation of PH status within PZs.	• In practice PFA difficult to implement and works better if no previous record of pest; • Difficulty of implementation may result to poor enforcement (i.e. more than current system); • May mean losing trade advantage related to PZ; • Some PZs would disappear (e.g. for *Erwinia amylovora*); • Statistically difficult to demonstrate complete freedom from pest (leading to potentially high costs to provide evidence, that would no longer justify the benefits); • Could restrict intra-EU trade without an effective PZ system (e.g. PWN); • May impose additional hurdles to free movement within EU.
a. Maintain PZ in addition to PFA	Both concepts applied in parallel.	Medium to high negative impacts on costs due to the increased costs to restore credibility of PZs and establish and managed PFAs		• May lead to confusion for third countries and therefore complicate export; • Additional burden to NPPOs

	Protected Zones system: preliminary analysis of each option			
Option:	**Description**	**Impact**	**Advantages**	**Disadvantages**
b. Abolition of PZ system	Use alternative models of regionalisation to guarantee pest free status (i.e. PFA), including demarcated infested zones. Approach can be based on voluntary or/and mandatory models	Impacts to be largely dependent on models to be developed; Low to high positive impact of effectiveness and efficiency as PH measures to be optimised to regional needs.	• Simplification in case of voluntary systems; • Potential gain for some importers/exporters that currently incur higher costs as a result of PZ system; • Better focus on more effective PH measures adapted to regional environment;	• Complex to implement in case of EU mandatory systems; • May introduce difficulties for free movement within EU; • Will not allow imposing quarantine on imports from third countries in current PZs, thus removing current protection (in cases where current protection is effective) and reducing scope for eradication (in cases where this might be feasible); • Possible loss of any current trade advantages with regards to exports from PZ zones; • Will require a complete re-organisation in MS where PZs are largely used; • May compromise more than current PZ system both phytosanitary status and credibility to third countries, if PFA status cannot be efficiently monitored and guaranteed (more difficult application than PZs).

5.7 Incentives

5.7.1 Background

A major issue explored by the evaluation is the availability of incentives at all level, to stimulate the various organisations involved in implementing the CPHR to take responsibility for the plant health chain as a whole.

The evaluation of the CPHR during the last two decades has demonstrated the importance of prevention, rapid notification, early action and appropriate implementation of surveillance, eradication and emergency and – ultimately – containment and control plans, all of which emerged as key elements for the success of plant health strategies. Currently there is a lack of incentives for ensuring these elements are approximately and sufficiently in place. This deficiency is evident at various levels, e.g. for private operators (grower/trader) depending on sector, as well as at the level of the CAs.

The lack of incentives may undermine the achievement of the regime's objectives, as has been demonstrated by some failures of the system in the past. It is crucial therefore to establish clear lines of responsibility and roles for all actors via the proportionate structuring of incentives and sanctions.

General survey results (Q 7.9):

How should organizational aspects be developed and improved in future to ensure the effective implementations of plant health provisions?

- With regard to incentives, the introduction of compensation to operators for mandatory destruction of infested material is considered as an incentive for timely reporting by 21 out of 24 MS CA and 12 out of 22 stakeholders (1MS CA and 7 MS do not know) and as an incentive for the effective implementation of control measures by 21 out of 24 MS CA and 13 out of 23 stakeholders (0 MS Ca and 5 stakeholders do not know);
- The increased use of sanctions for the timely reporting of outbreaks is supported by 16 out of 24 MS CAs and 5 out of 23 stakeholders (3 MS CA and 10 stakeholders do not know); its increased use for the effective implementation of control measures is supported by15 out of 23 MS CAs and 6 out of 23 stakeholders (2 MS CA and 8 stakeholders do not know);
- 17 out of 24 MS CAs and 9 out of 23 stakeholders (4MS CA and 9 stakeholders do not know) are in favour of the introduction of liability between producers as a form of incentive for the effective implementation of control measures;
- Delegation of tasks and duties to other bodies is opposed by 15 out of 24 MS CAs and is supported by 9 out of 23 stakeholders (3 MS CA and 4 stakeholders do not know); more centralization of tasks and duties to the 'Responsible Official Bodies' is supported by 11 out 24 MS CAs and rejected by 15 out of 23 stakeholders (6 MS CA and 6 stakeholders do not know);
- The increase in funding for plant health services at MS level is supported by 22 out of 24 MS CAs and 17 out of 23 stakeholders (1 MS CA and 7 stakeholders do not know); the re-definition of priorities within the national PH budget by 16 out of 25 MS CAs and 11 out of 24 stakeholders (3 MS CA and 12 stakeholders do

5.7.2 Options and analysis

The options identified for further consideration are as follows:

i. Extend current scope of solidarity:
- ***Eradication measures (current scope):***
  - ***a. Extend (within current scope) to cover loss of destroyed material;***
  - *b. Extend (within current scope) to cover business losses;*
- ***New measures (new scope):***
  - ***c. Co-financing of certain measures e.g. surveillance, contingency planning;***

ii. Potential role for cost-responsibility sharing (in line with current discussion on such initiatives in the context of the EU Strategy on Animal Health).

The evaluation results, confirmed by the February conference, identified significant support for strengthening the system by sharing responsibility for all public and private actors involved: CAs (MS/regions, COM) and stakeholders (commercial and non-commercial sectors, professional and non-professional entities). This can be pursued through various measures, ranging from 'soft' interventions such as improving cooperation and networks between the various actors, to involving economic and financial incentives. The latter are pursued through the options that were identified during the evaluation.

Conclusions from the solidarity regime evaluation indicate a strong support to the extension of the solidarity regime to cover the loss of destroyed material (option i.a) but not to cover business losses (option i.b). Compensating producers for business losses is considered a subjective process which can be highly variable in time and space; there is also the added difficulty of calculating costs that are mainly market driven. The general view was that it would be difficult to develop a process that would satisfy the needs of all MS and such an exercise could be highly divisive.

The extensive consultations undertaken during the solidarity regime evaluation as well as the present CPHR evaluation indicate that the reimbursement of the costs of destroyed plant materials would be subject to the fulfilment of prevention measures by the private operators. In addition, it is indicated that private operators should support part of the loss anyway, to ensure a certain level of moral responsibility.

It is noted that, as explained under section 3.12.5, under the Article 68 measures of the CAP Health Check, the development of mutual funds or insurance schemes to support economic losses incurred by farmers due to HO outbreaks is envisaged. 'Economic losses' refers to any additional cost incurred by a farmer as a result of exceptional measures taken by the farmer with the objective of reducing supply on the market concerned or any substantial loss of production. This possibility is based on the modulation principle (making it possible for MS to use, by sector, 10% of their national budget ceilings for direct payments for these purposes) and does not represent additional Community expenditure.

Option ii) was included to initiate a first broad discussion on the issue of the potential EC role for cost-responsibility sharing (CRS), and to update in line with the current parallel initiatives

in the animal health strategy, although consideration of the use of this tool for plant health is not as advanced as it is for animal health while there can be important differences pertaining to the objectives, role and scope of cost-responsibility sharing between these two sectors[299].

The Commission aims to adopt by 2011 a legislative proposal introducing a harmonised EU framework for responsibility- and cost-sharing, which may consider a compensation system based on the categorisation of animal diseases combined with risk-prevention incentives. Among the options presented is the development of an EU harmonized framework for CRSS (Cost and Responsibility Sharing Scheme): either, by establishing an obligation for a gradual introduction of CRSS by all MS respecting certain harmonized criteria established at EU level; or, by establishing the possibility for individual MS to develop CRSS provided that these schemes comply with EU harmonized criteria while allowing others to maintain the option of getting Community co-financing according to the current rules.

Nevertheless, several differences between the animal health and the plant health areas have been identified during the solidarity regime that lead to the conclusion that such a harmonised framework would be more difficult to implement for plant health, notably:

- The plant health area covers a diverse range of crops and harmful organisms which would make such a system both difficult to conceive and implement practically; Moreover many pests are of wider public impact as they also affect public green spaces.
- Overall, producers in this sector are reluctant to support the principle of paying a contribution to a national system. Their view is that current plant health risks are too small to justify such a contribution. This could be explained by the fact that, to date, there have been relatively fewer and smaller scale crises in plant health generating losses for producers/growers in the plant products sector comparable to those incurred in the livestock sector. Only in more recent years, the EU forest and agricultural sector has started to experience certain major crises (e.g. PWN) that have generated losses the scale of which compares to major animal health crises. In view of the challenges of increasing globalisation and climate change, such outbreaks are expected to become a growing phenomenon. Most of the concerned product sectors (e.g. horticulture) are highly fragmented and not well organised. Their membership typically consists mainly of small to medium producers;

Option ii) could also be seen as an ultimate goal, with option i being an intermediary step. However, the refinement of these options (particularly of option ii, for which a number of elements need to be considered) will need further analysis and discussion. With the feedback available to date, it is clear that there is significant scope to pursue some form of cost sharing, although perhaps more with options i) and less with option ii).

It is noted that any of the options will improve both CA and stakeholder involvement, compared to current situation, thus responding to demand for more transparency,

[299] It is noted that a pre-feasibility study on cost sharing schemes in the animal health sector was undertaken in 2005-2006 in the context of the evaluation of the animal health policy (by the FCEC for DG SANCO), which preceded the current Animal Health Strategy.

communication and consultation in decision-making for a more effective and efficient implementation of the regime.

All options assume disincentives (sanctions/penalties) are inherent in the system through the conditions to be attached under each option. Thus, for example, conditions could include removal of the right - in cases of non-compliance - for growers to receive compensation (option i a) and b)), or for CAs to receive co-financing (option i c)).

Finally, all options may use conditions that promote alignment of the plant health regime objectives more effectively to the objectives of environmental policies and the CAP, for example by making payments to growers (option i.a) and i.b) or to MS (option i.c) conditional upon implementation of good agricultural practices (GAPs such as rotation). Examples include commercial schemes like GLOBALGAP and government schemes, like the definition of GAP in the USDA Risk Management Agency crop insurance scheme).

Recommendation 9:

On the basis of the evaluation results, confirmed by the February conference, and the results of the evaluation of the solidarity regime, **option i (a)** (Extend the current scope of solidarity to cover loss of destroyed material) and **option i (c)** (Extend the current scope of solidarity to co-financing of certain measures e.g. surveillance, contingency planning) are the most recommended options.

It is also recommended to carry out further analysis of the possibility to introduce cost-responsibility sharing schemes, in line with the ongoing development of this concept in the animal health field.

Table 5-11: Preliminary analysis of options: incentives

	Incentives: preliminary analysis of each option			
Option:	**Description**	**Impact**	**Advantages**	**Disadvantages**
i. Extend current scope of solidarity (co-financing):				
• ***Eradication measures (isolated outbreaks)***				
a. Extend (within current scope) to cover loss of destroyed material	Expand the range of eligible costs to include the cost of destroyed plant material	COM: Medium impact in terms of higher costs. Actual increase in costs to depend on implementation (eligibility criteria) and potential scope (sectors, HOs). Higher costs to be balanced against the potential longer term savings from early/better detection of risks. High positive impact in terms of increased effectiveness and efficiency due to more rapid notification and eradication.	• Under right conditions, can improve stakeholder involvement and engage them actively in regime implementation. • Under the right conditions, can improve effectiveness of compensation as an incentive for (earlier) reporting; • Position the solidarity regime at producer level (political leverage) • Including destroyed material expenditure in the list of eligible costs for solidarity funding would help to reach the threshold for single small outbreaks. This may be important in the early stages of an outbreak and during the first year of eradication. • Under the right conditions could improve alignment to other EU policy objectives (CAP, environmental); • Could become an integral part of option iii) (cost-responsibility sharing);	• Potentially significant increase in solidarity budget; • Possible additional costs and administrative burden associated with compiling and managing the solidarity dossier; • Risk of creating perverse incentives, unless conditions are attached to ensure correct implementation (such as moving to the direction of option iii: cost-responsibility sharing).
b. Extend (within current scope) to cover business losses		Medium-high. Idem to a.	• Idem to a.	• Idem to a.: increase in costs; risk of perverse incentives; • Difficult to develop a process that would satisfy the needs of all MS.

	Incentives: preliminary analysis of each option			
Option:	**Description**	**Impact**	**Advantages**	**Disadvantages**
• ***New measures (emphasis on prevention)***				
c. Extend to new measures	Measures for co-financing consideration may include e.g. surveillance, contingency planning, prevention of emerging risks and emergency actions.	COM/MS CAs: Medium - High impact in terms of costs. The scale of increase in costs will depend on: • Number and type of HOs surveyed (see section 5.3 for estimates and discussion). • Models of contingency plans (see section 5.4 for estimates and discussion) • Measures for prevention of emerging risks. Implementing a clear cut belt at the frontier between Russia and the EU to prevent the entry of forest pests would impose cut millions of trees. • Measures to put in place in cases of emergency. Higher costs to be balanced against the potential longer term savings from improved prevention and early/better detection of risks, or a more coordinated approach to eradication. High positive impacts in terms of increased effectiveness and efficiency through co-financing a large set of measures to ensure early action.	• Would improve CA involvement and may extend to increased stakeholder participation; • Would improve the uptake of measures, and can foster a more harmonised and transparent approach/uptake; • Can be made conditional on EU coordination; • More equitable, provided level of co-financing takes into account certain criteria: e.g. increased support for poorer MS or MS that are at highest risk of exposure, e.g. acting as frontier for EU; • Under the right conditions could improve alignment to other EU policy objectives (CAP, environmental); • Could become an integral part of option iii) (cost-responsibility sharing);	• Potentially significant increase in costs and required resources, at both EU and MS level;

	Incentives: preliminary analysis of each option			
Option:	**Description**	**Impact**	**Advantages**	**Disadvantages**
ii. Potential role for cost and responsibility sharing (CRS)	In line with current discussion on CRS schemes in the context of the EU Strategy on Animal Health[300].	High impact in terms of costs. Actual increase in costs to depend on implementation and scope, but costs would be spread across participants. These higher costs have to be balanced against the potential longer term savings and benefits from early/better detection of risks, which again would be spread across participants.	• Allows a more systematic and effective approach to sharing responsibilities and providing incentives, by viewing the regime as a whole (rather than the more isolated elements of options i and ii); • Should improve both CA and stakeholder involvement, thus more transparency and consultation in regime implementation; • Harmonised approach followed across related regimes (plant health, animal health); • Could improve alignment to other EU policy objectives (CAP, environmental)	• While CRS may work for some sectors that are highly organized for other reasons (e.g. the potato sector for marketing), it may not work for other more fragmented sectors with disparate interests – however, schemes may be adjusted to fit specific sectoral context and structures; • Not clear what role and participation for non-commercial sectors, including owners for green spaces etc.

[300] While there are similarities and parallels with the animal health sector, it is noted that there are also important differences. The purpose of CRS may be different: for example the need for protection to prevent catastrophic trade impacts or consequences for human health applies for some animal health issues, whereas for many PH issues the need is possibly one of more long-term efficiency, rather than immediate disaster prevention. These issues are discussed in section 3.12.7.

5.8 Other suggestions for future improvements of the regime

5.8.1 Research and development and scientific advise

The EUPHRESCO type of platforms is the correct tool for this coordination and should be established long term. Most of interviewees consider that if EU funding is stopped the platform may be endangered.

The PRATIQUE research project, although still at too early phase to a allow an assessment of its outputs, is nonetheless expected to contribute significantly in improving the generic methodology for conducting PRAs including on economic aspects, in accordance with the requirements of the WTO-SPS Agreement and the guidelines of ISPM 11.

The ongoing erosion of scientific and diagnostic expertise in the plant health domain needs to be stopped, among others by permanent support from the EU Framework Programmes for research and, for short term needs, a specific research budget for the CPHR.

It is recommended that discussions and cooperation between SANCO/EFSA and EPPO continue with a view to identifying complementarities to cover the economic impact of the EU PRAs, complementing the EFSA role.

Recommendation 10:

The definition of a structural role for EUPHRESCO-like coordination of national research funding is recommended, with the establishment of a specific budget for this purpose.

The evaluation highlighted a strong need for sufficient and stable EU and MS resources for funding research projects; for short term research needs, a structural budget within the CPHR could be established in addition to the FP7.

It is recommended that discussions and cooperation between SANCO/EFSA and EPPO continue with a view to identifying complementarities to cover the economic impact of the EU PRAs, complementing the EFSA role.

5.8.2 Diagnostic laboratories

This section summarises the findings of the evaluation on the potential establishment of EU-RLs, taking into consideration EQ17 (area G) of the ToR.

*EQ17. What would be the pros and cons of **Community Reference Laboratories** (CRLs)?*

The views of MS CAs and stakeholders on the future of the diagnostic networks in Europe for plant health were also elicited during the general survey. Results indicate strong support amongst MS CAs for the establishment of CRLs (now named EU-RLs). For the most part, stakeholders have not been able to take a clear position on these questions:

General survey results:

7.7. Diagnostic laboratories carrying out official analysis

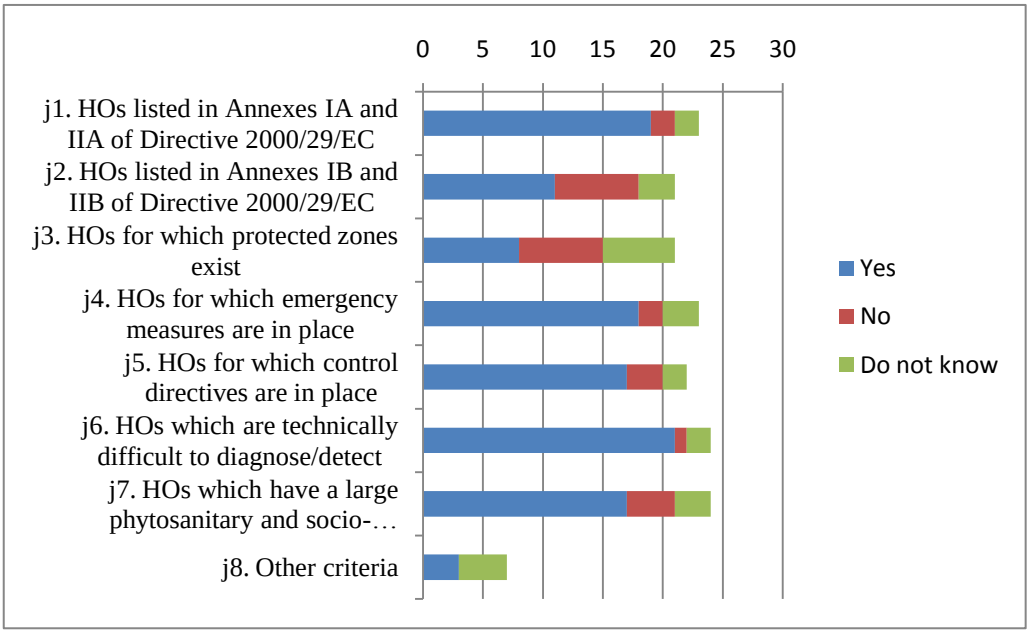
h. Should Community Reference Laboratories (CRLs) be established for plant health (similar to those existing for animal health under Regulation (EC) 882/2004)?

The majority of MS CAs (21 out of 25, 3 do not know) agree that CRLs (s for plant health should be established. Stakeholders mostly do not know (18 out of 22), and 3 responded in favour.

i. If CRLs were to be considered, for how many HOs would they be needed from a technical point of view?

10 MS CAs (out of 25, 8 do not know) believe CRLs should be established for >30 HOs, 5 for 10-10 HOs and 2 for < 2 HOs

j. If CRLs were to be considered, which HOs should be targeted as a priority? MS CA responses:



7.9 How should organisational aspects be developed and improved in future to ensure the effective implementation of plant health provisions?

<u>Improve diagnostic infrastructure:</u>

7.9.k. Consider the establishment of CRLs for priority organisms (to be defined)

The majority (21 out of 23, 1 do not know) of MS CAs are in favour. Stakeholders mostly do not know (17 out of 22), 5 are in favour.

7.9.l. Intensify cooperation with EPPO

24 MS CAs are in favour (out of 25, 1 do not know). The majority of stakeholders are in favour (15 out 21, 6 do not know).

<u>Improve the training provided and the funds available for training:</u>

7.9.m. Develop harmonised inspection methods / systems

The majority of MS CAs (24 out of 25) and of stakeholders (16 out of 22, 6 do not know) are in favour.

7.9.n. Expand BTSF for plant health in general

The majority of MS CAs (21 out of 24 (2 do not know) believe that BTSF should include also training for diagnosticians. 14 (out of 22, 6 do not know) consider that training for plant health in general should be expanded.

7.9.o. Expand BTSF to also include training for diagnosticians

The majority of MS CAs (20 out of 25,3 do not know) believe that BTSF should include also training for diagnosticians.13 out of 24 stakeholders (8 do not know) consider that training for diagnosticians should be expanded.

7.9.p. Promote co-operation between plant health inspectors to ensure effective risk targeting and harmonised application of the CPHR

23 out of 24 (1 do not know), 22 out 24 (2 do not know)

As indicated in section 3.9.2, in the plant health domain, no network of EU and National Reference Laboratories currently exists – unlike the animal health and food safety domains where legal obligations for such laboratories are in place. Also, laboratories in the plant health sector do not have legal basis to demand accreditation, as foreseen for laboratories in the animal health and food safety fields by Reg. 882/2004, and this – in view of an expert – created a legal vacuum to take actions in this sector.

In recent years there has been support for the option to establish NRLs to focus on some pests. Since 2004 there have been discussions between the Chief Officers Plant Health and the EPPO on improving international cooperation and coordination between diagnostic laboratories. In order to promote harmonisation, reliability and efficiency of diagnostic work and laboratories activities, the COPHS concluded that criteria, tasks and responsibilities of NRLs should be determined. A commission Expert Working Group was set up in July 2007 and in September 2007 a Commission Expert WG developed a Guidance paper containing the main elements for the establishment of NRLs and criteria to this effect. The Guidance document was accepted by the heads of NPPOs in December 2007[301] ('Madeira' declaration).

The Guidance paper formulated conclusions on the following points:

1. Reasons for the establishment of National Reference Laboratories (NRLs);
2. Tasks of NRLs;
3. Main criteria for, and possible requirements, of NRLs required to ensure that the tasks can be performed; and
4. Priority list of individual pests or groups of pests for which NRLs are needed.

Among the main criteria listed under point 3, the Guidance Paper established that the NRLs should follow relevant EPPO standards (PM 7/84: Basic requirements for quality management in plant pest diagnosis labs), use diagnostic methods according to ISPM no. 27 (Diagnostic Protocols for Regulated Pests), and have final aim to be accredited according to ISO/IEC Standard 17025:2005. The EUPHRESCO initiative is working on the basis of these principles. Some new detection techniques and ring testing are developing from this work already.

In particular, with reference to issue 4, four criteria were established to decide for which pests NRLs should be encouraged. The pests should:

- Have specific regulation for control (e.g. EU control Directives) and/or official monitoring;
- Require regular official testing;
- Require complex and specific diagnostic tests/procedures; and
- Have a severe impact (currently or potentially) on plant health and trade.

The Guidance paper also identified some organisms, for which NRLs should at least be established, as follows:

[301] The establishment of NRLs is however on a voluntary basis.

Entomology	**Nematology**	**Virology**	**Bacteriology**	**Mycology**
Thrips palmi	*Bursaphelenchus xylophilus*	PSTVd	*Clavibacter michiganensis* ssp. *sepedonicus*	*Phytophthora ramorum*
Liriomyza trifolii; *L. sativae;* *L. huidobrensis*	*Globodera rostochiensis* *G. pallida*	PepMV	*Ralstonia solanacearum*	*Synchytrium endobioticum*
		Plum pox virus	European stone fruit yellow phytoplasma	

Source: Guidance Paper of the EU Expert Working Group on Diagnostic Reference Laboratories in the Plant Health Sector held on 12-13 September in Brussels – Annex II

The establishment of NRLs is a prerequisite for setting up EU-RLs in the field of Plant Health, to align this sector to other fields, such as animal health and food safety, where EU-RLS have been put in place and are functioning. The establishment of NRLs is indicated by some MS as a step to be taken before proceeding towards the establishment of EU-RLs, as a progressive approach is needed to improve the situation. This would also reproduce the progression followed in the animal health field.

A number of advantages are related with the establishment of EU-RLs, with regard to diagnostics and networking, such as efficiency in communication, quality assurance, and common methodologies easily shared among MS. A system of EU-RLs is therefore advocated by some MS in order to streamline, coordinate and share the limited resources and expertises available at national level, in particular in developing and sharing diagnostic methods. EU-RLs would contribute to the increase of the number of validated protocols and to the harmonisation of diagnostic procedures, through the organisation of comparative ring tests for the validation of detection methods. Through ring tests and training, they would also facilitate the accreditation and quality assurance of national laboratories. They will also maintain reference collections and provide reference material. Some knowledge, such as taxonomic expertise, could be more easily shared. Due to the same reason of decline of international and national funding for taxonomists, a MS suggests that for certain groups of HOs specialist centres could be developed for those housing important collections and expertise. It is therefore suggested that EU resources maybe better focused on supporting these specialist centres to raise quality and save 'type' material for the benefit of all states, rather than for routine processing of samples. Another advantage of having established EU-RLs, would be for the Commission the availability of advisory function, which currently is drawn upon the expertise of individual scientists and NPPO staff of Member States. Cost savings related to the establishment of EU-RLs are expected to result from streamlining multiple operations at a central level, therefore avoiding duplication of activities, while developing a common approach at EU level.

However, some MS also point out potential disadvantages related to the establishment of EU-RLs. The main points raised at this regard concern the risk that they may become centres of expertise – operating also drain of competences from other MS - but with the result in a dilution or disintegration of expertise elsewhere. It is suggested at this regard that more than one site of reference for a particular organism should be established as part of contingency planning. Also, incentives to work on particular HOs would be reduced outside the reference laboratory. The risk of having on one side well developed and equipped laboratories that will further develop their expertise, and on the other hand small laboratories that will suffer to upgrade their processes and methods to the EU-RLs requirements is also indicated by another MS, pointing out that the establishment of EU-RLs should not be to the detriment

of laboratories in smaller MS, that may not have the capacity to meet all the requirements. It is reiterated that all national laboratories need a basic level of resources to process intercepted samples in that country, and in most cases the process of detection and identification is best done in the region of interception for reasons of speed and efficiency. The standardization of methods is also seen as negative in a way as it would decrease the diversity of views or approaches to diagnosis. Also, with regard to reference collections, it is specified that those are a basic tool of trade for all diagnosticians; and that local ones are part of larger historic collections of wider scope and with associated expert knowledge.

Another concern is related to 'political' element related to the designation of EU-RLs. With regard to the costs, some MS point out that EU-RLs may result in increased costs for funding them, as well as increase in operational costs for MS NRLs related to heavier procedures (e.g. sending of samples etc.) or to the accreditation scheme.

On the long term, it would be therefore optimal to have a EU-RL for each of the disciplines (nematology, entomology, acarology, mycology, bacteriology, virology), and subset of disciplines, so that they should be able to detect all the 250 HOs. In the short term, the suggested approach would be to establish EU-RLs for a limited number of HOs; for the other HOs, priority should be place at this stage on better coordination and strengthening of national laboratories, with a view to the establishment of NRLs, and a progressive process moving from NRL to EU-RL (as for AH sector). As suggested by one MS, having a NRL in every country would be good, if an effective exchange is implemented and one country takes the lead for better cooperation. Under accreditation of laboratories, every lab would be under the same regime and in principle, should have the same quality standards, with differences based on own priorities.

HOs to which priority should be given for the establishment of EU-RLs are – according to the survey results - those difficult to diagnose/detect, and those listed in Annex IA and IIA of Directive 2000/29/EC.

A MS pointed out that a need for diagnosticians is distinguish HOs from other, non-HOs, i.e. assessing whether other, non-listed organisms should be listed as regulated, non-quarantine species, and this covers hundreds of different generic groups. Therefore it is noted that a EU-RL would also have to house reference specimens for a wide range of genera containing plant-parasitic forms, together with associated biological data such as geographical distribution, so that PRAs could be completed. The suggestion here is to set up centres of excellence for commodities where testing is listed in 2008/61[302] – e.g. Citrus, Malus, Prunus, Vitis, potato etc.

[302] COMMISSION DIRECTIVE 2008/61/EC of 17 June 2008 establishing the conditions under which certain harmful organisms, plants, plant products and other objects listed in Annexes I to V to Council Directive 2000/29/EC may be introduced into or moved within the Community or certain protected zones thereof, for trial or scientific purposes and for work on varietal selections

Recommendation 11:

To enhance the diagnostic capacity in this sector in the EU, it is recommended to complete the establishment of NRLs in MS and to establish EU-RLs for a limited number of HOs. Longer term, EU-RLs could be established for each of the disciplines (nematology, entomology, acarology, mycology, bacteriology, virology), and subset of disciplines.

5.8.3 Training

EQ18 (area G) of the ToR asks how the CPHR requirements for appropriate training of MR plant health inspectors and diagnosticians can be improved.

The evaluation has found considerable budgetary constraints in the provision of such training at MS level and the need to provide more harmonised training at EU level. The appropriate tool for this is the BTSF programme, which started in this sector in 2008 and has so far provided training mainly to plant health inspectors. The evaluation has identified the need to continue this training activity in the plant health sector and to intensify efforts by extending the training also to experts in the diagnostics field.

Recommendation 12:

It is recommended to continue and strengthen training activity in the plant health sector for inspectors and to intensify efforts by extending the training also to experts in the diagnostics field.

5.8.4 EU/MS Emergency Team

This option was discussed under section 5.4, as the minimum action recommended (at a relatively low cost) for improving EU emergency preparedness.

Shortcomings in reaction to outbreaks and in the design of measures were identified in the course of the evaluation. In particular, MS repeatedly advocated the need for quick adoption of measures in case of outbreaks, both in terms of decision-making and actions to be undertaken by CAs for eradication. In particular, MS would like to have more technical assistance and coordination in case eradication plans are put in place, as well as a faster adoption of EU level measures following particular emergency situation (regulatory capacity to address emerged risk situations). With regard to technical assistance, MS also commented that there should be a mechanism to evaluate the action taken (e.g. eradication measures) before or right after the adoption, instead of having an assessment one year later. Also, in this context, it is commented that FVO's inspections take place generally too late, and they are rather focusing on fulfilment of legislation, than providing guidance on measures. Furthermore, some MS suggest the need for on-the spot evaluation by the Commission, spelling out the duties of CAs in cases of outbreaks. These suggestions point in the direction of an ad-hoc taskforce within DG SANCO, to deal with emergency situations.

Drawing a useful parallel with the Animal Health area, it is noted that in this field such a taskforce exists in the form of a Veterinary Emergency Team, whose operation is coordinated by DG SANCO but it is made up by a network of experts from MS, who are consulted in case of emergencies. The

team was established by Commission Decision 2007/142/EC and includes experts in the fields of veterinary sciences, virology, wildlife, laboratory testing, risk management and other relevant areas. The list of available experts is update and approved every year by the SCFCAH. In case of an emergency, the Commission sets up an ad-hoc team with the required expertise for on the field missions in the countries experiencing an outbreak.

The tasks and the purpose of setting up such a team would be to have available expertise to be able to efficiently manage HOs outbreaks, without additional costs (beyond those of the missions) and with potential high benefits for MS who receive qualified high-level technical assistance. This would also contribute to the adoption of more harmonised measures.

Recommendation 13:

The establishment of an EU/MS Emergency Team for Plant Health is recommended, in line with the existing emergency preparedness approach in the animal health field.

5.8.5 Communication and transparency

Recommendation 14:

The need for an increased public and political awareness was a clear outcome of the evaluation. It is therefore recommended that both at EU and MS level public awareness campaigns are developed and implemented.

5.9 The financial framework

EQ 27 How many financial resources should be mobilised and are the necessary financial instruments for the CPHR in place? Is Community financing of the CPHR justified?

This question contains a number of elements, and these are addressed below:

5.9.1 Extent to which Community financing of the CPHR is justified.

All of the consulted MS CAs and stakeholders agree that Community financing of the CPHR is justified, on the basis of the added value of EU intervention in the field of plant health, for the following two reasons:

1) Protecting the internal market of plant and plant products from pests is an issue of common concern to the EU, in addition to being an issue for the individual MS; and,
2) The CPHR objectives ultimately provide certain elements of public goods, such as the maintenance of biodiversity and ecosystem services.

The analysis of the literature indicates that the current CPHR budget is quite limited compared to the budget provided in the animal health sector, but also to the plant health budget of major third country trading partners.

In accordance with Article 3(2)(a) of Council Regulation (EC) No 1290/2005 of 21 June 2005 on the financing of the common agricultural policy, animal health[303] and plant-health measures are financed from the European Agricultural Guarantee Fund under the heading 17 04 (Food safety, animal health, animal welfare and plant health). In particular the following items are subject to Community financial contribution[304]:

Table 5-12 Community financial contribution in the fields of animal health and plant health, relevant budget items

Article/Item	Description
Article 17 04 01 Item 17 04 01 01	Animal disease eradication and monitoring programmes and monitoring of the physical conditions of animals that could pose a public health risk linked to an external factor - New measures
Article 17 04 02 Item 17 04 02 01	Other measures in the veterinary, animal welfare and public health field - New measures
Article 17 04 03 Item 17 04 03 01 Item 17 04 03 02 Item 17 04 03 03	Emergency fund for veterinary complaints and other animal contaminations which are a risk to public health - New measures - Completion of previous measures - Preparatory action — Control posts (resting points) in relation to transport of animals
Article 17 04 04 Item 17 04 04 01 Item 17 04 04 02	Plant health measures - New measures - Completion of previous measures

The table below reports budget allocations for animal health and plant health in the years 2007-2009. Although allocated amounts to budget items can be increased (i.e. in 2008, the €2 million allocated amount was increased to €6.97 million in order to be able to finance the EU contribution towards the eradication in 2007 of PWN in Portugal), there is a clear difference in the scale of funding for animal health and plant health sectors.

Table 5-13 Budget allocations, animal health and plant health, 2007 - 2009

	Appropriations 2009		Appropriations 2008		Outturn 2007	
Item	**Commitments**	**Payments**	**Commitments**	**Payments**	**Commitments**	**Payments**
17 04 01 01	223,000,000	155,000, 000	192,000,000	165,000,000	203,986,516.35	606,051.35
17 04 02 01	18,100,000	13,000,000	17,000,000	13,000,000	14,046,913.32	4,882,231.05
17 04 03 01	30,000,000	60,000,000	160,000,000	73,950,000	9,460,383,57	2,419,385,67
17 04 03 03	4,000,000	4,000,000	4,000,000	4,000,000		
17 04 04 01[305]	2,500,000	2,000,000	2,000,000	2,000,000	1,457,063.19	19,608

Source: Eur-lex, 2009 General budget

In the USA, the 2009 USDA budget allocates US$ 1,167 million for APHIS activities; although it does not separate plant and animal health throughout, US$ 145 million are foreseen on pest and disease

[303] Specific veterinary measures, veterinary inspection measures, animal disease eradication and control programmes (veterinary measures).
[304] Only animal health and plant health items are reported in this table.
[305] Budget under 17 04 04 01 has been increased by transfer to meet the actual needs (14 million €)

management for emerging plant pests, and US$ 67 million for the Fruit Fly exclusion and detection programme, while there are supplementary funding lines covering plant pest surveillance, and emergencies. In Canada, the CFIA budget for the Plant Health Program for 2009-10 (planned spending) is CAN$ 61.3 million (but planned to be reduced to CAN$ 49.9 in 2010-11), although the scope of the programme appears to be larger than the current CPHR, for example on IAS. In Australia, the budget for 2009-10 under the Plant Health Australia (Plant Industries) Funding Act 2002[306] is AUS$ 1,811 million (actual budget). A description of the US and Canada plant health activities is provided in **Annex 2**.

In comparison, the total financial contribution granted in the framework of the Solidarity regime for the years 1999-2009 (10 years) was €29.2 million. It is noted that these figures are not directly comparable, due to differences in definitions and the scope and objectives of the EU versus third country plant health programmes, and do not take into account the value and volume of related plant production and trade, nor the cost-benefit of the various measures taken[307].

In value terms, the share of production of plants and plant products is comparable to that of animals and animal products (Figure 3-17). The share of plant products and animal products in EU exports is also comparable (in 2009, each of the sub-sectors accounted for around 20% of exports of food products). The analysis of potential impacts of phytosanitary outbreaks in section 3.11.2 has highlighted that these can be of a scale comparable to major animal health outbreaks.

The Community financing system developed for animal health is a more comprehensive mechanism than the plant health solidarity regime. This loss-based compensation system is defined in Council Decision 90/424/EEC (the "Veterinary Fund") and mainly consists of two mechanisms:

- The co-funding of the control, eradication and monitoring programmes (budget line 17.0401 of the "Veterinary Fund");
- The Emergency fund for the financing of emergency measures in the event of livestock epidemics (budget line 17.0403 of the "Veterinary Fund").

The control, eradication and monitoring programmes aim at progressively eliminating animal diseases that are endemic in certain areas of the EU, and include checks aimed at the prevention of zoonoses. They cover a wide range of measures including diagnostic methods, vaccination, testing and culling of animals, slaughtering of animals and compensation for all these measures, plus the emergency measures. The scope of such programmes is thus much larger than that of the solidarity regime.

5.9.2 Required financial resources

[306] The purpose of the Act is stated to be: "To require the Commonwealth to pay amounts of levy and charge it has collected on behalf of certain plant industries to Plant Health Australia Limited. The Bill also provides a mechanism for any excess levies or charges that are collected to be appropriated to relevant plant industry research and development bodies." *Plant Health Australia (Plant Industries) Funding Act 2002*

[307] It is noted that some third countries are regularly evaluating the performance and cost-effectiveness of some of their measures, e.g. US, Canada and Australia.

The magnitude of the financial resources that should be mobilised for the CPHR in the future depends on the impact on costs of any modification of the current regime. In this context, a range of options are discussed in section 5, with broad preliminary anticipated qualitative estimates indicated.

The anticipated impacts are direct or indirect and may lead to an increase in costs (and resources required) or to a decrease of costs (and resources required), as illustrated in the following table:

Table 5-14: Direction of impact on EC financial resources of modifications to the CPHR

Type of effect	Increase in costs	Decrease in costs
Direct effect on costs	Intensification of current EC actions; e.g. extension of the scope of FVO missions, more PRA, etc. Extension of current EC actions; e.g. extension of the scope of the CPHR; extension of the scope of the Solidarity Regime; inclusion of new actions such as general surveillance, etc.	Prioritization of current and future EC actions; e.g. prioritization among the outbreaks eligible for Solidarity Funding
Indirect effect on costs	New EC actions; e.g. general surveillance, leading to increased effectiveness and therefore more findings of HO and therefore increased demand for EC co-financing	Improvement of current EC actions, e.g. more rapid decision making in case of emergency, leading to increased effectiveness and therefore reduced eradication costs and demand for EC co-financing New EC actions, e.g. action for awareness-raising or for better sharing of experience between MS, leading to increased effectiveness and therefore reduced eradication costs and demand for EC co-financing

Source: developed by the FCEC

This table highlights the potential direction of the impact on costs of any modification of the current EC intervention on a static basis. Comparable analysis can be done on a dynamic basis for the impacts on EC costs (mainly eradication costs funded under the Solidarity Regime) of:

1. Any modification of the intervention at the level of the MS (e.g. risk-targeting inspection leading to more frequent interceptions of HOs); and,
2. Any modification in the general context (e.g. expanding trade in plant material leading to increased risk of introduction of HOs).

Therefore, it clearly appears that a large range of factors positively or negatively impact on the amount of financial resources that should be mobilized for the future CPHR. Estimating the amount in monetary terms is a separate exercise that needs to be carried out in the context of an impact assessment for specific options and under specific scenarios. For a selection of options for the future, we provide under section 5 a qualitative estimation of their financial impact and – where this is possible - a quantitative estimation on an exemplary basis.

5.9.3 Extent to which the necessary financial instruments for the CPHR are in place:

The adequacy of the solidarity regime as such has been discussed under the evaluation of the Solidarity Fund. The evaluation concluded that:

> *"The solidarity regime was originally conceived as a financial mechanism for reimbursement **a posteriori** of expenses incurred by a MS in the event of a harmful organism outbreak. It was not designed to provide strategic or technical management of eradication/control programmes across the Community. Its scope of action is very limited due to restrictive rules on eligibility criteria and costs. The overall contribution of the solidarity regime to protecting and raising the status of plant health in the Community as well as to the appropriate application of EU legislation is thus very limited.*

To the extent that a more proactive and strategic approach is needed in future for the CPHR, the above conclusions suggest that the solidarity regime as it stands may need to be adapted.

Furthermore, several of the MS CAs interviewed during the field visits indicated the need for more emergency preparedness, for example the current lack of an advisory emergency team with biological, economic, juridical and practical experience.

This confirms the conclusions of the solidarity regime evaluation, according to which, a financial instrument is needed for better preparedness in case of emergency. The evaluation suggests the need to develop an EU emergency team to assist the Commission in supporting MS in phytosanitary matters relating to certain plant pests. Such a team has already been developed in the area of animal health (Commission Decision 2007/142/EC[308]). This option is discussed in section 5.4.

[308] According to the Commission Decision 207/142/EC, "members of the team shall be entitled to an indemnity for their participation in the team's on-the-spot activities and for serving as team leader or rapporteur of a specific mission […]. Reimbursement of travel and subsistence cost shall be paid by the Commission".

Recommendation 15:

The evaluation of the CPHR performance to date, and in particular of the financial framework (solidarity regime) has extensively highlighted the mismatch of currently available resources to objectives, which underpins many of the identified shortcomings and weaknesses. The above analysis of options for the future has in all cases pointed to the need to increase resources and/or prioritise to meet the objectives set out in the options. The Commission will have to reflect on the best option to follow.

The evaluation results have also confirmed the conclusions of the solidarity regime evaluation, according to which, a financial instrument is needed for better preparedness in case of emergency.

In this context, the evaluation recommends that the merits of developing a specific financial instrument in this sector, possibly in the form of a **Plant Health Fund** in parallel to the Animal Health Fund, need to be examined further.

6 Conclusions and recommendations

The evaluation of the various measures implemented under the current Community Plant Health Regime (CPHR) indicates that, in the last 15 years, the policy has only partially been effective in preventing the entry and establishment, or where this has already occurred, in containing the spread of major pest incursions of significant potential economic, social and environmental impact in the EU.

The analysis of the regime's costs and benefits since 1993 demonstrates that the budget devoted to the CPHR to date remains relatively limited and, on a case by case basis, the CPHR has had clear benefits (e.g. *Anoplophora*, *Ceratocystis*, *Erwinia amylovora*, Grapevine flavescence dorée and *Phytophthora ramorum*, as well as potato brown and ring rot). Through the measures imposed in these cases, the CPHR has contributed either to avoid the introduction of potentially injurious HOs or to slow down their spread, resulting in significant overall benefits and cost prevention.

Despite positive results in some cases, the regime overall has not been fully effective in meeting its objectives and, in its current form, was found to have both some stronger and some weaker aspects. A number of areas were identified where improvements are needed.

The identified weaknesses are partly due to the fact that the regime has been in place for a long period and the world has changed. The current regime is the product of a series of ad hoc, rather than strategic or systemic, adjustments to the various developments in the context the regime has operated in (notably: the introduction of the Single Market in 1993; successive EU enlargements in 1995, 2004 and 2007; EU international and bilateral relations). This is the first time that an opportunity exists to develop this policy area on the basis of a more complete and coherent strategy. A larger EU of 27 MS has meant that there is a more diverse range of climatic and pest situations to address than ever before, and trade is now truly global with new origins and products being continuously introduced, often with very short timescales. Evidence of failure of the current regime to respond to new challenges is the fact that it has not prevented some major new pests from entering the EU (e.g. *Anoplophora* sp., *Rhynchophorus ferrugineus*, PWN), in many cases largely due to the fact that new pathways that pose plant health risks have been discovered too late.

Several measures were assessed to have only partly been useful or effective. This is mostly attributed to a number of underlying factors including: implementation gaps and the lack of a harmonised approach between MS; significant constraints in the availability of staff and resources devoted to plant health at all levels (EU, MS, research bodies and diagnostic facilities etc.); the lack of clarity in certain legislative provisions (including on IAS and natural spread); lack of risk-based prioritisation of HOs and lack of targeted, risk-based prioritisation in the use of scarce resources; limited visibility and public awareness and thus political support to finance and enact the policy; lack of incentives and disincentives (including in the form of sanctions/penalties) or – where these exist – lack of enforcement; and, the limited support and lengthy decision-making process in emergency situations, which results in measures being taken too slowly and too late. These factors often lead to to poor implementation. It is noted that the extensive identification of shortcomings in MS enforcement was due to a combination of the above factors, in particular insufficient resources/capacity, lack of clarity in some provisions of the legal base, but also the fact that infringement provisions are not effectively pursued against MS.

Overall, the current level of emphasis of the CPHR on prevention and early response was found to be largely inadequate. This lack of a pro-active approach manifest itself at various levels: the CPHR financial framework (Solidarity Fund) only acts *a posteriori* and does not cover any measures or activities taken on a preventive basis, before or as soon as, outbreaks or new findings occur; emergency measures are generally adopted too late, and there is no formal framework or support to deal with emergency situations; contingency plans are not systematically put in place (either at MS, or at EU level); efforts to undertake more general surveillance (beyond compulsory surveillance) are relatively limited (with significant variation between MS) and are neither systematic or coordinated. In conclusion, therefore, the current policy has clearly shown some limitations (section 3).

Moving forward, the more general conclusion that can be drawn from the analysis of future challenges points to the evolving nature of risks, particularly in the context of climate change and increasing trade: it is generally acknowledged that globalisation is the overriding challenge, with climate change adding to the complexity and range of potential impacts. These challenges are not unique to EU plant health policy, but exert a wider impact on countries around the world. At the same time, MS CAs (National Plant Protection Organizations - NPPOs) are increasingly confronted with recurrent obstacles at different levels, including the lack of resources and insufficient knowledge on emerging pests.

In view of the relative success of the regime so far, the majority of MS CAs and stakeholders believe that the CPHR scope and objectives, as reflected in the development of the intervention logic in the period 1993 to date, are still being met and are still appropriate. At the same time, the majority of MS CAs and stakeholders considered the current CPHR to be only partly suitable to mitigate risks introduced by new challenges, in particular by climate change. On balance, the general view would be that the plant health regime needs to respond to the new challenges, by building on those stronger aspects of the regime that have been proven to work well and addressing the weaker areas: evolution rather than revolution is needed. A key feature of the new intervention logic that was developed by the FCEC on this basis is that it proposes an adaptation to the current regime rather than a complete change (section 4).

The identified strengths and weaknesses of the current system, and the evolving challenges and constraints (opportunities and threats) point to the need for the future EU plant health regime to

promote approaches that ensure more prevention, more rapid reaction, better risk targeting and more solidarity at EU level to tackle risks of EU significance. Potential options for improvement have been developed in this context and a preliminary assessment was carried out, on the basis of the wide stakeholder consultation carried out by the FCEC during this evaluation (section 5).

The results of the analysis of the options provide recommendations on those options that represent the best balance of advantages/disadvantages against anticipated impacts. It is noted that these options are complementary and, in all cases, the assumption is made that the improvements suggested in relation to the status-quo will be taken on board. The key recommendations provided under these options are that:

- The scope of the regime needs to be clarified, in particular in terms of the coverage of IAS and measures to effectively address natural spread;
- Some of the tools provided by the CPHR regime (e.g. import controls, emergency and control measures, surveillance) are considered to be appropriate and effective overall if appropriately/ adequately applied, as well as strengthened where needed;
- A number of other tools (in particular intra-EU movement through the plant passport system, and regionalisation through the PZ system) may need a more fundamental review;
- There is a need for improved communication and consultation, involving all actors with an interest in plant health (including the wider public through public awareness approaches), assigning and clarifying responsibilities amongst the various actors involved, and building effective incentives and disincentives into the system;
- Raising public awareness, in particular, on the significance of plant health for EU plant resources and the economic viability of the sectors affected, beyond agriculture and forestry as such, remains a key challenge and opportunity for the future;
- Greater coherence can be pursued with certain other sets of EU legislation, in particular on S&PM marketing, including a review of the appropriate positioning of RNQPs;
- An important element of future policies needs to be the advancement of research and development, including on PRA methodology to assess and demonstrate the full potential economic impacts and benefits of different courses of action, and in particular action focused on prevention and early response;
- To respond to the need for improvement in diagnostic capability throughout the EU, recommendations are made to promote the progressive establishment of reference laboratories and networking of laboratories, including the designation of EU-reference laboratories for a limited number of key pests of EU significance.

The contribution of the various options and recommendations towards the various identified needs and objectives is depicted in the table below. The priority assigned to each option and need for further assessments are also highlighted. The overarching objective in all cases is to improve prevention.

Table 6-1: Key recommendations for the future and their contribution to achieving the identified needs and objectives

	Specific objective: better prevention								
	Operational objectives:								
Options (most recommended)	**Early detection**	**Early response**	**Risk basis**	**Definition of responsibilities**	**Incentives**	**Clarification[309]**	**Public/political awareness**	**Priority**	**Need for further assessment**
1.Explicit inclusion of IAS plants with wider environmental impacts and/or economic impacts on wider range of stakeholders	✓	✓				✓ (a)		Medium	
2.Inclusion of natural spread in solidarity regime[310]		✓		✓		✓	✓	Medium	To enquire feasibility of pursuing implementation of sanctions/penalties.
3.Zero tolerance regime			✓			✓ (b)		Low	A separate impact assessment is recommended in order to examine scope of HOs involved and to ensure coherence with S&PM legislation
4. Imports									
For emerging risks: commodity pathway analysis [311]	✓		✓			✓ (a)		High	A cost-benefit analysis may be required
For plants for planting/PM strengthen measures: *a. Official[312] post entry inspections for latent HOs*	✓							Medium	A cost-benefit analysis may be required
b. Introduce import bans where necessary			✓					High	Acceptability of ban needs to be further assessed
5.Surveillance									
Development of common principles and guidelines for harmonized surveillance and reporting	✓					✓	✓	High	
General surveillance mandatory at EC level for priority HOs[313]	✓	✓		✓			✓	High	Prioritisation criteria to be defined.
Introduction of co-financing for surveillance	✓	✓	✓	✓	✓		✓	High	Assessment to be conducted under solidarity funding scope

[309] Where appropriate, clarification is further indicated in terms of: (a) alignment to international standards; (b) better coordination of EU policies
[310] Consideration of solidarity funding for natural spread to be addressed on a case by case basis (e.g. in line with conclusion of 2008 solidarity regime evaluation).
[311] This concerns particularly new trade in plants for planting/ propagating material (PM).
[312] "Official" refers to form of inspection and not agent (the issue of whether the agent would be a CA or licensed private sector inspector is not addressed here).
[313] Other than Emergency Measures, Control Directives and PZ

	Specific objective: better prevention								
	Operational objectives:								
Options (most recommended)	**Early detection**	**Early response**	**Risk basis**	**Definition of responsibilities**	**Incentives**	**Clarification[309]**	**Public/political awareness**	**Priority**	**Need for further assessment**
6.Emergency actions									
Horizon scanning			✓					High	
Compulsory development of contingency plans according to harmonized framework		✓		✓	✓		✓	High	To be analysed whether these should be general or pest specific; degree of involvement of stakeholders
Speed up process for adoption and adaptation of both emergency and control/eradication measures		✓		✓				High	
7.Plant Passport system									
Clarify the scope and level of PP application, in terms of: *a. Plants*; b. *Marketing stage*			✓			✓		Medium	Further detailed analysis of scope required
Harmonise PP document						✓		Medium	A separate study is recommended in order to examine scope for harmonisation
8. Protected zones									
Status quo (with improvements)of PZs: *a. Improve surveillance targets,* *b. Involve stakeholders,* *c. Harmonised eradication programmes,* *d. ending status on time*				✓	✓	✓		Medium	More detailed analysis needed of implications of moving to PFA and possible coexistence of PZs and PFAs
9.Incentives									
Extend current scope of solidarity: Eradication measures (current scope): a. Extend (within current scope) to cover loss of destroyed material			✓		✓		✓	High	Further detailed analysis of scope required
Extend current scope of solidarity: New measures *Measures for co-financing consideration may include e.g. surveillance, contingency planning, prevention of emerging risks and emergency actions.*	✓	✓		✓	✓		✓	High	Further detailed analysis of scope required
Further recommendations									

	Specific objective: better prevention								
	Operational objectives:								
Options (most recommended)	**Early detection**	**Early response**	**Risk basis**	**Definition of responsibilities**	**Incentives**	**Clarification[309]**	**Public/political awareness**	**Priority**	**Need for further assessment**
10.Research & Development	✓	✓	✓			✓	✓	High	
11.Diagnostic laboratories	✓	✓	✓	✓		✓		High	
12.Training	✓		✓					High	
13.EU/MS Emergency Team		✓		✓		✓	✓	High	
14.Communication and transparency							✓	Medium	
15.Financial framework	✓	✓			✓		✓	High	

High: action recommended within the following year

Medium: action recommended within 1 to 5 years