Liberté • Égalité • Fraternité
RÉPUBLIQUE FRANÇAISE

MINISTÈRE
DE L'AGRICULTURE
DE L'AGROALIMENTAIRE
ET DE LA FORÊT

ECOPHYTO PLAN II

AGRO-ÉCOLOGIE
PRODUISONS
AUTREMENT

ECOPHYTO PLAN II: BACKGROUND

France has the largest utilised agricultural area in Europe, extending to 28.98 million hectares and outstripping Spain (23.65 million hectares) and Germany (16.7 million hectares). French soil is used primarily for the production of cereals, sugar beets, oilseeds and potatoes, but is also used for perennial crops (vines and fruit trees in particular). France is the European leader in cereal crops, accounting for 9.5 million hectares and 67.3 million tonnes, of which wheat accounts for 5.3 million hectares and 38.6 million tonnes. Germany dedicates 6.5 million hectares to cereal crops (47.8 million tonnes), of which 3.1 million hectares are given over to wheat (25 million tonnes), while Spain dedicates 6.2 million hectares to cereal crops (25.4 million tonnes), of which 2.1 million hectares are given over to wheat.

French agricultural production is the largest in Europe, accounting for 18.3% of European production and EUR 75 billion (of which EUR 40.4 billion is in the crop sector) and placing France ahead of Germany (EUR 53 billion, of which EUR 25 billion is in the crop sector) and Italy (EUR 50 billion, of which EUR 29 billion is in the crop sector). Cereal production in France is worth EUR 9.9 billion, equivalent to 13.2% of national production, ahead of Germany (EUR 6.8 billion) and Spain (EUR 3.9 billion).

The gross value added of the French agricultural sector is thus EUR 25.5 billion, behind Italy (EUR 29.3 billion) and ahead of Spain (EUR 23.3 billion) and Germany (EUR 18.9 billion). Consequently, France's contribution accounts for 15.5% of the gross agricultural value added of the European Union.

France is ranked second in the agro-food industry sector with turnover of EUR 160 billion, behind Germany with EUR 170 billion but ahead of Italy, with EUR 114 billion.

In terms of the quantity of active substances sold, France is Europe's second-largest seller at 66 659 tonnes, behind Spain (69 587 tonnes) and ahead of Italy (49 011 tonnes). In terms of use, France is ranked ninth in Europe for the number of kilograms of active substances sold per hectare, at 2.3 kg/ha.

Source: 2013 data, Eurostat

INTRODUCTION

The Ecophyto Plan I, launched in 2008, aimed to reduce the use of plant protection products by 50% within ten years, if possible. It falls under the framework of European Directive 2009/128 on the sustainable use of plant protection products, which calls for Member States to apply '[n]ational action plans aimed at setting quantitative objectives, targets, measures, timetables and indicators to reduce risks and impacts of pesticide use on human health and the environment and at encouraging the development and introduction of integrated pest management and of alternative approaches or techniques in order to reduce dependency on the use of pesticides.'

Between 2009 and 2014, a number of structural actions were implemented as a result of active engagement among the agricultural community and recognised by the plan's various stakeholders. The initial results from the DEPHY network of pilot farms supported the idea that reduced dependence on plant protection products could go hand in hand with good economic performance for **farms.** The 3.93% of utilised agricultural land and 5.4% of organic farms at the end of 2013[1] (these figures continue to rise) serve as both reference and testament to this. At national level, however, the plan has not delivered the desired results, as the use of these products rose slightly (5%) between 2009-2010-2011 and 2011-2012-2013.

The key challenge, however, is showcasing and deploying the low-use and high-performance techniques and systems that have been tried and tested by a small number of farms to as many people as possible. The challenge lies in making these widespread, moving from pioneering farmers, local communities and individuals to all relevant stakeholders, because if the initial results have been proven by a few, further work is needed to reverse the trend at national level.

In light of changes that have emerged since 2008 in what is known about their effects on human health, particularly the health of their users but also on the environment, on biodiversity and on their dependent ecosystem services (such as pollinators), it remains essential that the use, risks and impacts of plant protection products be reduced.

Furthermore, if the future competitiveness of our agricultural sector is to be assured, it will be necessary to break away from our dependence on plant protection products, which represent a significant cost for farms, and to ensure that the assessment of these products continues to become ever more rigorous, complex and costly. This objective must be pursued, while limiting any loss of equal treatment between countries, which leads to distortion of competition.

Public action must be continued in order to meet the objective of reducing the use of plant protection products and the risks and impacts relating to that use, while continuing to ensure high-quality and high-yield production and good economic and technical performance.

Both the government and Parliament have demonstrated their desire to maintain this objective through the adoption of three legislative texts.

[1] Source: Agence BIO

Law No 2014-1170 on the future of agriculture, food and forestry of 13 October 2014 promotes agro-ecological systems[2] and establishes several innovative schemes, notably the implementation of the trial use of certificates for low plant protection product use, and a plant-centred pharmacovigilance mechanism.

The law of 6 February 2014, known as the Labbé Law, prohibits the sale of plant protection products to private individuals and restricts the use of these products in planted spaces, forests and promenades under the management of public authorities. Article 68 of Law No 2015-992 of 17 August 2015 on energy transition for green growth extends these restrictions on use to public highways and brings the date of application forward to 1 January 2017 for local authorities and other public stakeholders.

Furthermore, the government has removed certain derogations for the aerial application of plant protection products under the Order of 19 September 2014.

In this context, and under application of the European Directive on the sustainable use of pesticides (2009/128), Prime Minister Manuel Valls tasked MP Dominique Potier with submitting recommendations for a new version of the Ecophyto plan.

The MP submitted his report on 23 December 2014. In this report, he noted that the conditions required to meet the objective of reducing plant protection product use in France have been created, but on an insufficiently large scale. He made 68 recommendations for a new version of the plan.

Ecophyto II was developed on the basis of these recommendations and through consultation with the plan's stakeholders and the public.

The target of a 50% reduction in the use of plant protection products in France within ten years has been renewed, under a two-phase timeframe. The first phase aims for a 25% reduction by 2020 through mainstreaming and optimising currently available techniques. The second phase aims for a 50% reduction by 2025. This will centre on far-reaching changes to production systems and sectors, supported by medium- and long-term policy determinants and by scientific and technical advances. The transition between these two periods, within five years, will offer an opportunity to review the plan, in accordance with the requirements of Directive 2009/128.

The plan will be monitored at national level through the use of a set of indicators for use intensity (number of unit doses, treatment frequency index), quantity (amount of active substances sold), risk, impact, and changing practices.

Ecophyto II consolidates certain structural actions from the first period of the plan, such as the DEPHY farm and trial network, the Certiphyto individual certification mechanism, information sharing tools, such as crop health bulletins or the EcophytoPIC integrated pest

[2] Article 1(2) of the Law on the future of agriculture, food and forestry of 13 October 2014: 'These systems promote the autonomy of farms and the improved competitiveness of those farms, by maintaining or increasing their economic viability by enhancing the added value of production, and by reducing their consumption of energy, water, fertilisers, plant protection products and veterinary medicinal products, particularly antibiotics.'

management portal, and user safety measures. It also creates the conditions for the dynamic needed for wide-scale change and for widespread dissemination of the principles of integrated pest management, and primarily the implementation of preventive measures as part of a holistic approach. In accordance with the law on the future of agriculture, a trial certification mechanism for low plant protection product use will be introduced in mainland France on 1 July 2016. This will facilitate the widespread dissemination and uptake of reduction techniques for the use of plant protection products.

Funds allocated for research and innovation will be enhanced, particularly with regard to the development of innovative solutions that have a lower impact on health and the environment and of alternatives to plant protection products and the impact linked to their use, with a focus on economic, environmental and social performance.

Ecophyto II also aims to support local authorities and other public stakeholders, as well as amateur gardeners, in applying the use restrictions prescribed by law.

As regards governance, Ecophyto II will be co-governed by the Ministers for Agriculture and for the Environment. This governance will be streamlined and will involve all stakeholders.

Further emphasis will be placed on courses of action at regional level with a view to promoting the development of collective dynamics and sectors and supporting professional investment in high-performance agricultural equipment. Herbicides will be a territorial action priority.

Particular focus will be given to aligning all public policies that, whether directly or indirectly, serve as drivers in fulfilling the objective to reduce the dependence of production systems on plant protection products.

Ecophyto II is therefore consistent with the following key public policies:

- **the Common Agriculture Policy**

The CAP is currently already aligned with the objectives of Ecophyto II through a number of schemes (agro-environmental and climatic measures).

- **the national environmental health plan (PNSE3)**
- **the national work and health plan (PST3)**
- **other plans supporting the agro-ecological project:**
  - ***2017 Ambition Bio [Organic Ambition] programme***
  - ***Seeds and sustainable agriculture plan***
  - ***Bio-gas energy plan***
  - ***Plan for the sustainable development of apiculture***
  - ***Plant proteins plan***
  - ***EcoAntibio Plan***
- **the national food programme**
- **the national plan for actions to promote wild bees and pollinators**

Implementation of the agro-ecology project as a whole will seek to create a leveraging effect, in addition to mobilising tools such as financing available under rural development programmes (RDP) or the Fund for Agricultural and Rural Development (CASDAR).

There will be enhanced exposure monitoring and increased measuring of the impact of plant protection products, contributing to the implementation of a holistic plant-centred pharmacovigilance mechanism so as to better target risk-reduction actions. The budgetary envelope for the implementation of Ecophyto II has increased slightly as a result of the broadening of the base for the non-point pollution charge to encompass Category II active substances classed as carcinogenic, mutagenic or toxic for reproduction (CMR2), under the decree of 6 October 2014. As a result of this increase, the financial envelope for the plan has increased from EUR 41 million to approximately EUR 71 million per year as of 2016. The additional annual EUR 30 million envelope will be used primarily to provide financial support to farmers to enable a significant reduction in the use of plant protection products and the risks associated with their use.

To meet the target for 50% reduction in the use of plant protection products by 2025, and thereby ensure greater containment of the risks linked to these products, in keeping with the objectives of the European framework as set out under Directive 2009/128/EC of 21 October 2009, and a decrease in the dependence of the agricultural sector on these products, it is important that all stakeholders be fully engaged. Ecophyto II forms part of France's agro-ecology project; in this spirit, governance of Ecophyto II must be consistent with governance of the agro-ecology plan.

SEVEN PRINCIPLES

Ecophyto II will commit to observing the following seven principles:

- **Stay on course for a 50% reduction by means of a two-phase approach:**

- a 25% reduction by 2020, based primarily on optimising production systems through the transfer and dissemination of currently available solutions;

- a 50% reduction by 2025, made possible by far-reaching changes to production systems and sectors, supported by medium- and long-term policy determinants, by an ambitious training policy, and by scientific and technical progress.

- **360° impact monitoring**

All risks linked to plant protection products (on human health, not just that of users, and on the environment) must be controlled under a holistic and comprehensive approach.

- **Form the backbone of the agro-ecological project**

The objective of reducing the dependence, risks and impacts related to plant protection products has been incorporated into the agro-ecology project. This approach aims to bring about a gradual paradigm shift that brings together all stakeholders across sectors and territories, with a focus on economic, environmental and social performance.

- **Place business at the heart of the mechanism**

The plan will focus heavily on drivers that promote the use of alternative practices by businesses, while taking account of the factors that play a part in the use of plant protection products (production system focus, crop rotation, work organisation, available equipment, economic performance determinants etc.) and allowing company leaders to choose the development trajectory that is right for them.

- **Work together**

Preference will be given to group approaches, actions undertaken on a wider scale than land parcel or farm level, and sectoral projects.

- **Work at local level**

Greater focus will be placed on guidance and implementation at regional level. The number of actions will be increased, with particular attention being given to consideration of issues relating to the use, risks and impacts of plant protection products across all relevant regional action plans and strategies.

- **Create a positive ethos**

Developing agricultural production and area management methods based on synergies between agronomy and ecology is a positive and modern challenge. As such, it centres on technical progress and on the mobilisation of all stakeholders: awareness-raising among the general public will showcase the timely and essential role of this issue in the shift within French agriculture towards systems that offer good economic, environmental and social performance.

PRIORITY AREAS AND ACTIONS FOR ECOPHYTO II

Ecophyto II is built around six priority areas, which aim to:

1. bring about change in practices and systems;

2. scale up research, development and innovation efforts;

3. reduce the risks and impacts of plant protection products on human health and the environment;

4. phase out the use of plant protection products wherever possible in gardens, planted areas and infrastructures;

5. support, through the promotion of stakeholder involvement, the territorial application of the plan in line with local limitations and opportunities; boost ownership of the plan among local stakeholders and sectors; and ensure consistency across public policies;

6. centre on dynamic communication and a participatory approach to open up constructive public discussion around the issue of plant protection products, and establish a more streamlined method of governance.

The plan will be implemented in collaboration with all relevant stakeholders within the committee for strategic direction and monitoring (COS). Working groups will also be established for actions that require them (priority area 6).

Some stakeholders with specific skills in the areas of network management or agricultural development may be involved in coordinating actions.

These priority areas identify the policies that may contribute to the objectives of Ecophyto II and certain actions that are specific to the plan.

A glossary of acronyms can be found at the end of this document.

PRIORITY AREA 1: ACT TODAY AND BRING ABOUT A CHANGE IN PRACTICES

After an initial phase dedicated to exploring and benchmarking crop practices and systems with low plant production product use, Ecophyto II will endeavour to encourage farms to adopt drivers that promote the reduced use of plant protection products. As part of a holistic and systemic approach, all drivers that support this objective may be mobilised, from seed quality to crop diversification to alternative weeding techniques.

The trial certification mechanism for low plant protection product use (Action 1.1) will help to ensure the widespread dissemination of methods and investments that support a reduction in the use, risks and impacts of plant protection products. Incentives to use high-performance agro-equipment (Action 1.2) and alternative solutions such as bio-control (Action 1.3) will be improved. Resource and reference capitalisation system and technique testing networks will also be consolidated and utilised to showcase the opportunities for a shift towards low-use practices and systems to as many people as possible (Action 2).

Support will be provided for trials of alternatives to the use of plant protection products (Action 3).

Fulfilment of these objectives will require reform of the crop health newsletter in order to enhance its predictive capacity (Action 5), and a renewed focus on teaching, ongoing vocational training and the overhaul of Certiphyto to secure and reduce the use, risks and impacts of plant protection products (Actions 6.1 and 6.2).

These actions should be undertaken in synergy, and their interaction
should enable the completion of the highest possible number of these actions.

These Ecophyto II actions link in with the actions implemented under other plans and public policies, such as the 2017 Organic Ambition plan, and some of the provisions of the Common Agricultural Policy, particularly the agro-environmental climate measures (MAEC).

1. ENCOURAGE FARMERS TO ADOPT PRACTICES THAT HELP TO REDUCE THE USE OF PLANT PROTECTION PRODUCTS

1.1 CERTIFICATION FOR LOW PLANT PROTECTION PRODUCT USE

Under the provisions of the law on the future of agriculture, food and forestry of 13 October 2014, with a view to reducing the use of plant protection products and the risks and impacts related to their use, a trial certification scheme for the low use of plant protection products (CEPP), inspired by a similar scheme in the energy sector, will be introduced throughout mainland France for a five-year period as of 2016. The principles of this scheme are set out under the Order of 7 October 2015. The decree implementing this scheme will be developed in close collaboration with stakeholders and those affected by its implementation (distributors, farmers).

Distributors (cooperatives and traders), referred to as 'beneficiaries', should promote the application of recognised actions on farms to reduce the use, risks and impacts of plant protection products.

Certificates for low plant protection product use awarded as a result of the implementation of these actions under the last trial year should correspond to a decrease in the use of these products in line with the reduction objectives set out in this plan. The objective, for each distributor, will be set on the basis of sales declared to the national bank for sales of plant protection products by certified distributors (BNV-D), based on data available for the last five years. This will be determined on the basis of years in operation for distributors who began to operate during the trial period. The unit of account will be the plan-monitoring indicator (see point 14 - priority area 3).

A distributor may acquire this certification by implementing recognised actions or by acquiring it from eligible parties, i.e. legal persons other than the beneficiaries, who have also implemented actions intended to reduce the use of plant protection products. Furthermore, at the end of the trial period, a distributor may obtain certification from other beneficiaries.

Actions recognised as reducing plant protection product use should incorporate as many

sectors as possible and be broadly implementable in a clear and accessible format. For example, they might concern bio-control products, varieties that are resistant to or tolerant of pests, or tools for decision-making, advice or investment in equipment that supports a significant reduction in use or avoidance of the use of plant protection products, and the implementation of low-use crop systems.

These actions may be put forward by any stakeholder who wishes to do so. They will be presented to an independent assessment committee before being approved at national level by ministerial decree. Supporting documents and the value of the reduction in plant protection product use will be identified for each action.

Should distributors fail to comply with the obligation placed upon them under the certification scheme, they shall be liable to pay a penalty at the end of the trial period. An individual annual monitoring mechanism will be implemented for completed actions as of the first year to ensure that the reduction trajectory is aligned with what is required of the distributor. Controls will be performed by the regional food departments of the regional directorates for agriculture, food and forestry.

Overall, the certification scheme should be simple and should make use of ergonomic software.

In itinere assessments and *ex-post* evaluations of the scheme will help to ensure that these means-based obligations facilitate a decline in the use of plant protection products as of the first few years in which the scheme is in place, and to assess the performance of the scheme and adjust action plans where required. An initial assessment of the scheme will be conducted two years after its implementation.

1.2 ENHANCE THE USE OF NEW GENERATION AGRO-EQUIPMENT AND DECISION-MAKING TOOLS

Agricultural equipment and decision-making tools have a key role to play in fulfilling the objective of reducing the use, risks and impacts of plant protection products. Support will be provided for equipment or tools for assistance under Ecophyto II to facilitate the proper use of such equipment and tools by farmers.

- **Ecophyto II will help farmers to invest in agro-equipment that has been proven, through independent testing, to offer good economic, environmental and social performance.**

To this end, financing will be made available to support farmers' investments and available tools, such as the competitiveness and adjustment plan for agricultural operators, will be mobilised.

A reference framework of crop-production equipment known to offer added environmental value is currently under development in partnership with the National Institute for Scientific and Technological Research for Agriculture and the Environment (IRSTEA) and technical institutions. Additional financing under Ecophyto II will, in conjunction with the regional managing authorities responsible for regional rural development programmes, be set aside for equipment that has been clearly identified as potentially reducing the use of plant protection products, in connection with actions recognised under the certification scheme

(e.g. mechanical weeding equipment, arboriculture nets, decision-making tools etc.).

- **Significant resources will also be allocated to supporting the development of innovative equipment offering low plant protection product use that also responds to environmental challenges and to the issue of protecting operators, plot re-entrants and local residents.**

Efforts will be continued, in conjunction with priority area 3, on the design of machinery and equipment for collective and personal protection (better understanding by work equipment manufacturers of regulatory and compliance requirements), and in supporting innovation in high-precision agro-equipment.

This will be the objective of the research and innovation programme for agro-equipment provided for under priority area 2.

- **Decision-making tools offer great development potential and could contribute to reducing the use of plant protection products (insecticides, fungicides and herbicides) with a net saving for farms.**

Special focus will be placed on system-based decision-making tools that take account of considerations above plot level.

- **Spraying optimisation will be a focus area**

Support tools will be developed to encourage all farmers to considering adjusting doses to be administered in line with the growth status of crops.

In parallel, controls on sprayers will be made more rigorous, ensuring more effective adjustments to and maintenance of spraying equipment, with a three-pronged objective to limit drift and optimise administration quality and user safety.

1.3 PROMOTE AND DEVELOP BIO-CONTROLS

Existing bio-control solutions and the obstacles impeding the mainstreaming of those solutions will be identified for each sector. To this end, greater assistance will be provided for marketing authorisation requests that concern innovative bio-control product applications. More broadly, investment assistance may be provided in an effort to encourage the development of innovative bio-control companies in France.

The French authorities will endeavour to more effectively consider bio-control solutions under European regulations, with a specific focus on guidance documents relating to micro-organisms, pheromones and organic products, as indicated under Article 77 of Regulation (EC) 1107/2009.

Trial sites and DEPHY network farms will be put forward to trial, present and undertake the widespread dissemination and integration of innovative or emerging bio-control solutions into crop systems, on a voluntary basis. Advice on the move to agro-ecology will incorporate the use of bio-control solutions into an overarching strategy for systemic change wherever possible.

Support will be provided for the development of bio-control solutions for high-input consumption sectors, and to contribute to facilitating 'orphan' treatments, for which no explicit authorisation is available, and identifying bio-control solutions – of which there are currently few – for weed management, including invasive species of concern to agriculture, biodiversity and health.

To support the use of these solutions, their use will be recognised as an action entitling the user to low plant protection product certification.

2. EXPAND TO 3000 DEPHY FARMS ALIGNED WITH ECONOMIC AND ENVIRONMENTAL INTEREST GROUPS AND ORGANIC FARMING

The DEPHY mechanism, which has been built up gradually over a five-year period, currently comprises more than 1900 farms, including 103 agricultural training centres, divided into 187 groups, each of which is led by a network engineer.

This network has already identified close to one hundred crop systems that use small amounts of plant protection product and that are economically competitive, demonstrating that it is possible to combine a significant decrease in the dependence, risks and impacts linked to plant protection products with continued, and even enhanced, sound economic performance.

By promoting an approach centred on learning and change, it helps to encourage farmers to innovate and endeavour to develop systems that are both efficient and low in plant protection product use. It capitalises on and shares knowledge and resources that support that objective.

The network should be strengthened by:

- continuing, as of 2015, the shift towards reduced usage by DEPHY farmers, so as to ensure the ability of the mechanism to run demonstration actions, particularly by applying that commitment to the entirety of the work area and, wherever possible, the operating system as a whole;

- integrating all farms connected to agricultural training centres, and highlighting student information on cultivation techniques that have been implemented to reduce the use, risks and impacts of plant protection products;

- increasing the number of farms that use organic practices within the network:
- analysing cases in which farms that participated in the first stage of the DEPHY mechanism have not reduced their plant protection product consumption, before re-confirming their participation in the next stage of the network;

- developing the mechanism in such a way as to cover all regions and

production types;

Consolidation of the network is intended to encourage other farmers to commit to moving towards lower-input practices. To this end, innovative transfer methods developed by some existing networks (organic farming, RAD-CIVAM [Sustainable Agriculture Network – Living Countryside], GDA [Agricultural Development Group] etc.) will be inventoried and widely shared.

Re-confirmation of farms' involvement in the DEPHY network, which should be completed by late 2015, and its gradual expansion to 3000 farms will be an ideal opportunity to make these changes to the mechanism. A re-balancing, in terms of geography, focus areas and different farm types and the incorporation of the improvements set out above will be sought at this time if needed.

With sectoral approval, stronger relationships will be built with the DEPHY networks to encourage the expansion of the mechanism as far as product distribution at consumer level.

Efforts to open up to other groups involved in agro-ecology will be stepped up. In certain cases, a degree of consistency will be sought with the environmental and ecological interest groups with a view to harmonising the collective dynamics by adopting an integrated approach to plant protection product management and, more broadly, agricultural inputs, at sectoral and regional level.

Efforts will be made to merge data from the various networks (the DEPHY network, data from the AGROSYST tool, the Inosys network, etc.) in order to support and develop cross-referencing between cultivation systems and operating systems. In this context, consideration will be given to data management and feedback in order to free up time for group activities and technique-sharing.

3. SUPPORT TRIALS

Trials, conducted in various conditions that reflect as closely as possible the conditions in which they are used by farmers and using different technical alternatives that help to reduce the use, risks and impacts of plant protection products, remain essential.

To this end, on the basis of work conducted and implemented during Ecophyto I, greater emphasis will be placed on the mobilisation of the EXPE trial network and showcasing and disseminating the network's results.

In order to promote the operational implementation of any technical solutions that are developed, the links between those involved in the EXPE trial network and in DEPHY network farms and those involved in research and innovation (priority area 2) will be strengthened.

The expansion and enhancement of the DEPHY mechanism will be undertaken in support of other plan actions (biological land monitoring, agricultural teaching, risk coverage, agro-ecological transition etc.), and specifically through boosts to the EXPE mechanism.

4. INCREASE THE NUMBER OF FARMERS WHO ARE SUPPORTED IN THE TRANSITION TO LOW-PPP

AGRO-ECOLOGY TEN-FOLD

The dissemination of innovative, low-plant protection product practices will depend in large part on providing support to 30 000 holdings as they move over to agro-ecological systems that make little use of plant protection products.

The DEPHY mechanism will serve as an initial foundation, by sharing knowledge gained on supporting farmers in reducing the use, risks and impacts of plant protection products and on the engineering aspect of the role of the network engineer. The 3000 DEPHY farms will provide points of reference and resources for designing low-use and high-performance systems. Learning and change will be prominent focus areas within these groups. Patronage systems from these 3000 farms, by DEPHY farmers and network engineer structures in particular, which will need to commit to the promotion and ownership of the DEPHY network project, will be encouraged. All development bodies, and particularly Chambers of Agriculture and national bodies for agricultural and rural areas (ONVAR) and agricultural distribution will be invited to support these 30 000 farms. Local technical groups run by advisors, which will bring farmers together on the implementation of different principles for integrated pest management (prevention, growing practices, identification of bio-pests and beneficial organisms, the use of bio-control products, the management of spraying equipment and treatment optimisation etc.) will help to support this.

In parallel, a reference baseline and a training course designed to offer support and advice on the transition to agro-ecology will be prepared.

The 30 000 farms that will undertake to move to agro-ecology may be drawn from other farming networks connected to the DEPHY networks, as well as from other places, and from farms that have formalised agro-environmental and climatic measures that include a target for the moderate use of plant protection products.

Where these are located in territories in which agro-environmental and climatic measures including a target for the reduced use of plant protection products have been established, such farms, and primarily DEPHY farms, will be given priority in the selection for subscription to these measures. This will be underpinned by the effective ownership of Ecophyto II objectives by the regions and by rural development programme management authorities.

Innovative and diverse promotion and transfer tools will be developed (including the EcophytoPIC portal), with a specific focus on demonstration.

5. IMPROVE THE CROP HEALTH REPORT

Under Ecophyto I, an observation network of more than 3500 observers across more than 15 000 plots has been established across the national territory. The crop health newsletter offers each region objective, reliable and regular information on crop health, making it possible to target treatments more effectively. The crop health newsletter should help producers or readers to establish their decision or guidance, particularly on non-treatment: zero or insignificant risk or non-dominant bio-pest on the crop (limited detrimental effect as regards treatment cost).

The crop health newsletter should classify and rank risks, disregarding minor risks (where treatment is unnecessary), while consistently encouraging the reader to go out and observe the situation on the ground. It will therefore be improved with a view to boosting its forecasting capabilities.

The sectoral and inter-sectoral approach to the crop health newsletter, observer networks and the assessment and dissemination of information will be adapted to align with future territorial re-structuring to ensure that this regional information continues to be shared.

- **Position the crop health newsletter as an information source**

The crop health newsletter will be promoted as an information source, and supplemented by the presentation of alternative control methods and prophylactic measures.

The crop health newsletter will highlight methods that have already proven successful, as well as those for development. Publication will coincide with requirements on the ground, in an effort to maximise the operational, pedagogical and decision-making message.

In addition, a risk assessment will provide an operational indication of the non-systematic nature of crop protection treatments that can be used by farmers.

- **Increase the density of observation networks and adapt them to emerging requirements**

Biological territorial monitoring is an advantage in maintaining our export potential. Furthermore, the network needs to make more effective contributions to the monitoring of regulated and emerging harmful organisms, both from third countries and within the European Union. To do this, a degree of consistency will be sought between biological monitoring, official monitoring plans for regulated harmful organisms, and regional blueprints for the control of sanitation hazards.

In order to tailor the networks to local needs, at regional level, the division of plots for observation will be redefined by giving priority to monitoring the local sectors with the highest levels of plant protection product consumption. In addition, efforts will be made to increase the number of farmers participating in observations.

It will also be necessary to study the introduction of a formalised and measured assessment, or a qualitative assessment at minimum, of the harmfulness of various bio-pests on the quality and quantity of harvests (e.g. based on a treated/untreated plot-type network) at the end of the marketing year.

Furthermore, given the dominance of herbicides in the unit dose number (NODU), weed monitoring will be mainstreamed across all regions from 2015. Crop health newsletters will encourage professionals to conduct systematic observations of their plots to make decisions specific to each weed situation. Those involved in this process will receive training and fact sheets that allow for easier and more accurate weed identification will be disseminated.

Monitoring of the unintended effects of treatments on biodiversity will be enhanced, including through the extension of the existing observation network for unintended effects,

as will the observation and classification of the development of resistances to active substances within bio-pest and weed populations. These items are addressed under Action 12.

- **Formalise the involvement of agricultural college farms and DEPHY network farms in observations**

It is essential that all local public learning and vocational training establishments in the farming sector (EPLEFPA) that offer training and awareness-raising to future farm leaders and future agricultural advisors on changes to the agricultural production system be involved. The link between agronomy and crop systems will thus be reinforced: impact of rotations on weeds, observation and optimisation of the use of beneficial organisms and the use of resistant varieties. In this context, learners will take part in observations (initial and ongoing training).

DEPHY observations, both on farms and within EXPE, will be made available to crop health newsletter networks, thereby contributing to the biological territorial monitoring mechanism. Likewise, as part of its work on the assessment of low-use systems, the DEPHY network will be able to access the Epiphyt database.

- **Enhance the forecasting capacity of crop health newsletters and make epidemiological models for bio-pest development forecasting sustainable in the long term**

A mechanism for the recognition of epidemiological models to enhance the predictive accuracy of the crop health reports may be implemented. Work to design and maintain such models will be supported. These models or the results drawn from them will be made available to the crop health newsletter editors.

The reading and interpretation of these models (which may require ongoing training if there is a change in the agents responsible for these areas within the region) are key drivers for fungicide and insecticide treatments in sectors with high plant protection product use, particularly as regards viticulture, fruit farming, vegetables for industrial processing, and potatoes.

Furthermore, the option of allowing regional biological territorial monitoring networks unlimited and free access to the meteorological data required for risk prevention and for the use of these models will be considered.

6. BUILD ON INITIAL TRAINING AND VOCATIONAL TRAINING FOR ACTIVE FARMERS

6.1 RENEW TRADE CERTIFICATION: KNOWLEDGE TO SECURE AND REDUCE THE USE OF PLANT PROTECTION PRODUCTS

- **The individual certification issuance scheme will change over time to allow for knowledge assessment.**

The content of training courses will consequently be adapted and updated with a view to, *inter alia*, creating stronger links with other Ecophyto II actions (the DEPHY networks, the

promotion of integrated pest management and alternative methods, links with agro-ecology, agro-environmental and climate methods etc.). All professionals involved in application, sales and guidance are affected, irrespective of their role or area of activity. Nevertheless, the granting of a certificate that covers a diverse activity sector, such as application, will be on the basis of context-dependent training.

Training aims to reduce the use of plant protection products and ensure their safe use in order to protect human beings and preserve the environment by promoting alternative methods drawn from research and development, and in tandem with other plan actions, particularly observation through the crop health newsletter and the DEPHY pilot farms.

- **The general mechanism, in its new configuration, will be more streamlined and transparent**

This will take effect in early January 2016, coinciding with the first wave of certificate renewals. It is structured in reference to the three professional activity areas:

- Guidance on the use of plant protection products;
- Use of plant protection products for professional purposes, under the 'decision-maker' and 'operator' categories;
- Marketing and sale of plant protection products.

This certificate may be awarded through:

- training tailored to the relevant professional sectors, activities and categories, with assessment of acquired skills;
- skills assessment;
- the holding of a diploma.

Under the 'decision-maker' category, the procedures for the award of a certificate differ depending on whether the applicant has the status of 'operator' or 'contractor'.

- **The certificate will be renewed every five years, by means of a streamlined renewal process to be established on the basis of the certificate activity sector.**

The holding of certification for the application, distribution and guidance on use of plant protection products, valid for a period of five years, indicates an adequate level of knowledge on the part of the holder, in accordance with European Directive 2009/128 on the sustainable use of pesticides.

Access to assessed training is established by bodies authorised to that end by the Regional Directorates for Food, Agriculture and Forestry and the Directorates for Food, Agriculture and Forestry (DRAAF-DAAF). The award of the accreditation satisfies the requirements of a national specification, in an effort to standardise territorial implementation by contractors. The names of accredited training and assessment bodies can be accessed by all parties. This enhanced regional coordination reaffirms the desire for this training to be local in nature and context-centred.

Knowledge to be acquired is set out in Annex 1 to Directive 2009/128, consolidated by the

transfer of knowledge gained through recent research in the field. The plan's scientific and technical committee will ensure the adaptation of such.

The development of new skills tailored to technical and scientific changes falls under ongoing vocational training, which can be accessed by all professionals in accordance with French labour law. Training of this kind complements the certification, and its priority aim is to bring about a reduction in the use, risks and impacts of plant protection products; it may, if approved, give rise to renewal of the certificate.

6.2 DEVELOP A PILOT TEACHING PROGRAMME AND OPTIMISE TRAINING COURSES

The use of plant protection products is central to professional and societal considerations. Training in the controlled use of these products and in alternative practices is a critical challenge for agriculture, alongside environmental and health concerns. It is much more than a set of techniques; it is also a fresh approach to the production system, which should be understood early on in initial training and developed further as part of ongoing training. Ongoing training should also go deeper than regulatory adjustments alone.

The new strategic areas of Ecophyto II, with their focus on the intersections between research, development and training, centre on the mobilisation of scientific and technological knowledge and the transfer of that knowledge to individuals working on the ground, to support synergies between agronomy and ecology and promote a sustainable reduction in the use, risks and impacts of plant protection products.

The integration of Ecophyto II into the agro-ecological plan for France is an attempt to move the agricultural sector towards a new balance for production systems and to contribute to the creation of reference points to support this. This involves technical and regulatory training, a reviewed approach to production systems from an economic, social and environmental perspective, and a greater focus on teaching.

- **Diploma-centred teaching**

The target audience is young: the vast majority of them will be undergoing initial training, whether in school-based education or through an apprenticeship.

The reference baseline has taken account of issues relating to health and safety for several years now, including the use of plant protection products. This reference baseline was drafted in collaboration with the Agricultural Social Insurance Fund (MSA), under the national convention for the incorporation of workplace health and safety into teaching activities (10 January 2012, Ministers for Agriculture and Labour and the Central Agricultural Social Insurance Fund).

To take this work further, and specifically to provide training in the development of alternative practices and integrated pest management, targeted and optional modules have been offered, including diploma-centred training designed for adults.

The action plan entitled 'Teaching Alternative Production' now encourages *the review of the reference baseline and teaching practices* with a view to:

- tailoring training and teaching practices to the complexity of farms' production and decision-making systems;

- adapting the reference baseline at all training levels for diplomas relating to the agricultural production sector to take account of the 'Produisons autrement' [Production: Another Way] process and incorporate agro-ecology into training courses.

Another of these priority areas aims to redefine the pedagogical role of farms in agricultural teaching, but also their role as centres for trials and demonstrations, while contributing fully to the development of alternative solutions.

- **Ongoing vocational training**

Training undertaken following initial training and intended for working adults and young people centres on developing and upgrading skills to respond to changes in the profession. Training funds ensure that ongoing vocational training can be accessed by individuals working either as part of a company or independently.

The OPCA and OCA training funds contribute, through their strategic direction plans and the priorities set by their boards of directors and as a supplement to mandatory certification training, to sustainably reducing the use, risks and impacts of plant protection products, through changes to production systems in particular. The primary aim of this training is to help farmers and agricultural business leaders consolidate their strategic skills with a focus on advancing production systems and implementing innovative technical processes. These ongoing training actions, supported by training funds (notably those supporting systemic changes and the reduced use of plant protection products) may be subject to calls for projects by the Ministries for Agriculture and the Environment.

Some of these training courses, subject to prior recognition of their contribution to the objectives of Ecophyto II, may be taken into account for certificate renewal.

PRIORITY AREA 2: IMPROVE SKILLS AND TOOLS FOR THE FUTURE AND STIMULATE RESEARCH AND INNOVATION

Responding to knowledge and innovation needs is a key issue for Ecophyto II, specifically with regard to the formulation of alternative solutions that offer good technical, environmental, health and economic performance, and as regards support for the gradual replacement of the products that are most damaging to human health and to the environment.

Today, research – alongside training and development – is one of the three pillars in bringing about change within the French agricultural and agro-food economy. There is a clear engagement on the part of the research and development communities around the issues associated with the plan, which extends beyond agricultural circles. Ecophyto II will pursue research that has already been undertaken in this area, build on research on the environmental and health impacts of plant protection products, and launch research and development programmes with a strong emphasis on operational considerations.

A national research and innovation strategy (Action 7) will be drafted to identify priority

research and innovation areas requiring support, which will be set down in an operational roadmap.

On the basis of these priorities, actions will be implemented to organise, guide and coordinate research projects to promote a multi-disciplinary approach and cooperation between all stakeholders (Action 8). These actions will endeavour to boost integrated pest management research initiatives in France and in Europe, to launch operational research and development programmes and to reinforce multi-disciplinary research on the environmental and health impacts of plant protection products.

Promotional activities will seek to raise awareness of the results among those working on the ground, public authorities and training sectors (Action 9).

A link will be created between research and innovation and the research and development activities conducted under priority area 4 for gardens, planted spaces and infrastructure (JEVI) and under priority area 5 for French overseas departments, alongside the trial schemes referred to under priority area 1.

In order to establish, coordinate and implement these actions, priority area 2 will centre on a new collective framework for orientation, scheduling and incentivisation: the Scientific Advisory Committee for Research and Innovation (CSO R&I) (see Action 28.1), drawn from experience acquired from the Pesticides programme of the Ministry for Ecology, and the Expert Research Group under Ecophyto 1. This Committee will be under the joint coordination of the Ministry for Food, Agriculture and Forestry and the Ministry for the Environment, Energy and Sustainable Development, and will include experts from the agricultural sector.

7. ESTABLISH A NATIONAL RESEARCH AND INNOVATION STRATEGY

The Ecophyto II national strategy for research and innovation set out in the roadmap will identify priority actions around four objectives:

- **Guide and support research with a view to promoting integrated pest management; limit dependence on plant protection products; reduce the risks and impacts linked to the use of those products; identify and address socio-technical and economic barriers to a shift in practices and support changes in practices and sectors.**

Drawing on knowledge of interactions between cultivated plants, their bio-pests and other agro-ecosystem components, such as soil biodiversity – knowledge that must be furthered and deepened – innovative and alternative solutions for bio-pest management (including the use of copper in organic farming) will be pursued by mobilising drivers for bio-controls, varietal technical innovation, agronomic methods and organisational innovation.

Particular attention will be given to sectors that facilitate the viability of production systems offering low plant protection product use, notably diversification sectors. The same attention will be given to 'minor' and 'orphan' treatments, to identify innovative solutions that offer a lower risk to human health and the environment.

In accordance with integrated pest management principles, the strategy will encourage work

that supports bio-pest monitoring, the creation of synergies between control methods and the design of crop or forest stand systems that, through their diverse nature, have a preventive effect. Special efforts will be made in the area of weed control (particularly alternatives to herbicides) and to alternatives to neonicotinoid treatments. The plan will endeavour to assess the sustainability of potential solutions and to develop tools that allow farmers and their advisors to optimise and make sensible use of these methods.

The strategy will target work that brings together the economic, human, social and bio-technical scientific disciplines in an effort to understand and guide the responses of agricultural production system components towards a shift in practices, and particularly work that supports public policy. This research will also focus on drivers that support the dissemination and adoption of innovation (including collaborative approaches) and stakeholder networks to be mobilised in the context of territorial governance.

- **Expand multidisciplinary research on the environmental and health risks and impacts of air, soil and water pollution linked to plant protection products.**

One priority will be to boost awareness of the risks related to plant protection products, their environmental and health impacts (including indirect and long-term impacts, the effects of combinations and low doses, their endocrine disrupting properties etc.), exposure pathways and determinants and mechanisms involved in regulating their harmful effects.

From an environmental perspective, the strategy will centre on the transfer and future of inter-compartmental products (air, soil, water) on different spatial and temporal scales; on their impact on target and non-target organisms (including pollinators) and ecosystems (specifically with regard to plant pharmacovigilance), and on solutions centred on ecological infrastructure to reduce transfers and impacts. The search for integrated pest management solutions at catchment or landscape level will endeavour to support the emergence of resilient systems, through the joint management of bio-pest control and the control of all forms of agricultural pollution. Holistic approaches that address the treated zone-regulated/mitigation zone-affected zone continuum, and which study how food webs and communities with a regulatory role respond will be encouraged.

As regards health, exposure pathways and determinants will be addressed with a view to assessing preventive actions and supporting risk reduction public policy. Extensive work will be conducted on the effects on the general population, and more specifically on the most vulnerable population groups. The strategy will incorporate cross-cutting issues on areas such as metabolites, adjuvants and co-formulants, and product blends (including products that are now prohibited, such as chlordecone). Preference will be given to multi-disciplinary approaches and modelling in order to incorporate the pressure-transfer-exposure and impact chain in its entirety and in its various spatial and temporal scales.

- **Develop research to support the prohibition of the use of plant protection products in gardens, planted spaces and infrastructure.**

The prohibition of the use of plant protection products in public planted spaces as of 2017 and in private gardens as of 2019 will require the development of alternative methods (treatment equipment, integrated pest management, a new design for green spaces that features ecologically appropriate botanical resources and bio-pest resistance etc.) and the

assessment of their effectiveness, sustainability, their potential impact on health and the environment, and their acceptability. Efforts will be made to find a balance between potential solutions and the management of these spaces that takes account of their social (safety and sustainability of infrastructure) and economic limitations.

- **Improve links between basic research, finalised research projects and innovation across all areas affected by the plan and promote research networking with stakeholders**

One key driver is ensuring the continuity and coherence of the process, from research through training and innovation through to development, while closing the gap between academic and finalised research and the various agricultural training components.

The second driver is the promotion of innovation through the development of partnership research (public-private partnerships in particular) and more intensive interactions between researchers, experts and innovative practitioners (including DEPHY network farmers). The support of the operational groups of the European Innovation Partnership (EIP) funded under the rural development programmes will be central to this. The incorporation of knowledge drawn from academic research into innovation, decision-making and the pre-marketing or pre-adoption and guidance stages is essential in providing support for the development of new procedures or new practices (e.g. proof of concept, full-scale testing, pilot projects, prototyping etc.). Tools such as feasibility studies and market analysis should be considered at a very early stage of the process. It is essential that competitiveness hubs and clusters play a key role in the interplay between basic research and the application of new concepts arising from it.

Progress resulting from academic research will be incorporated so as to boost the availability of low-risk substances and products and of risk assessment procedures in connection with requests for marketing authorisation and for the development of post-marketing authorisation application monitoring plans (plant pharmacovigilance).

The DEPHY EXPE network and specific trial platforms will be central to the design, testing and development of action drivers and techniques that can be used by producers, incorporating multidimensional performance criteria. Overall, the focus will be on operational research, including private sector involvement, for the design and testing of action drivers that can be used by producers.

8. INITIATE, GUIDE AND COORDINATE RESEARCH PROJECTS TO PROMOTE A MULTI-DISCIPLINARY APPROACH AND COOPERATION BETWEEN ALL PARTIES

France will play a more active role in the development of European research strategy to ensure that these issues feature highly on the agenda. Research initiatives in which France has played a leading role, notably the drafting of the European strategic research agenda on integrated pest management and its implementation, will be stepped up, specifically with regard to ERA NET C-IPM and the ENDURE network.

At national level, to meet the objectives set out in the national research strategy, the R&I Scientific Advisory Committee will draw up an operational roadmap. This roadmap will mobilise calls for research projects (such as participatory research actions connected with

the DEPHY EXPE network and innovation networks) launched under Ecophyto II and calls for research projects co-financed under other public research programming mechanisms (the National Research Agency, MEDDE, MAAF-CASDAR, ANSES, etc.). Where applicable, it may take specific studies or expert reports financed by it as its basis. It may also be involved in the coordination of epidemiological studies and surveys.

- **Ecophyto II calls for research projects**

These proposals will relate to the three actions under priority area 2, built around:

- the launch of five sectoral research and development programmes with a strong operational focus, aligned with key drivers for reducing and improving the use of plant protection products, both agricultural and non-agricultural: bio-control [3] agricultural equipment (including robotics) and personal protective equipment (PPE), innovative new varieties and the sustainable management of arable weeds, and replacement technical solutions in gardens, planted spaces and infrastructure;

- research on the design, testing and development of alternative techniques offering good economic, environmental and social performance. This ambition will be realised through specific trial platforms and the reinforcement of the DEPHY EXPE network to highlight key driver combinations, closely linked to priority area 1;

- research on integrated pest management, agro-ecology, changing labour procedures and practices, support for stakeholders, and socio-technical and economic barriers;

- research into changes to and the reduction of the risks to the environment and human health posed by the use of plant protection products.

This research will include a social sciences and humanities dimension and will promote approaches that operate at different levels across the French mainland and overseas departments, taking key stakeholders and organisational levels into consideration through regional calls for projects that supplement national calls. The effectiveness and sustainability of such solutions will be studied on the basis of integrated approaches to production and management systems, while analysing drivers to support their adoption. Their impact on health and the environment will also be studied.

Furthermore, research will also be undertaken on overseas specificities (agricultural systems and sectors, factors that influence environmental and health risks).

- **Co-financed project proposals**

The current situation for finalised research in France is that there are a certain number of programmes, coordinated beyond the scope of Ecophyto II, that deal more or less directly

[3] A public-private bio-control research consortium will be mobilised in connection with priority area 1, with a view to strengthening links between research and its application in the field of bio-control products.

with areas relating to plant protection products. These programmes have demonstrated that they complement the objectives of the first Ecophyto Plan. Fostering these synergies continues to be a strategic focus for Ecophyto II. These programmes have specific governing bodies. The R&I Scientific Advisory Committee will engage in dialogue with these bodies to incorporate the relevant aspects of the Ecophyto II national research and innovation strategy roadmap into calls for projects for these programmes. In this context, calls for research projects will be co-financed by the plan.

Partnerships will be established in the following areas:

- The assessment and reduction of environmental and human health risks
  - National Research Programme for the Environment, Health and Labour (PNR-EST), the coordination of which is delegated to ANSES.
  - National Research Programme for Endocrine Disturbers (PNRPE), coordinated by the Ministry for Ecology.
  - PRIMEQUAL Programme (a cross-body research programme for improved air quality at local level), coordinated by the Ministry for Ecology.
- The impact of plant protection products on the environment and changing practices as regards the management of gardens, planted spaces and infrastructure
  - Infrastructure programme for land transport, ecosystems and rural areas (ITTECOP), coordinated by the Ministry for Ecology.
- Issues relating to agricultural and rural development and innovative control and integrated pest management methods
  - CASDAR – a special fund for agricultural and rural development – programmes for 'Innovation and partnership', 'Seeds and plant selection' and 'Technological research', coordinated by the Ministry for Agriculture.

Ecophyto II may also be required to co-finance certain research projects in areas relating to plant protection products that are selected under calls by the National Research Agency, particularly under challenges 4 and 5 of the national research strategy. A strategic dialogue between the R&I Scientific Advisory Committee and the National Research Agency will be opened in this framework.

In order to enhance knowledge on the effects of professional exposure to plant protection products, the R&I Scientific Advisory Committee may be involved in the coordination of epidemiological surveys and toxicology studies as provided for under priority area 3, and particularly cohort studies currently under way or which may be extended[4]. This action will be performed in conjunction with Action 17 (exposure to substances that are toxic to reproduction within the professional and general populations) and Action 85 (research into pesticides and health) of the 2015-2019 Third National Health and Environment Plan.

[4] The COSET-MSA (agriculture and health status), Agrican (agriculture and cancer) and DéPare (agriculture and fertility disorders) cohorts in particular.

9. TAKE AFFIRMATIVE ACTIONS FOR PROMOTION AND TRANSFER

In connection with the Ecophyto II focus area 5, the national research and innovation strategy will include an ambitious promotion and transfer section intended for stakeholders on the ground and public policy leaders (e.g. with a view to improving the assessment of plant protection products or substances prior to placement on the market, the launch and interpretation of the plant pharmacovigilance mechanism, regulatory changes, and the adjustment of non-point pollution reduction incentives (MAEC).

To this end, all development bodies, and particularly Chambers of Agriculture and national organisations for agricultural and rural areas (ONVAR) and agricultural distribution will be closely involved. Wherever relevant, the actions undertaken by these bodies, and particularly those financed by CASDAR, will be actions that contribute to the spread of low-plant protection product use production systems and practices.

The national research and innovation strategy may comprise the following action types:

- The sharing of research results with stakeholders on the ground and with public decision-makers by means of various tools, including the use of the EcophytoPIC portal to share documents setting out the results of the plan, the organisation of national or regional events, data sharing and the creation of decision-making tools. To create synergies, links with existing information transfer bodies within research structures, technical institutes and agricultural development will be created at the earliest possible stage.

- Partnerships with training establishments, both technical and higher, that endeavour to share results and expertise drawn from work in this priority area.

The end results of these actions could be the creation of expert groups that are available to support knowledge transfer within the DEPHY and GIEE networks (in connection with the plan's priority area 1). Feedback loops between research and these networks are crucial if research results are to be fully leveraged. These expert groups may also be called upon to develop training provision and to take part in training where appropriate (in conjunction with agricultural training bodies).

Furthermore, the involvement of private partners in projects, including development agencies, should be encouraged; this is an effective way to ensure knowledge transformation and ownership, including in terms of risk taking for their implementation on the ground. The conditions on the intellectual property of the results of these research projects, set down collectively by the R&I Scientific Advisory Committee, should facilitate the dissemination of action drivers.

PRIORITY AREA 3: ASSESS AND MANAGE RISKS AND IMPACTS

Management of the risks relating to the use of plant protection products will be at the very heart of Ecophyto II, alongside a desire to reduce the risk to human health, primarily that of users, local residents and vulnerable population groups, and the various environmental and biodiversity compartments.

Greater emphasis will be placed on monitoring these risks and adverse effects (Actions 10 to 13). This is one of the most significant issues for the plant pharmacovigilance measures introduced under the Law on Agriculture of 13 October 2014. Particular attention will be placed on understanding of vocational exposure to plant protection products and to good practices, as well as personal protective equipment. With a view to reducing such risks and exposure, discussions will be held at European level on removing the substances that are most dangerous to humans and to the environment from the market (Action 15).

Moreover, indicators will be required for risk and impact assessments. The use of these Ecophyto II indicators will be pursued and risk and impact indicators will be finalised. With these indicators, it will be possible to target public actions (public policy assessment, research and innovation priorities, territorial monitoring, communication etc.) to ensure that they align as closely as possible with what professionals require as they move to agro-ecology (Action 14).

In addition, the fight against fraudulent application and illegal import of plant protection products will be a priority action (Action 16). It will endeavour to implement suitable controls, establish collaboration between the relevant departments and apply appropriate sanctions, while also strengthening coordination at European level.

These Ecophyto II actions are boosted by actions undertaken under other public plans or policies, such as the national health and environment plan, the environmental roadmap, and the national strategy for endocrine disruptors.

10. ESTABLISH A PLANT PHARMACOVIGILANCE MECHANISM

A number of bodies currently perform monitoring activities (State departments, water supply agencies, the National Office for Hunting and Wildlife [ONCFS] etc.), but there is no formal structure for data collection, monitoring, analysis or alerts.

In accordance with the Law on agriculture, food and forestry, a plant pharmacovigilance mechanism will be established to monitor the adverse effects of plant protection products on humans, livestock, including the honey bee, crops, biodiversity, wildlife, water and soil, on air and food quality, and on the development of resistance to these products, and to alert the competent authorities where adverse effects appear to require specific management measures. It will benefit from work conducted under Actions 11 and 12 of the plan.

This plant pharmacovigilance mechanism supplements the territorial biological monitoring provided for under Article L251-1 of the rural and maritime fishing code, and incorporates tools for health monitoring for individuals and workers as provided for under the public health code and the labour code, and environmental monitoring tools.

- **Implementing the mechanism: organise data collection**

ANSES, the national body for health security, will be responsible for organising this mechanism.

All bodies concerned with the monitoring and oversight of plant protection products impacts will provide ANSES with raw and, where appropriate, analysed data. Data formatting and

transfer methods will be further developed with a view to improving and securing exchanges with ANSES.

Furthermore, clarification will be provided on arrangements for collecting and communicating the adverse effects of plant protection products transmitted by holders of marketing authorisations, manufacturers, importers, distributors, professional users, advisors and trainers for users of plant protection products.

It is vital that the quality of data collected in relation to plant pharmacovigilance can be guaranteed.

- **Interpret data and establish lessons learnt**

Particular focus will be given to the health-related interpretation of monitoring data, taking account of liability for adverse effects, the nature of indications given by these bodies, and the proper and proportionate consideration of all plant pharmacovigilance targets. Furthermore, collection network stability and data robustness should be ensured so that trends can be identified over time.

The interpretation of the data must be explained to all stakeholders and should support the resulting risk management measures for the prevention or cessation of potentially harmful or potentially unacceptable effects of plant protection products.

The analysis of plant pharmacovigilance data may, where applicable, result in modifications to or the withdrawal of marketing authorisations for plant protection products, in the proposal of specific management measures, or in changes to assessment guidelines for plant protection products in line with European regulatory provisions.

The plant pharmacovigilance mechanism will receive *ad hoc* financing taken from the turnover of marketers of plant protection products.

11. BOOST CONTAMINATION MONITORING FOR PLANT FOODSTUFFS, WATER, SOIL AND AIR, AND ASSESS POSSIBLE PUBLIC EXPOSURE

Plans for monitoring of active substance residues in plant foodstuffs will be extended and coordination between the various administrations will be improved. The non-compliance rate for plant foodstuffs will help to estimate the extent to which integrated pest management principles have been implemented by the various sectors. This will also make it possible to monitor the quality of imported plant foodstuffs.

As a reduction in the use, risks and impacts of herbicides is one of the priorities of Ecophyto II, special attention will be paid to monitoring herbicidal substances in water, in addition to the monitoring of other active substance categories, specifically on the basis of work on water-based monitoring methods for improved water indicator reliability.

As regards monitoring of air contamination from plant protection products, the plan will support the establishment of air quality monitoring networks needed to improve knowledge in this area, while taking account of the position of ANSES on this matter. To this end, the plan will finance the development of a harmonised protocol for monitoring the presence of

plant protection products in the air, which will centre on the recommendations made by ANSES and the results of the national exploratory campaign provided for under Action 72 of the environmental conference roadmap.

Support will be provided for monitoring actions relating to exposure and impregnation levels among population groups (ORP study on domestic plant protection products, ESTEBAN etc.). The results will be assessed on the basis of the quantities found and the consequences thereof for public health and the environment.

Overall, efforts will be made to communicate with consumers impartially, in order to present the results of these programmes to them and to contribute to the success of the planned consumer communication campaign.

Lastly, in accordance with government commitment No 70, made at the 2014 environment conference, an assessment of the application of Article 53 of the law on agriculture, food and forestry will be conducted before the end of 2015. On the basis of this assessment, the necessary provisions will be implemented for the full application of measures to prevent plant protection product drift and for the establishment of tailored treatment dates and times to help avoid vulnerable individuals being present during the treatment process; in addition, where these measures cannot be implemented, the prefect will set a minimum distance to be observed.

12. UNDERSTAND, MONITOR AND REDUCE ENVIRONMENTAL SIDE EFFECTS RELATING TO THE USE OF PLANT PROTECTION PRODUCTS (BIODIVERSITY, SOIL, POLLINATORS)

Previous work on side effect tracking through the territorial biological monitoring mechanism will be pursued and emphasised. It will be incorporated into the plant pharmacovigilance mechanism.

Greater emphasis will be placed on the quantitative and qualitative monitoring of the use of herbicide-resistant varieties and on the development of resistance to plant protection products among cultivated varieties and among harmful and invasive species, using validated and reliable methods.

Particular efforts will be made with regard to domestic and wild pollinators, primarily the monitoring of the sublethal effects of active substances, and specifically of the neonicotinoid family.

Focus will also be placed on the effects of the development of certain harmful or invasive species with health-related consequences (ragweed, rye ergot fungus etc.).

The range of active substances under study as part of the soil quality measurement network will be expanded, as will the study of the impacts of these active substances.

13. A BETTER UNDERSTANDING OF EXPOSURE AND A REDUCED RISK FOR PROFESSIONAL PLANT PROTECTION PRODUCT USERS

Primary risk prevention[5] in relation to the use of plant protection products is a key driver in bringing about change in practices and the bedrock of health policy. In addition, Ecophyto II, in connection with the guidelines adopted by the national health strategy and the third health and labour plan (PST 3), will focus on primary prevention.

In connection with the French agro-ecology project, it is also a question of boosting workplace health and safety through knowledge creation and mobilisation to support farmers as they make these changes.

13.1 BUILD ON KNOWLEDGE OF EXPOSURE TO PLANT PROTECTION PRODUCTS USED FOR PROFESSIONAL PURPOSES

Work in this area must facilitate the continuation of previous efforts to further knowledge around professional exposure to plant protection products. There is a dual objective: continue to document past exposure, while establishing the tools needed for an individual approach to current exposure, so as to ensure traceability and the most appropriate personal medical monitoring.

Work done until now has centred primarily on the agricultural use of plant protection products. This work will gradually be extended to encompass other uses and other professionals.

In conjunction with the directions of the third national plan for health and the environment (PNSE 3), a major study will also be launched to document family exposure (spouse, children etc.) on the farm in connection with the use of various product categories (plant protection and others) and farm practices.

The study on the worker cohort will be pursued and analysed under the Chlordecone 3 plan.

This new knowledge will be developed alongside research-centred actions (priority area 2) so as to facilitate the conduct of epidemiological surveys and toxicology studies and to better document the potential health effects of this exposure.

13.2 TAKE CONCRETE STEPS TO REDUCE THE RISKS CONNECTED TO THE USE OF PLANT PROTECTION PRODUCTS

- **Improve and support risk assessment**

Primary prevention should be a priority, in conjunction with the guidelines set out for PNSE 3. For employers – SMEs and micro-businesses in particular, but also farmers – the tools required for risk assessment, including training and support, should be provided as an essential prerequisite for the implementation of any preventive measures.

The development of tools aimed at improving understanding of the chemical risk, thereby reducing the use, risks and impacts of plant protection products, will be facilitated.

[5] Primary prevention: reducing risks by taking action as early as possible. This at-source prevention raises questions around design – the design of machines, buildings, chemical products (through product replacement in particular), and the design of work processing and farm transformations and re-structuring.

- **Support the substitution of products containing substances of concern to health**

In conjunction with the priorities of the third Cancer and Health/Environment Plans, the substitution of substances that are carcinogenic, mutagenic or toxic to reproduction (CMR) and of endocrine disruptors by less harmful substances, specifically bio-control substances, will be encouraged in micro-enterprises, SMEs and among farmers in particular, through the provision of appropriate tools (training, decision-making tools).

To do this, all those involved in preventive action, such as ANSES, the National Institute for Research and Safety (INRS), central agricultural social insurance funds and labour inspectorate departments, will be mobilised to improve substitution arrangements overall, with efforts being focused on the most closely concerned professional sectors.

- **Promote innovation for the design and planning of safer work equipment**

Firstly, work on the design and planning of solutions for safer agro-equipment should be pursued so that this equipment complies with the objective of good economic, environmental and social performance, and to ensure that they are incorporated into Action 1.2 work activities. The use of new technologies, such as robotics and remote control, will be encouraged with a view to reducing exposure by plot re-entrants.

In addition, work on mixture preparation area planning, product storage areas and spray equipment wash zones should also be continued.

Moreover, calls for projects (Action 29.3) will help to identify innovative projects in the areas of warnings for use, work organisation and collective and personal protective equipment (PPE).

13.3 PROMOTE AND ROLL OUT TOOLS AND KNOWLEDGE

Ownership by end users of solutions relating to sensible product use, the harmfulness of and possible substitutes to these products, choice of equipment, work organisation, hygiene and, ultimately, the use of PPE must be assured. These solutions will be shared on a wide scale with the involvement of health and safety specialists and specifiers and mobilising all stakeholders across sectors on awareness-raising and the provision of information and training.

Furthermore, the Joint Committees for Health and Safety and Working Conditions (CPHSCT) allow small companies within the agricultural production sector to benefit from a forum for reflection and cooperation between employers' and employees' representatives to improve workplace health and safety. At local level, they have an essential role to play as regards SMEs and micro-enterprises. To further strengthen their dissemination and awareness-raising activities, specific tools will be developed and made available to them to provide additional support.

14. DRAW ON USE, IMPACT AND CHANGING PRACTICE INDICATORS

Pursuant to Article 4 of Directive 2009/128/EC, Member States are required to apply national action plans 'aimed at setting quantitative objectives, targets, measures, timetables to reduce risks and impacts of pesticide use on human health and the environment and at

encouraging the development and introduction of integrated pest management and of alternative approaches or techniques in order to reduce dependency on the use of pesticides. These targets may cover different areas of concern, for example worker protection, protection of the environment, residues, use of specific techniques or use in specific crops. (…)

Timetables and targets for the reduction of use shall also be established, in particular if the reduction of use constitutes an appropriate means to achieve risk reduction with regard to priority items identified under Article 15(2)(c) [Article 15(2)(c) concerns risks and impacts on human health and the environment and the fostering of the development and introduction of integrated pest management and of alternative approaches or techniques]. These targets may be intermediate or final.'

During the public consultation of 8-29 June 2015, several comments from all stakeholders called for greater emphasis to be given to monitoring the health and environmental impacts of plant protection product use with one or several impact indicators. Previously developed impact indicators have been bolstered accordingly. Nevertheless, these only take account of past effects.

All stakeholders must be able to understand the indicator for objective monitoring under the new plan. This indicator should serve to provide clarity on public action and to respond to the monitoring targets set down under European Union law; the information it provides should facilitate the mobilisation of all stakeholders.

Consequently, a suggestion will be made to the committee for strategic direction that work be undertaken to establish, no later than 31 December 2015, a summary indicator of the quantity of active substances found in plant protection products for sale, weighted either on the specifications for use of these products, or on their health or environmental impact (specifically water and biodiversity). Toxicology values (*a priori* assessment of human health impact) and eco-toxicology values (*a priori* assessment of environmental impact) will be made immediately available and accessible by all parties.

This indicator will serve as the unit of account for plant protection product reduction certification and will make it possible to measure whether or not the 25% and 50% reduction targets for the use of plant protection products and the risks and impacts relating to their use are met.
This monitoring will be supplemented by other indicators as these are finalised:

- **Roll-out of use indicators: Unit dose number (NODU), active substance quantity (QSA), treatment frequency index (IFT)**

The unit dose number and active substance quantity indicators will be applied on the basis of the product mode of action (herbicide, fungicide, insecticide, acaricide etc.) and category: bio-control, low risk, usable in organic farming, containing substances that are carcinogenic, mutagenic, or toxic to reproduction. Regional NODUs and QSAs will be introduced and supplemented where appropriate by other plant protection product use indicators. Data from the National Bank for Distributor Sales (BNV-D) and all methods and data required to calculate the unit dose number will be made public, while respecting applicable confidentiality requirements.

The treatment frequency index indicator (IFT) will be retained as a support and measurement tool for reduction in the use of plant protection products at farm and territorial level. The operational implementation of this indicator will be consolidated by a toolbox for the various field operators.

Calculations for an 'active substance' IFT will be introduced during the extension to work currently under way to enhance the robustness of the current IFT . Baseline IFTs will be extended to all sectors that require this indicator. Lastly, work will be undertaken to standardise IFTs across the DEPHY and MAEC schemes.

Updates on the situation in France as regards the use of plant protection products per hectare will be published on a regular basis and compared against the situation in other Member States.

- **Calculate impact indicators: product toxicity, health impacts, impact on biodiversity, bio-pest resistance**

The risk and impact indicators developed under Ecophyto I will be implemented with a view to better measuring the toxicity of plant protection products, their health impacts, their impact on biodiversity and air quality, and the development of bio-pest and weed resistance and the development of harmful or invasive species.

Indicators that allow the assessment of the health and climatic situation and changes in crop rotation and yields will also be collected for each marketing year in order to place the use of plant protection products in a meaningful context.

- **Identify changing practice indicators**

Farming practice surveys will be continued and, where possible, fleshed out with indicators to follow changes in agricultural practices more efficiently (e.g. utilised agricultural area rate for organic farming, use of PPE, training, use of decision-making tools, ecological focus areas, crop rotations, tillage, crop combinations, cover crops etc.). Socio-economic indicators will also be consolidated and developed in support of these surveys (e.g. work organisation, economic performance of farms, portion of plant protection product in the farm's costs, input price index etc.).

These data will also be used in the plant pharmacovigilance mechanism.

New indicators may be developed to meet expectations and knowledge requirements around impacts on human health and the environment.

15. ACCELERATE THE WITHDRAWAL OF SUBSTANCES THAT ARE HARMFUL TO HUMAN HEALTH AND BIODIVERSITY AND DRIVE CHANGE IN THE APPROVAL PROCEDURES FOR ACTIVE SUBSTANCES

France will take a proactive approach in raising awareness among other European Union Member States and European Commissioners, to involve them in the need to strengthen restrictions on use and to withdraw products containing substances that are proven or strongly suspected to be harmful to human health or to biodiversity (particularly CMR or

endocrine disruptors) from the market as soon as possible. More specifically, France is committed to extending the European moratorium on all neonicotinoid pesticides and intends to refer to ANSES for the establishment of new prohibitions for use under European re-assessments; confirmation of the request to the European Commission for accelerated scientific re-assessment by the European Agency for Food Safety; the promotion of territorial projects for the abolition of neonicotinoids, and the development of alternatives under this plan.

Moreover, in April 2015 the government called on ANSES to request that it conduct a rapid assessment of work undertaken by the CIRC and to ensure that said work was incorporated into the ongoing European glyphosate assessment, to allow the French authorities to put forward appropriate measures at European level during the consideration of the draft decision on the renewal of authorisation for this substance.

As such, France will ensure that any changes to the classification, labelling and packaging of plant protection active substances be taken into consideration without delay as part of the implementation of the European regulation on the authorisation of plant protection products (1107/2009).

Work should also be conducted in parallel at national and European level by all stakeholders to identify and predict potential 'orphan' treatments and endeavour to establish alternative solutions as early as possible. France undertakes to support the co-financing of the European platform for minor use treatments.

In addition, a review will be conducted into the issuance of marketing authorisations for plant protection products so that marketing authorisations indicate differentiated doses according to crop height.

16. STEP UP ACTION AGAINST FRAUD AND VIOLATIONS AND IMPOSE APPROPRIATE SANCTIONS

In France, counterfeit products account for between 2.5% and 5% of the market. This primarily concerns cereals, vines and vegetable crops (source: UIPP).

Controls on the sale, use and tax arrangements for plant protection products will be strengthened and better coordinated. In particular, anti-fraud strategies will be designed to be consistent with those of neighbouring countries. A targeted action will be undertaken in the key entry points for plant protection products in the European Union. The wide-scale communications campaign run during the plan's launch period will be renewed in 2015.

In addition, improvements will be made to the judicial handling of controls, with enhanced coordination between the Justice Ministry and the responsible departments. The possible issuance of fines for minor offences will also be included in the regulation. Company checks relating to regulations around CMR substances will be tightened, and these regulations will be supplemented by the addition of risks relating to endocrine disruptors.

PRIORITY AREA 4: ACCELERATE THE TRANSITION TO THE NON-USE OF PLANT

PROTECTION PRODUCTS IN GARDENS, PLANTED SPACES[6] AND INFRASTRUCTURE (JEVI)

In the context of the application of the law of 6 February 2014, referred to as the Loi Labbé, supplemented by Article 68 of Law No 2015-992 of 17 August 2015 on energy transition for green growth, and of the development of initiatives for the reduced use of plant protection products already launched by various stakeholders, the priority area under Ecophyto II for Gardens, Planted Spaces and Infrastructure will support urban space managers and gardeners in dispensing with plant protection products wherever possible.

To achieve this, in line with the application methods set out under Action 20, local connections will be created between gardening associations, distributors, managers of restricted spaces and local authorities. The aim of these connections will be to enable the sharing of best practices, from which everyone can benefit. Tools that create a sense of community and structure, such as online discussion platforms, will be a key mobilisation area. Moreover, focus will be placed on improving and supporting the legislative and regulatory framework.

17. SUPPORT CHANGES PROVIDED FOR UNDER THE LOI LABBÉ

- **Create a list of bio-control products and ensure its widespread distribution**

The list of products that will remain available for use following the deadlines imposed by the Loi Labbé will be prepared no later than 1 January 2016, widely distributed and regularly updated.

- **Prohibit the over-the-counter and online sale of plant protection products to amateur gardeners**

As of 1 January 2017, it will no longer be possible to purchase plant protection products over the counter; purchase will only be possible through the intermediary of a certified vendor who is familiar with integrated control methods. This measure will not apply to bio-control products and products composed solely of basic substances.

Amateur buyers will receive systematic guidance when purchasing these products, and will receive information on future bans and alternatives.

The arrangements for the practical implementation of this measure will be trialled with the relevant distributors in 2016.

- **Improve and provide guidance on the correct management of 'pharming' waste during the transition period**

Clear information must be provided to amateur gardeners and relevant local authority staff on existing collection and disposal systems (via EcoDDS, a waste disposal NGO, and the management of phyto-pharmaceutical waste in particular), with the support of regional

[6] Farmland does not fall under this designation of planted spaces

authorities and distributors.

These various communication and awareness-raising campaigns for amateurs and professionals will help to make these collection and disposal systems more effective. The collection of unusable plant protection products and empty plant protection product packaging from amateur gardeners will also be improved by the organisation of regular collections from sites that can be easily accessed by the general public, e.g. close to product points of sale, and during the main plant protection product purchasing periods.

- **Consider the provision of training to plant protection product users for which a qualification would be awarded following knowledge testing, and develop ongoing training for the use of alternative methods**

Training for plant protection product users in gardens, planted spaces and infrastructure (professionals and lead gardeners) may benefit from a recognition system based on qualification level achieved after successfully sitting an exam.

Furthermore, complementary ongoing training that aims to promote green space redesign, the use of alternative methods and integrated control methods might be developed for professional and amateur JEVI stakeholders, with the award of a qualification where suitable. An inspection programme will assess the training that is currently available and consider potential improvement and qualification possibilities.

18. INVOLVE JEVI STAKEHOLDERS IN REDUCING PLANT PROTECTION PRODUCT USE AND ENCOURAGING THE MORE WIDESPREAD USE OF ALTERNATIVE SOLUTIONS

- **Promote collective action as the route to changing practices and reducing plant protection product use**

The target is to raise awareness among professional decision-makers of their regulatory obligations and responsibilities (local authorities, urban space managers, housing managers, brownfield land managers, managers of state-owned spaces such as schools or military land) and changes provided for under the Loi Labbé and Article 68 of the law on energy transition for green growth.

In this case, tightened controls may serve as a driver, particularly in sectors in which the most vulnerable population groups might be exposed.

- Promote the 'Healthy land – Pesticide-free municipalities' process. The Terre Saine [Healthy Land] label, which identifies local communities that no longer use plant protection products, will create a network that will hold up exemplary communities as examples and support all local communities in fulfilling the objectives of Law No 2014-110 of 6 February 2014 and Ecophyto II. The approach aims to move all communities towards the substitution of plant protection products, while also promoting the use of bio-control products and local 'Zero-Pesticide' charters as part of the approach, which should also receive support.

- Produce national shared practical and communications tools and make them available to communities.

- Develop the baseline online discussion platform for alternative solutions for professional stakeholders. This platform will reiterate the content of the Ecophyto-ZNA pro website. The ergonomics and content of the site will be reviewed and added to in order to be relevant to all JEVI sections, across all regions and including restricted spaces.

- **Promote cost-effective planning and alternative methods by trialling and improving innovation transfer to users (from planning to alternative space management)**

Solutions already in place in certain land areas should be adjusted and tested on other surfaces and in other situations to allow for more widespread use. This innovation transfer should be supported by the development of tools or studies that will make it possible to gather additional information and facilitate the use thereof (decision-making tools etc.).

- **Inform amateur gardeners of 2019 changes and what they will mean**

The ban on the use of plant protection products by amateur gardeners to take effect in 2019 is the objective underpinning the information-sharing, communication and support actions to be undertaken for these gardeners at national level, where relevant, and in support of local initiatives, such as the preparation of guides for gardeners, poster kits, etc.

The original Ecophyto 'Gardening Differently' platform is the reference baseline for these amateur-focused actions. Improvements will be made to the platform's tools and coordination.

In addition, the promotion of alternative methods for gardeners will also feature national training for lead gardeners from gardening associations, to support local-level training activities for amateur gardeners among the general public.

- **Coordinate biological monitoring on JEVI territory**

Technical coordination for the biological monitoring of JEVI territory should be implemented at national level with a view to supervising and supporting local stakeholders (often volunteers), alongside section coordinators tasked with preparing crop health newsletters and other contributors, such as distributors, who are often asked by gardeners to offer diagnoses and plant protection. This synergy between the national and regional levels will make it possible to apply high-quality oversight methodologies for JEVI, in conjunction with good plant protection practices that promote the use of bio-control methods.

PRIORITY AREA 5: PUBLIC POLICY AT TERRITORIAL AND SECTORAL LEVEL

Greater attention will be given to the territorial application of Ecophyto II. Collective local-level dynamics around the shared target of reducing and securing the use of plant protection products will be encouraged.

Regional governance of Ecophyto II is organised by the regional prefect as per the

arrangements set out under Action 29.2.

Strategic and financial guidelines will be set in keeping with other plans and policies in place locally, with national policy and in line with the local setting (Actions 20 to 24). The agro-ecology committee applies, on the basis of a national framework, the actions to be undertaken and financed using the additional EUR 30 million available from 2016 under non-point pollution fees.

At regional level, structural actions will be pursued, while ensuring that these are adjusted in line with new national guidelines.

Work will begin on ensuring consistency between public policies on reducing the use, risks and impacts of plant protection products, so that public action at local level benefits from a wide range of tools (Action 25).

As the adoption of different practices might be hampered by fears around the economic consequences of such changes, consideration will be given to establishing a mechanism to provide coverage for these risks (Action 26).

In addition, a set of measures will be introduced, specifically tailored to the overseas departments: the development of local partnership-based farming centred on agro-ecology (Actions 27.1, 27.2 and 27.3); managing packaging and plastics (Action 27.5); building on local workplace health and safety expertise (Action 27.4) and knowledge dissemination (Actions 27.6 and 27.7).

19. ROLL OUT THE PLAN AT REGIONAL LEVEL

In line with the guidelines set out at national level for the plan, a roadmap for the implementation of regional policy for plant protection product use reduction will be drafted with the involvement of various partners. Efforts will be made to link with the provisions for farm modernisation set out in the regional rural development programmes.

It will also give priority to regional calls for projects. Reducing the use of herbicides (notably glyphosate) will be a key focus area. Support will be provided for territorial projects for the development of alternatives to the use of products containing neonicotinoid substances.

In particular, the regional roadmap will provide for:

- The application, where appropriate, of the reference baseline documents on integrated pest management at regional and sectoral level, in conjunction with Action 20. This application will reflect the diverse nature of production systems, environmental conditions and local plant protection scenarios. These reference documents will be a key tool in allowing all farmers and space managers to adopt a progress-centred approach;

- As a priority, actions may be undertaken in health- and environment-sensitive areas, defined as such under existing planning documents (blueprint for water planning and management (SDAGE), regional

blueprint for ecological coherence (SRCE), regional blueprint for climate, air and energy (SRCAE) etc.) and other regional plans (the regional plan for health and the environment (PRSE), harmful organisms plan etc.);

- The interface with the regional application of the agro-ecology project, and particularly the agro-ecology development strategy at regional level, the agro-ecology technical lead network, the regional agro-ecology demonstration platform (supported in particular by the DEPHY farms).

It will also be necessary to ensure that the objectives of Ecophyto II are incorporated into other plans and programmes (e.g. the national plan for sustainable development (PRAD), the PRSE etc.) and into other existing schemes.

As regards aid, exchange and discussion are required with the primary finance providers, with regions in their roles as managing authorities for regional rural development programmes and department-level councils and water supply agencies to ensure a good level of synergy between the objectives and capacities of the plan and the various aid schemes, particularly the plan for farming competitiveness and adaptation (PCAE), MAEC and support for organic farming. Additional envelopes will specifically target investments and innovations for farms and economic and environmental interest groups that seek to reduce the use, risks and impacts of plant protection products.

The roadmap will identify those regional indicators that will enable monitoring of any reduction in the use, risks and impacts of plant protection products (regional unit dose numbers and active substance quantity measures, a new regional summary indicator – see Action 14 – regional IFT, impact indicators and changing practice indicators, etc.). An overview table for mobilised financial resources showing reported and estimated amounts for all identified finance sources will be kept updated and will be used in the preparation of the national-level assessment.

20. PREPARE A REFERENCE BASELINE DOCUMENT ON INTEGRATED PEST MANAGEMENT APPLIED AT NATIONAL, REGIONAL AND SECTORAL LEVELS

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 requires farmers to apply integrated pest management[7], as set out under Annex III of Directive 2009/128/EC of 21 October 2009.

These principles are as follows:

- Prevention of harmful organisms by means of the following options:
  - crop rotation;
  - adequate cultivation techniques (stale seedbed technique, sowing dates and densities, blending of species and/or varieties, under-sowing, conservation tillage, pruning and direct sowing);
  - use of resistant/tolerant cultivars and standard/certified seed and planting

[7]

material;

- use of balanced fertilisation, liming and irrigation/drainage practices;
- preventing the spread of harmful organisms through hygiene measures (e.g. cleansing of machinery);
- protection of important beneficial organisms;

- Monitor harmful organisms through observations in the field and warning, forecasting and early diagnosis systems, as well as advice from professionally qualified advisors;
- Base decision-making on a robust risk assessment founded on this monitoring, in which all relevant parameters are taken into consideration;
- Give preference to sustainable biological, physical and other non-chemical methods;
- Use pesticides that are as specific as possible and which shall have the least side effects on human health, non-target organisms and the environment;
- Keep the use of treatments to necessary levels (through reduced doses, reduced application frequency, non-development of resistance in populations of harmful organisms);
- Where resistance is known and where the level of harmful organisms requires repeated application of pesticides, apply anti-resistance strategies;
- Check the success of the applied plant protection measures.

A reference document on integrated pest management will be established through a broad partnership, with the support of technical institutes. Inspiration should be taken from earlier work undertaken by other Member States, while also building on existing approaches.

This reference document, to be drafted as a series of guidelines, will have the following objectives:

- Establish shared points of reference for the design and implementation of actions with a focus on sustainable plant protection management, and draw these together to pursue the use reduction and improvement objectives. It will draw on all work already undertaken at sectoral level.

- Be tailored to the diverse nature of production systems, environmental conditions and local plant protection scenarios. It will be a key tool in allowing all farmers and space managers to adopt a progress-centred approach;

- Be taken to European level to be recognised and shared as widely as possible and be usable as a point of reference in the preparation of international commercial contracts and agreements.

At national level, principles allowing for the identification of differing degrees of integrated pest protection implementation, at partial or full farm level, will be established up to collective implementation across a territorial area.

Furthermore, work will continue on EcophytoPIC, the integrated pest management portal,

and on tools to support integrated pest management implementation. The portal will evolve with the development of a collaborative module (the GECO project) and will continue to leverage resources developed under the various plan actions, so as to build on the previously adopted system-centred approach. Further emphasis should be placed on promoting the portal among agricultural sector stakeholders, so as to guarantee a smooth flow of information on integrated pest management. The social network option will be considered. The creation of an alert system on the portal for new regulatory, technological or knowledge developments may be reviewed.

To the same end, the dissemination and ownership of crop guides on polyculture, viticulture, vegetable crops, fruit farming and tropical crops will be reinforced on the ground.

21. ORGANISE AND SUPPORT COLLECTIVE PROJECTS AROUND REDUCING THE USE, RISKS AND IMPACTS OF PLANT PROTECTION PRODUCTS AT TERRITORIAL LEVEL

Preferential support will be provided to collective actions for the reduced use of plant protection products, particularly where such actions go beyond single farm level or mobilise various stakeholders within the same sector, in an effort to efficiently decrease the environmental impacts of plant protection products.

The system-based approach for agro-environmental and climatic measures (MAEC) will be encouraged with a view to developing more robust and resilient crop systems and operating models featuring an integrated approach to the plant protection product issue. Furthermore, efforts will be made to seek complementarity with economic and environmental interest groups and inter-professional organisations.

Production system diversification and organic farming development will be encouraged, particularly for field crops, as these permit a reduction in the use, risks and impacts of plant protection products. The crop diversification action will also apply to organic farmers, and the crop protection techniques used by organic farmers will be put forward as technical references.

Collective dynamics that aim to improve water quality at feeding areas at 1000 priority catchments will be encouraged and facilitated, with a specific focus on reducing the use of herbicides and glyphosate in particular. The territorial delegations of the regional health agencies will be involved in relation to the quality of raw water to be used in the production of drinking water. The Co-Click'Eau tool developed under the previous plan may be continued as a decision-making tool for territorial planning projects in these zones.

22. CREATE AND SUPPORT COLLECTIVE PROJECTS AT SECTORAL LEVEL

Focus will be placed on sectoral-level approaches that promote diversification (outlets, processing) and on the involvement of farmers in low-input practices with consumers in particular, including the area of industrial catering (certification schemes).

The development of organic farming and environmental certification for farms will be encouraged at sectoral level. It should be reiterated that the 2017 Focus Organic programme aims to double organic farming land area between 2013 and 2017, and that the Ministry for

Agriculture, alongside the European Union, is providing EUR 160 million per year to support and sustain organic conversion.

More generally, the relevant bodies will consider the possibilities for incorporating these practices into the specifications of products bearing quality and origin identification markings.

Distributors will also be invited to play a part so as to promote contractual initiatives with farmers who apply particularly environmentally friendly practices, specifically with regard to the use of plant protection products.

Furthermore, consideration will be given to mobilisation drivers for sectors and economic stakeholders downstream (collection and placing on the market, processing, distribution), where influence and initiatives can often play a determining role in inspiring changes in production practices. This work will be undertaken at the inter-professional level in collaboration with producer organisations and technical institutes, so to promote the development of rules for the promotion of low-plant protection product production methods.

Sectors will also receive support for the development and implementation of alternative solutions for the control of stored food pests.

The integration of the objection for the reduced use of plant protection products at sectoral level will be developed under the regional plan for sustainable development (PRAD).

23. FURTHER THE DEVELOPMENT OF ORGANIC FARMING

The development of organic farming will be promoted at sectoral level in conjunction with Actions 21 and 22 under the 2017 Focus Organic programme, which aims to double organic farming land area between 2013 and 2017. To this end, the Ministry for Agriculture, alongside the European Union, is providing EUR 160 million per year to support and sustain organic conversion.

Local communities will therefore receive support in their efforts to provide local and organically farmed products to school canteens by the European fund, CASDAR and the call for projects launched by the national food programme.

24. SPECIFY PARTNERSHIP COMMITMENTS AND ACTIONS UNDER THE PARTNERSHIP CHARTER FOR JEVI

In conjunction with priority area 4 for gardens, planted spaces and infrastructures, the roadmap will specify actions to help move local communities towards the substitution of plant protection products, support the Zero Pesticides charters, train stakeholders, develop educational show gardens, conduct promotional and communications actions targeting the general public on the risks of plant protection products and accepting the presence of weeds in particular, and targeting professionals and amateurs to promote alternative practices and bio-control methods.

Partnership charters may be introduced with a view to ensuring that plant protection

products are not used wherever possible. These charters will enable the organisation of on-the-ground partnerships with the state, local communities, distributors, amateur gardener and environmental protection associations, and professionals. In addition to the application of actions set out at national level (priority area 4), these charters will help to identify other actions to support the fulfilment of the objective, and will set out each partner's commitments.

Specifically, these charters will aim to lead the way towards the reduced use of plant protection products in restricted areas, where the complete cessation of their use is not possible.

Commitments will be made as regards specific targets for use, risk and impact reduction.

Changes to practices and the impacts of those changes will be monitored and assessed through the use of targeted indicators.

25. ENSURE THAT PUBLIC POLICIES WITH IMPLICATIONS FOR THE USE OF PLANT PROTECTION PRODUCTS ARE CONSISTENT

Many European, national and regional public policies have a direct or indirect bearing on the use of plant protection products. Seeking consistency across all the different plans arising from these policies will be a precondition for the success and enhanced visibility of collective action. Consequently, it will be advisable to ensure that the objectives for reduced dependence on and risks and impacts of plant protection products are fully integrated into the main agricultural, environmental and health policies. This consistency must be established at European, national and regional level.

Policies and programmes that interact with Ecophyto II will be assessed in order to identify any improvements or alterations that might be made to their application where appropriate.

In the longer term, the use, risk and impact reduction objective may be included in future discussions on objectives to be included under the CAP.

Lastly, discussions will be held to assess how sustainable phytosanitary management and biodiversity preservation and promotion issues might be better addressed in management plans and operations. Consideration will be given to the creation of financial and legal tools to facilitate greater mobility on use or land ownership of strategic areas.

26. CONSIDER A RISK COVERAGE MECHANISM LINKED TO THE ADOPTION OF NEW TECHNIQUES

The objective is to reduce the economic risk to farmers while they make the transition to agro-ecology.

In the extension to the study conducted in 2011, which included an analysis of existing experiences, a study will be launched with the involvement of the public authorities, agricultural risk management researchers, insurance providers, CER France and professionals to quantify the risks associated with the adoption of new practices and to qualify requirements and possibilities in terms of risk coverage.

The DEPHY network will be involved in this analysis.

27. CREATE AN AGRO-ECOLOGICAL APPROACH CENTRED ON REDUCING THE USE, RISKS AND IMPACTS OF PLANT PROTECTION PRODUCTS IN PARTNERSHIP WITH THE OVERSEAS DEPARTMENTS

Agriculture in the overseas departments is the only form of European agriculture to be conducted in a tropical environment. The absence of a defined cold season and high levels of rainfall increase pest infectiousness. Plant-pathogen couples are often specific to these territories, and the development of control methods by manufacturers is limited as there is little return on investment. Consequently, non-covered usage rates are three times higher than those in mainland France.

Support will continue to be provided for work on tropical and island-based agro-ecology undertaken in the French overseas departments. Support for the technical innovation and agricultural transfer networks (RITA) will be maintained to ensure a solid interface between research and professionals, and to provide support for sectoral structuring to ensure an effective and active agro-ecology dynamic at local level. Action plans for individual sectors and local operator contracts will centre on an explicit commitment to agro-ecology and to reducing the use, risks and impacts of plant protection products.

Given the results of bio-control trials, it is essential that the overseas territories become pilot territories in this area.

In order to tackle misuse, research into control methods that have a low environmental and health impact will be supported as regards 'orphan' treatments.

Actions under the Chlordecone 3 plan will be pursued in order to limit the impact of this historical pollution.

Moreover, work on improving collection systems for empty plant protection product packaging, unusable plant protection products and unidentified chemical products will be pursued in the overseas departments.

27.1 LAUNCH A TRIAL PROGRAMME FOR EMPTY TREATMENTS, INAPPROPRIATE TREATMENTS OR TREATMENTS INTENDED SOLELY FOR SYNTHETIC CHEMICAL PREPARATIONS, AND DEVELOP BIOLOGICAL CONTROL AGENTS

The situation for minor or empty usage is a real concern in the overseas regions, where there is particular pest pressure as a result of the climatic conditions and as diversification opportunities are limited by a shortage of treatment solutions.

It is important that diversity potential be maintained; minor crops play a major part in this and guarantee the richness of the different land types. Such diverse production must be able to comply with the rigorous quality criteria applied in the European Union while still ensuring reasonable prices for the consumer. Against the backdrop of a significant pest pressure exacerbated by climate change, it is important and urgent that these issues are taken on board.

The primary aim of this action is to promote innovative solutions that align with the objective of Ecophyto II by promoting the testing of alternative or low-impact products, including bio-control methods. The overseas departments are very positively disposed towards the development of new integrated control methods, and are engaged with research efforts. Efforts in this area should be supported and intensified, both in terms of trials and implementation, and particularly in connection with the economic and environmental interest groups.

The implementation of this action should also see local technical institutes become more influential, particularly through the strengthening of partnerships with European-level laboratories and through collaboration with national structures such as CITFL, IBMA or ITAB.

27.2 DEVELOP KNOWLEDGE AND TESTING ON ALTERNATIVE CROP MANAGEMENT SOLUTIONS THAT ARE LOW IN PLANT PROTECTION PRODUCTS AND RESPOND TO THE SPECIFIC REQUIREMENTS OF THE OVERSEAS DEPARTMENTS

As previously mentioned, finding solutions for tropical crops and specific plant protection product problems is a priority. In order to achieve this Ecophyto II target, support should be provided for the approval of new technical solutions; in addition, though, alternatives to the use of chemical products should also be supported through changes to farming practices. Work should focus in particular on solutions that do not involve the use of plant protection products, such as cover crops, mechanical methods or genetic selection.

- **Promote the creation of innovative crop system platforms**

This action provides for the extension to all tropical crops of work launched under the sustainable banana plan, through the establishment of innovative crop system platforms. One of these tools, a key pillar for agro-ecology and conservation agriculture, relates to plant cover and the incorporation of service plants. The use of cover plants helps the crop system in a number of ways, including soil fertility, fertilisation, the environment and biodiversity.

It also helps to promote trial tests on the introduction of service plants from the local biodiversity offering, preserving a balanced ecosystem.

- **Promote research into agricultural technology**

In the field of agro-ecology, innovation cannot just be top-down; all stakeholders must work together, and particularly so in relation to mechanisms under the European Innovation Partnership. For the overseas departments, in conjunction with priority area 2, operational research programmes should be established in keeping with the cooperation measures provided for under the rural development programmes (Measure 16) with the IRSTEA, pilot farmer groups, manufacturers and technical institutes, which aim to develop suitable tools for mechanical weed management in tropical environments and to optimise spraying tools.

- **Create plant breeding platforms for tropical production offering high added value**

The breeding of disease-resistant plants is of special importance for tropical crops, as this offers a sustainable alternative to chemical control. As with the CIRAD banana platform, a

plant breeding platform for tropical production offering high added value should be created, offering a solution to a technological deadlock.

27.3 DEVELOP REGIONAL AND INTER-OVERSEAS DEPARTMENT COOPERATION

The overseas departments are a major environmental asset for France; more than 90% of French biodiversity can be found in these territories, all of which are tropical but which remain highly diverse and distant from one another. Nevertheless, these territories have a number of similar characteristics, such as a high number of 'orphan' or empty treatments and a need for specific adjustments to farming practices to meet the expectations of the agro-ecology project. Spaces for discussion and exchange are therefore needed to promote a positive attitude to incorporating research and transfer considerations.

- **Develop regional cooperation**

As regards the focus areas of minor use and alternative practices, the overseas departments should be more fully integrated at regional level, in addition to promoting the sharing of practices between farmers and supporting cooperation between research bodies. These operations will mainly be financed through the European Rural Development Fund in cooperation with INTEREG, a European cooperation body. Ecophyto II may act as the national counterpart to these projects.

- **Promote the exchange of practices and cooperation between overseas departments**

The inter-overseas department cooperation project will centre around three flagship actions:

- an inter-overseas department exchange seminar will be organised every two years to boost synergies between stakeholders with regard to Ecophyto II;
- the creation of a dedicated online platform will allow for more efficient dissemination of information in real time, formalise exchanges between technical institutes and encourage inter-overseas department scientific publications;
- support for the creation of the OPIDOM association, which will serve as the technical platform for inter-departmental sharing.

27.4 GAIN A BETTER UNDERSTANDING OF EXPOSURE AND REDUCE RISKS FOR THE GENERAL PUBLIC, THE ENVIRONMENT AND PROFESSIONAL USERS OF PLANT PROTECTION PRODUCTS IN THE OVERSEAS DEPARTMENTS

Work performed under priority area 9 of Ecophyto I has helped to strengthen local expertise in workplace health and safety. These efforts will be continued under Ecophyto II, in conjunction with work under priority areas 2 and 3; this expertise will be leveraged more widely in order to boost understanding of exposure and risk reduction for users, the general population and biodiversity, while taking the specific features of these territories (working

conditions, crops, climatic conditions etc.) into account.

Work will centre primarily on advancing knowledge of exposure in tropical crops by continuing work on matrices and developing safer technical solutions (application equipment and personal protective equipment in particular) that take account of the specific working conditions in the overseas departments.

27.5 ESTABLISH A LONG-TERM CHANNEL FOR THE SUSTAINABLE MANAGEMENT OF EMPTY PACKAGING AND UNUSABLE PLANT PROTECTION PRODUCTS

The first Ecophyto seminar for the overseas departments, held in March 2008, clearly highlighted the issue of agricultural waste management, specifically in relation to empty plant protection product packaging and unusable plant protection products (EVPP/PPNU).

Following on from local organisation of regular collections, there is now a desire to introduce a sustainable and stand-alone system for this waste collection, to be tailored to the situation in each overseas department.

The organisational structure for agro-supply waste management was introduced on a voluntary and gradual basis, over a ten-year period, in mainland France. Management of the various programmes is governed by private law contracts between the stakeholders: marketers, eco-agencies, distributors and waste management businesses. The voluntary sector must be developed in close collaboration with the public authorities. As the situation for the overseas departments is more complex than in mainland France (additional costs, no sectoral organisation, distance to market), the authorities must be able to support the creation of a sector of this kind by means of:

- the creation of one structuring body per overseas department to establish the sector;
- a gradually decreasing co-financing action by the European Agricultural Fund for Rural Development and ADEME, the Agency for the Environment and Energy Management, to close the financing plan.

Research actions undertaken in this sector should also be put forward, such as adapting biodegradable mulching to the tropical environment with a view to reducing the use, risks and impacts of herbicides.

27.6 IMPROVE AGRICULTURAL TRANSFER

The agricultural situation in the overseas departments is characterised by its particular organisation, being based around the major production sources which are centred on exports. These are bananas and sugar cane, and 'diversification crops' which are used primarily to meet the food needs of the local population. These new crops, market produce and orchards, are mainly used by small farmers outside of sectoral organisation mechanisms, which makes the dissemination of knowledge and changes in practices more challenging. In addition, there is no general reference documentation for integrated pest management in the overseas departments.

- **Provide professional development for stakeholders and support skills transfer**

Ecophyto II should enable the mobilisation of all stakeholders across the five overseas departments. The specific considerations around structuring both sectors and stakeholders offer an opportunity for the plan to succeed, as this structuring process can be developed with that objective in mind. The coordination of this major project is crucial to ensuring that it is properly and successfully implemented. Support should be provided through financing for a structuring body in each overseas department.

- **Develop reference documents for integrated crop management through the agricultural transfer and innovation network (RITA)**

27.7 ANNOUNCE THE INTRODUCTION OF LOW-PLANT PROTECTION PRODUCT USE CERTIFICATION IN THE OVERSEAS DEPARTMENTS

Fact sheets for low-plant protection product use will be prepared through the agricultural transfer and innovation network, so as to pave the way for a possible mainstreaming of low-plant protection product certification in the overseas departments following the trials provided for under Action 1.1.

PRIORITY AREA 6: COMMUNICATE AND IMPLEMENT STREAMLINED GOVERNANCE

The aim of this priority area is the widespread dissemination of tools and actions implemented under the Ecophyto plan. This communication process will highlight the modern and positive nature of the challenge to reduce the use, risks and impacts of plant protection products (Action 28).

Furthermore, to ensure that Ecophyto II develops and adapts in real time to reflect the plant protection product situation in France, information will be provided to the public on the monitoring indicators for use, impact and changing practices developed under priority area 3.

The European level will be integrated through the use of benchmarking and through the promotion of French initiatives, particularly the promotion of the French approach and positions within the development process for a new European strategy for plant health.

This priority area also outlines the arrangements for governance (Action 29) and financial networks (Action 30) at national and regional level.

28. FOCUS COMMUNICATION ON THE POSITIVE AND MODERN CHALLENGE OFFERED BY REDUCING THE USE, RISKS AND IMPACTS OF PLANT PROTECTION PRODUCTS TO CREATE AN AGRICULTURAL SECTOR THAT OFFERS EXCELLENT ECONOMIC, ENVIRONMENTAL AND SOCIAL PERFORMANCE

Communications play a cross-cutting role across all priority areas, serving to support and spread applied actions to help gain the support of all stakeholders for the objectives of the plan and for a change in practices. National and regional communications should therefore

centre on the wide range of stakeholders involved in Ecophyto II, while placing the farmer at the very heart of a change in practices. Moreover, such communications will target the general public, so as to take the heat out of the discussion and allow agricultural sectors the opportunity for dispassionate engagement.

National communications contribute to the following global issues:

- Placing the necessary reduction in the use, risks and impacts of plant protection products in the wider context of sustainable agriculture at economic, environmental and social level.
- Raising awareness around protecting human health through training, information and prevention;
- Mobilising the public, all sectoral-level actors and all stakeholders to support them in the move towards a clearer, active and responsible approach;
- Initiating a positive and constructive public debate on the issue of plant protection products;
- Showcasing the regional level as a source of experience and a focal point for dissemination and transfer.

Links will be established between these communications and those on accelerating the transition to ceasing the use of plant protection products in gardens, planted spaces and infrastructure (JEVIS) as mentioned under Actions 17 and 18 of the plan.

In order to contribute to addressing these global issues, the communications campaign will have the following specific aims:

- **gaining farmers' support** for optimising and changing agricultural practices and fulfilling the objectives on reducing the use, risks and impacts of plant protection products requires the establishment of an agro-ecology approach that increases economic benefits and reduces environmental impacts; innovative farmers combine various tools (seeds, EcophytoPIC, the crop health newsletter, diversification etc.) and techniques to protect against bio-pests instead of chemical treatments: they do not apply a package of technological measures, but endeavour to optimise eco-system services to lower costs and reduce their workload peaks in connection with their structures;
- as farmers can only commit to investing in the agro-ecology approach as part of a collaborative effort in conjunction with their sector, local environment and advisors, **promote farmers' involvement** in Ecophyto II and 'Producing Differently' group networks (DEPHY farm network etc.); examples demonstrating that the system can be changed while also making a better living from one's profession will be given particular emphasis;
- as farmers will have made a commitment to reducing the use, risks and impacts of

plant protection products, if these changes are noticed and promoted by consumers, **inform consumers** so that they can reconnect with farmers and all stakeholders (processing, health, environmental protection); citizens should be made aware that agriculture is changing and that farmers and scientists are working together to find alternative solutions to plant protection products, or viable solutions that are less harmful to health and the environment, to reduce the use, risks and impacts of plant protection products while maintaining a high-yield, high-quality agricultural industry; **respond to questions from the public and boost their confidence in producers** by making them aware of the skills and knowledge of French farmers, the hygienic quality of French food, and food control mechanisms (compliance with plant protection product residue limits, more rigorous specifications for plant protection product marketing authorisations, the national strategy for endocrine disruptors, surveys by the National Brigade for Veterinary and Phytosanitary Investigations);

- **raise awareness among farmers of consumers' expectations** around product hygiene quality (pesticide residue); **at the same time, raise awareness among consumers of the consequences of overly high expectations** on the visual presentation of products in relation to plant protection treatments;

- **raise awareness of the need to prevent the introduction of regulated and quarantined harmful organisms** and invasive foreign species which may require the extensive use of plant protection products as the only possible form of treatment;

- lastly, so as to reduce the impact of plant protection products on human health, **encourage farmers to take measures to protect their own health** and create a socio-professional environment that lends itself to risk reduction (encouraging the use of personal protective equipment etc.).

Consideration will be given to the creation of a communications plan that will involve all stakeholders, centre around farmers and target the general public on the topic of producers of food, health and the environment, while communications efforts targeting farmers will focus on the technical, economic and health benefits of implementing a collective agro-ecology process. The latter will be illustrated by examples of viable and concrete measures that are directly applicable to agriculture.

29. INTRODUCE A STREAMLINED AND OPERATIONAL GOVERNANCE STRUCTURE

29.1 NATIONAL LEVEL

A more fluid and streamlined governance structure has been put in place at national level, with joint operational coordination assured by MAAF-MEDDE. The aim of this new structure is to process financial files more effectively while also allowing more space, at strategic level, for discussion around broad guidelines, with the involvement of all stakeholders. The outcome of this discussion will be the collaborative drafting of the national financial model for the plan.

A committee for strategic direction and monitoring (COS) made up of all national plan stakeholders

has been established. This committee makes decisions pertaining to the broad strategic guidelines of the plan. It discusses arrangements for implementing the plan's various actions with a view to ensuring their consistency and efficiency. It delivers opinions on financial guidelines (national annual financial model for the plan) and on guidelines for calls for projects. It approves the composition and mandate of working groups created for actions or action groups. An annual progress review of actions and funding use is submitted to this committee. It meets no less than three times per year. It is chaired by the Minister for Agriculture. The deputy chair is a Member of Parliament selected by the Ministers for Agriculture and the Environment.

Dossiers submitted to COS are prepared jointly by **the MAAF and the MEDDE**, in conjunction with action coordinators. They approve the list of projects for financing on the basis of the guidelines adopted by COS on the advice of the stakeholder working groups. Should their opinion differ from that of the *ad hoc* working group, they explain their position. Where appropriate, they request the position of COS.

A scientific and technical committee (CST) composed of *intuitu personae* members, so named due to their personal expertise, has been established. It is chaired by one of its members, elected by the committee. Its role is to oversee, advise and forecast. In this role, it delivers scientific opinions on the actions of the plan, particularly with regard to their impact, and proposes changes where appropriate. CST members attend the priority area 2 steering committees. The committee meets three times per year, unless convened on an exceptional basis by COS. So as to meet the specific research requirements of priority area 2, an R&I Scientific Advisory Committee will be established. This committee will mobilise experts and specialists in research, training and innovation and 'experts' from the agricultural community. Its role will be the elaboration of the national research and innovation strategy, to be set out in an operational roadmap, and the organisation and monitoring of the implementation

of calls for research or expert assessment proposals (meta-analysis, group expert assessments). It will be co-chaired by MAAF and MEDDE departments, which will approve its guidelines.

The implementation of each action is the responsibility of action or action group coordinators, who may be internal or external to the administration. **The working groups in which stakeholders will be involved will be created on the decision of COS, depending on the specificities of the areas under study (JEVI, overseas department etc.). Working groups deliver an opinion on funding application forms.**

The plan will be assessed, with a focus on implemented actions but also on a comparison of results at European level.

29.2 REGIONAL LEVEL

In order to ensure consistency across development actions implemented at regional level, regional governance of Ecophyto II is organised by the regional prefect with the involvement of the primary partners, as part of the committee to be established to monitor the agro-ecology project at regional level.

This **agro-ecology committee** organised by the regional prefect brings together the region,

the relevant finance providers and water supply agencies, agricultural agencies and development bodies, notably the regional Chamber of Agriculture, the national agricultural and rural associations (ONVAR) and all stakeholders. It establishes strategic regional guidelines, discusses the regional roadmap, validates guidelines for regional calls for projects and monitors the implementation of the plan within the region. Strategic and financial guidelines will be set in keeping with other plans and policies in place locally (relevant rural development programmes and agency intervention programmes) and in line with the local setting, while observing national guidelines. To do this, efforts will be made to ensure the presence of diverse structures within these committees, which will feature representatives from the agricultural and organic farming communities, JEVIs and consumers, alongside institutions and administrations.

Regional financing will target investment and innovation on the part of farmers and economic and environmental interest groups that facilitate the reduced use of plant protection products across the different sectors (suggestions of the inter-inspection report on low-plant protection product certification), as well as approaches that align with the policy direction and objectives of the regional strategy developed by the agro-ecology committee.

A committee of finance providers made up of financial decision-makers will put forward funding to be allocated by that body at local level to support agro-ecology, including Ecophyto appropriations.

30. MOBILISE FINANCIAL RESOURCES COMMENSURATE WITH OBJECTIVES

30.1 FINANCIAL AMOUNTS ALLOCATED TO THE PLAN

The financial resources allocated to Ecophyto II have been slightly increased. As a result of the fee for non-point pollution paid by users, and by farmers in particular, when purchasing certain plant protection products[8], the amount of EUR 41 million currently allocated to the National Office for Water and Aquatic Environments (ONEMA) to fund actions under Ecophyto II will be boosted by an additional EUR 30 million (deducted by water supply agencies from 2015 and available in 2016) arising from the widening of the non-point pollution fee to include all CMR2 products.

In addition to the EUR 71 million dedicated to Ecophyto II, it will be necessary to ensure the visibility of other sources of financing to help support the plan's objective, irrespective of who manages these resources or the mechanisms that deliver them. To this end, an overview table for mobilised financial resources showing reported and estimated amounts for all identified finance sources will be kept updated. It will be submitted to COS on an annual basis. At regional level, a similar table will also be kept updated, and will be submitted to the agro-ecology committee and transferred to the national level on an annual basis.

The annual allocation of funding across the different actions of the plan will be discussed with stakeholders on a yearly basis within the committee for strategic direction and monitoring.

[8] Articles L. 213-10-8 and R. 213-48-13 of the Environmental Code

30.2 NATIONAL AND REGIONAL FINANCIAL NETWORKS

With regard to the EUR 41 million drawn from the non-point pollution fee and currently signposted for the Ecophyto plan at national level, the practical management of this payment is delegated to ONEMA/AFB[9] by a separate accounting department, on the basis of specific guidelines co-signed by the Ministers for Agriculture and the Environment with a delegation of authority from the Board of Directors to the ONEMA/AFB Director-General for a maximum amount.

The arrangement is therefore as follows:

- Implementation of the annual budget on the basis of the general outlines of the national annual budget discussed in COS and formalised by means of the guidelines co-signed by MAAF-MEDDE and addressed to ONEMA;
- Review by MAAF and MEDDE of individual projects (possibly reviewed by COS for sensitive projects);
- DG decision: either directly below a certain threshold or above that threshold, following the decision of the Board of Directors;
- Preparation and signature of financial assistance agreements;
- Monitoring of completion and control of agreements;
- Financial risk provisions undertaken by ONEMA/AFB.

As of 2016, an additional EUR 30 million will be mobilised at local level, specifically to finance actions identified by the agro-ecology committee. To ensure overall consistency, a framework will be prepared at national level. This funding will target investment in farms that aim to reduce the use, risks and impacts of plant protection products, in conjunction with actions provided for under the low-plant protection product certification scheme and selected on the basis of regional calls for projects. Special focus will be placed on ensuring that management regulations for water supply agencies under this envelope are as closely harmonised as possible between the various catchment areas.

As funding for actions to be implemented in the overseas departments cannot be secured by the water supply agencies, this funding will be provided under the EUR 41 million envelope managed by ONEMA/AFB.

30.3 CALL FOR A PROJECT-CENTRED APPROACH

Every year, calls for projects will be launched by MAAF and MEDDE at national and regional level to select innovative actions that champion a reduction in the use, risks and impacts of plant production products and the transition to agro-ecology.

These calls for projects should allow for the emergence of innovative projects, beyond structural mechanisms with previously established governance and procedural arrangements (DEPHY, biological territorial monitoring and Certiphyto in particular), and

[9] As AFB is taking over all tasks currently delegated to ONEMA, including the management of Ecophyto funds, this establishment does not change the present arrangement.

should therefore focus on actions for transfer, dissemination, communication, innovation, for the incorporation of integrated pest management, agro-equipment, personal protective equipment (PPE), and bio-control, for example.

MAAF and MEDDE will draw up national calls for projects and will set out the priorities for regional calls for projects in line with the COS-approved position. With regard to research and innovation, national calls for projects will be drawn up by the SR&I Scientific Advisory Committee. Particular attention will be afforded to minor crops, 'orphan' treatments and tropical crops. Where appropriate, specifications for national projects may be developed in cooperation with the relevant working groups.

Contents

GLOSSARY

ACTA	Association for technical agricultural coordination [Association de coordination technique agricole]
AEAP	Artois-Picardie water supply agency [Agence de l'eau Artois-Picardie]
AFB	French Agency for Biodiversity [Agence française de la biodiversité]
ANSES	National Agency for Food, Environmental and Occupational Safety [Agence nationale de sécurité sanitaire de l'alimentation, de l'environnement et du travail]
APCA	Permanent Assembly of Chambers of Agriculture [Assemblée permanente des chambres d'agriculture]
AXEMA	Union for the agro-equipment industry [Union des industriels de l'agroéquipement]
BNEVP	National Brigade for Veterinary and Phytosanitary Investigations [Brigade nationale d'enquêtes vétérinaires et phytosanitaires]
BNV-D	National Bank for Distributor Sales [Banque nationale des ventes distributeurs]
CTIFL	Inter-professional technical centre for fruits and vegetables [Centre technique interprofessionnel des fruits et des légumes]
DAAF	Regional Directorate for Food, Agriculture and Forestry [Direction régionale de l'alimentation, de l'agriculture et de la forêt]
DEB	Division for Water and Biodiversity [Direction de l'eau et de la biodiversité]
DEPHY	Network for demonstration, trial and reference production for low-plant protection product use systems [Réseau de démonstration, expérimentation et production de références sur les systèmes
DGAL	Directorate General for Food [Direction Générale de l'Alimentation]
DGPE	Directorate-General for business economic and environmental performance [Direction générale de la performance économique et environnementale des entreprises]
DGS	Directorate-General for Health [Direction générale de la santé]
DICOM	Department for information and communications [Délégation à l'information et à la communication]
DRAAF	Regional Directorate for Food, Agriculture and Forestry [Direction régionale de l'alimentation, de l'agriculture et de la forêt]
DREAL	Regional Directorate for the Environment, Planning and Housing [Direction régionale de l'environnement, de l'aménagement et du logement]
EPLEFPA	Public local educational establishment for agricultural teaching and vocational training [Etablissement public local d'enseignement et de formation professionnelle agricoles]
EVPP	Empty plant protection product packaging [Emballages vides de produits phytopharmaceutiques]
FNA	Federation for Agricultural Traders [Fédération du négoce agricole]

FNAB	National Federation for Organic Farming [Fédération nationale de l'agriculture biologique]
GIEE	Economic and environmental interest group [Groupement d'intérêt économique et environnemental]
INERIS	National Institute for Industrial Risk Management [Institut national de l'environnement industriel et des risques]
INRA	National Institute for Agricultural Research [Institut national de la recherche agronomique]
IBMA France	International Bio-control Manufacturers' Association, France
IRSTEA	National Institute for Scientific and Technological Research for Agriculture and the Environment [Institut national de recherche en sciences et technologies pour l'environnement et l'agriculture]
ITAB	Technical institute for organic farming [Institut technique de l'agriculture biologique]
MAEC	Agro-environmental and climatic measures [Mesures agro-environnementales et climatiques]
MSA	Agricultural Social Insurance Fund [Mutualité sociale agricole]
ONCFS	National Office for Wildlife and Hunting [Office national de la chasse et de la faune sauvage]
ONVAR	National Organisation for Agricultural and Rural Areas [Organisme national à vocation agricole et rurale]
OPCA	Accredited vocational training fund [Organisme paritaire collecteur agréé]
PCAE	Farm competitiveness plan [Plan pour la compétitivité des exploitations agricoles]
PPNU	Unusable plant protection products [produits phytopharmaceutiques non utilisables]
RITA	Technical innovation and agricultural transfer network [Réseau d'innovation et de transfert agricole]
SBT	Biological territorial monitoring [Surveillance biologique du territoire]
UIPP	Union for the plant protection industries [Union des industries de la protection des plantes]
UPJ	Union of businesses for the protection of gardens and public spaces [Union des entreprises pour la protection des jardins et des espaces publics]