

ANNEX 1

**QUESTIONNAIRE about the socio-economic implications
of the placing on the market of GMOs for cultivation**

**INCORPORATES THE POSITION OF THE GOVERNMENT OF
MALTA**

(Malta's replies are indicated in *italics* and are underlined.)

16 July 2009

A – Introduction note

Article 31.7 (d) of Directive 2001/18/EC¹ provides that the Commission should send to the European Parliament and the Council a specific report on the operation of the Directive including inter alia an assessment of the socio-economic implications of deliberate releases and placing on the market of GMOs. These implications are defined in Recital (62) of the Directive as the socio-economic advantages and disadvantages of each category of GMOs authorised for placing on the market, which take due account of the interest of farmers and consumers. In its 2004 report, the Commission noted that there was no sufficient experience to make such an assessment (the Directive became fully applicable as of 17 October 2002 and several Member States had not transposed yet so only little experience of its implementation was available).

Moreover Regulation (EC) No 1829/2003, its articles 7 and 19, asks the Commission to submit a draft of the authorisation decision taking into account, together with the opinion of the Authority in charge of the scientific assessment, "other legitimate factors relevant to the matter under consideration".

At its meeting on 4 December 2008, the Environment Council adopted conclusions on GMOs mentioning among other things the appraisal of socio-economic benefits and risks of placing GMOs on the European market for cultivation. In particular the Council conclusions indicated the following:

"The Council:

7. Points out that under Regulation 1829/2003 it is possible, under certain conditions and as part of a case by case examination, for legitimate factors specific to the GMO assessed to be taken into account in the risk management process which follows the risk assessment. The risk assessment takes account of the environment and human and animal health. Points out that under Directive 2001/18/EC, the Commission is to submit a specific report on the implementation of the Directive, including an assessment, inter alia, of socio-economic implications of deliberate releases and placing on the market of GMO.

Invites the Member States to collect and exchange relevant information on socio-economic implications of the placing on the market of GMOs including socio-economic benefits and risks and agronomic sustainability, by January 2010. INVITES the Commission to submit to the European Parliament and to the Council the report based information provided by the Member States by June 2010 for due consideration and further discussions.

¹ Directive 2001/18/EC of the European Parliament and of the Council of 12 March 2001 on the deliberate release into the environment of genetically modified organisms and repealing Council Directive 90/220/EEC

This possible consideration of socio-economic factors in the authorisation of GMOs for cultivation has also been raised by several Member States in the Environment and Agriculture Councils of the last months².

In order to respond to the invitation of the Council conclusions of 4 December 2008 and to the requirements of the legislation, the Commission invites Member States to submit all information they would consider relevant by January 2010 at the very latest.

In order to help Member States in structuring their responses, the Commission drafted a non exhaustive list of areas and stakeholders which could be concerned. In addition, for each of these categories, we have introduced in the annex a list of leading questions which could be used where considered appropriate.

When preparing their contribution Member States are invited to report *ex post* on the socio-economic impact of GMOs that have been approved in the EU and cultivated in their territory. Additionally, Member States are also invited to assess *ex ante* the possible implications of GMOs of currently pending approvals as well as those which are under development according to the best of their knowledge. One possible source of information in that respect is that recent report produced by the Joint Research Centre titled "The global pipeline of new GM crops" (available at <http://ipts.jrc.ec.europa.eu>).

The submissions must be as explicit and informative as possible and supported by evidence and data. When feasible, the socio-economic analysis – be it *ex post* or *ex ante* – should be quantified. In case documents are attached, they should be accompanied by a summary of the relevant part and a specification about the argument or topic that is being defended.

Where stakeholders are consulted at national level (e.g. farmers and consumers), we would appreciate it if their responses would be incorporated in your submission in an aggregated fashion. The list of stakeholders consulted, as well as any other pertinent information, may indeed be attached to the questionnaire.

Please note that the contributions must only deal with "socio-economic implications of the placing on the market of GMOs including socio-economic benefits and risks and agronomic sustainability" for each category of GMOs. These contributions should cover cultivation of GMOs and placing on the market of GM seeds.

If you choose to fill in the annexed questionnaire, please consider that answers should be broken down by the purpose of the genetic modification (herbicide tolerant, insect resistance, etc) if this affects the content of the responses.

DEADLINE FOR CONTRIBUTIONS: January 2010

² Environment Council of 2 March 2009, Agriculture Council of 23 March 2009 and Environment Council of 25 June 2009

B - Contact Details

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C – Areas and stakeholders on which Member States are invited to comment

1 - Economic and social implications: influence on concerned economic operators

Upstream

1.1. Farmers

For each question, answers can be broken down by the range of stakeholders:

- *farmers cultivating GM crop;*
- *and/or conventional crops;*
- *and/or organic crops;*
- *beekeepers;*
- *seed producers producing GM seeds;*
- *seed producers producing conventional seeds;*
- *seed producers producing organic seeds;*

...

1.2. Seed industry

For each question, answers can be broken down by the range of relevant stakeholders, including:

- *plant breeders;*
- *multiplying companies;*
- *seed producing farmers;*
- *seed distributors;*

...

Downstream

Consumers;
Cooperatives and grain handling companies;
Food and feed industry;
Transport companies;
Insurance companies;
Laboratories;
Innovation and research;
Public administration.

Economic context

Internal market;

Specific regions and sectors.

2 - Agronomic sustainability

Biodiversity, flora, fauna and landscapes

Renewable or non renewable resources

Climate

Transport / use of energy

3 - Other Implications

ANNEX

Lead questions per area and stakeholder

For each question, answers should be broken down:

- *by the purpose of the genetic modification if this affects the content of the responses,*
- *between ex ante and ex post considerations.*

1. - Economic and social implications

Upstream

1.1. Farmers

For each question, answers can be broken down by the range of relevant agricultural stakeholders farmers

- *farmers cultivating GM crops;*
- *and/or conventional crops;*
- *and/or organic crops;*
- *beekeepers;*
- *seed producers producing GM seeds;*
- *seed producers producing conventional seeds;*
- *seed producers producing organic seeds;*
- ...

Has GMO cultivation an impact regarding the following topics? If so, which one?

- farmers' revenues (output prices and agricultural yields);
- farmers' production costs;
- labour flexibility;
- quality of the harvest (e.g. mycotoxins);
- cost of alternative pest and/or weed control programmes;
- price discrimination between GM and non-GM harvest;
- availability of seeds and seed prices;
- dependence on the seed industry;
- farmers' privilege (as established by Article 14 of Regulation (EC) No 2100/94 on Community plant variety rights) to use farm-saved seeds;
- the use of agriculture inputs: plant protection products, fertilisers, water and energy resources;
- health of labour (possible changes in the use of plant protection products);
- farming practices, such as coexistence measures and clustering of GMO and/or non-GMO production;
- cost of coexistence measures;
- conflicts between neighbouring farmers or between farmers and other neighbours
- labour allocation- insurance obligations;
- opportunities to sell the harvest due to labelling;

- communication or organisation between the farmers;
- farmer training;
- beekeeping industry.

There is presently no cultivation of Genetically Modified crops in Malta; however, the Maltese authorities envisage that should this take place, a number of socio-economic impacts would occur, most notably affecting the agronomic sector.

This is primarily due to the fact that Maltese agriculture is quality-oriented and serves a multifunctional role and both Government and the private sector are engaged in efforts and initiatives including measures and funding that promote and encourage quality schemes, certification of products, etc, including organic production. It is, therefore, recognised that the introduction of GM cultivation would jeopardise these investments due to the fact that it is very difficult to apply co-existence measures in the context of the Maltese agricultural landscape, which is characterised by intensive and mixed cropping, small-scale agriculture, high density of fields in close proximity and within a patch-work landscape, and heterogeneity of agricultural practices.

In general and as a result of targeted consultations on the subject, the public and relevant stakeholders have repeatedly expressed their opinion that Malta should remain GM free and that no cultivation of GM crops should be permitted.

Any other impacts you would like to mention:

1.2. Seed industry

For each question, answers can be broken down by the range of relevant stakeholders, including:

- plant breeders;
- multiplying companies;
- seed producing farmers;
- seed distributors;

And/or:

- GM seeds;
- conventional seeds;
- organic seeds;

And/or:

- industrial / arable crops;
- vegetable crops...

Has GMO cultivation an impact regarding the following topics? If so, which one?

- employment, turn over, profits;
- the production of seeds (easiness/difficulty to find seed producers, easiness/difficulty to find areas to produce these seeds...);
- marketing of seeds;
- the protection of plant breeders rights; - the protection of plant genetic resources.

Extensive consultations would need to be carried out with the relevant stakeholders on the envisaged impact of GMO cultivation and, therefore, Malta is not in a position to provide any

feedback at this stage. This same comment applies for section 1.3 to 1.10; and 2.3 to 2.5 of this questionnaire.

Does the marketing of GM seeds have an impact on the seed industry and its structure in the EU (size of companies, business concentration, competition policy)? Please specify per sector.

- for plant breeders;
- for seed multiplication;
- for seed producers;
- for the availability of conventional and organic seeds;
- creation/suppression of barriers for new suppliers;
- market segmentation.

Any other impact you would like to mention:

Downstream

1.3. Consumers

Has GMO cultivation any impact regarding the following topics? If so, which one?

- consumer choice (regarding quality and diversity of products);
- the price of the goods;
- consumer information and protection;

Same comments as per Section 1.2 apply.

Any other impact you would like to mention:

1.4. Cooperatives and grain handling companies

Has GMO cultivation any impact regarding the following topics? If so, which one?

- work organisation;
- handling and storage;
- transport;
- administrative requirements on business or administrative complexity.

Same comments as per Section 1.2 apply.

Any other impact you would like to mention:

1.5. Food and feed industry

Has GMO cultivation any impact regarding the following topics? If so, which one?

- range of products on offer;
- employment, turn over, profits;
- work organisation;
- crop handling (drying, storage, transport, processing, etc...);
- administrative requirements on business or administrative complexity;

Same comments as per Section 1.2 apply

Any other impact you would like to mention:

1.6. Transport companies

Has GMO cultivation any impact regarding carriers (insurance, cleaning, separate lines...)? If so, which one?

Same comments as per Section 1.2 apply

1.7. Insurance companies

Does the GMO cultivation have any impact regarding insurance companies (e.g. in terms of developing new products)? If so, which one?

Same comments as per Section 1.2 apply

1.8. Laboratories

Has GMO cultivation any impact regarding the following topics? If so, which one?

- employment, turn over, profits;
- feasibility of analyses;
- time necessary to provide the results;
- prices of the analyses.

Same comments as per Section 1.2 apply

Any other impact you would like to mention:

1.9. Innovation and research

Do GMO cultivation and the technology spill over have an impact on the following topics? If so, which one?

- investment in plant research, number of patents held by European organisations (public or private bodies);
- investment in research in minor crops;
- employment in the R&D centres in the EU;
- use of non-GM modern breeding techniques (e.g. identification of molecular markers);
- access to genetic resources;

- access to new knowledge (molecular markers, use of new varieties in breeding programmes, etc.).

Same comments as per Section 1.2 apply

1.10. Public administration

Has GMO cultivation any impact regarding the actions of the national public administrations and the necessary budget (national and local level) for example policing and enforcement costs

Same comments as per Section 1.2 apply

Any other impact you would like to mention:

Economic context

1.11. Internal market

Does the placing on the market of GMO seeds have an impact on the functioning of the EU internal market on seeds? If so, which one?

Does it have an impact on the internal markets for services (if so which impact and which services), for agriculture products and on workers' mobility? If so, which one?

Does GMO cultivation have an impact on monopolies? If so, which ones (emergence/disappearance)?

Does it provoke cross-border investment flows (including relocation of economic activity)?

Any other impact you would like to mention:

1.12. Specific regions and sectors

Answers can be broken down on the purpose of the level (national, regional, local) and according to region.

Has GMO cultivation any regional and local impact in those regions regarding the following topics. If so, which one?

- agriculture incomes;
- farms' size;
- the farm production practices (e.g. increase or decrease of monoculture);
- the reputation regarding other commercial activities of the region/localities.

Same comments as per Section 1.1 applies.

Any other impact you would like to mention:

2. - Agronomic sustainability

2.1 Agricultural inputs

Does the cultivation of EU approved GMOs for cultivation have an impact regarding the use of pesticides against target insect pests (i.e. corn borer)?

Does the placing on the market of GMOs have an impact, and if so which ones, regarding the use of pesticides or/and on the patterns of use of chemical herbicides?

2.2. Biodiversity, flora, fauna and landscapes (other impacts than the ones considered in the environmental risk assessment carried out under Directive 2001/18 and Regulation (EC) No 1829/2003)

Does the cultivation of EU approved GMOs have an impact regarding the number of non agriculture species/varieties?

EU approved GMOs for cultivation are two GM maize MON 810 and GM Amphora potato (which is a closed system). Maize in Malta is not viable due to its requirement of large quantities of water which in Malta is a premium. Malta also does not have any wild relatives of maize. However, other EU approved GMOs which at present do not have approval for cultivation may have an impact on non-agricultural species/varieties in Malta should they be allowed for cultivation; for example. Malta has repeatedly stated that in the South of Europe and especially in Malta (due to high speciation of island states) we have 22 varieties of Brassicaceae most of which have are found in the wild and have a flowering period with overlaps that of GM oil seed rape (Brassica napus). At present there is no EU authorisation for cultivation of GM oil seed rape, however, it is approved for food feed and processing and a future application from cultivation in the EU cannot be excluded. Thus hybridisation would be inevitable (especially since oil seed rape has a high spill over percentage when transported from port to production facility or field), therefore it could compromise the wild genetic gene pool.

Does GMO cultivation have an impact on agriculture diversity (number of plant varieties available, agriculture species, etc?)

GMO crops are effectively an intensive monoculture system with no tillage and no crop rotation , therefore agriculture diversity would decrease considerably in an area. This is explained further in the following questions.

Does GMO cultivation have an impact, and if so which one, regarding:

- protected or endangered species;
- their habitats;
- ecologically sensitive areas;

The Maltese islands have 46 national and international ecologically sensitive areas (including Natura 2000 sites), all squashed in a territory of 316 square kilometres (Malta = 27km x 14km), therefore, if GMO cultivation where to take place, it would be either within or in the vicinity of one of these ecologically sensitive areas. Therefore an impact on either

protected fauna or wild flora as explained above would be inevitable, either through hybridisation with wild stock, increase in herbicide use in the area, or degree of monoculture and decrease in crop rotation, or decrease in tillage of the underlying soil due to intensive agriculture required by GM crop production.

Does GMO cultivation have an impact, and if so which one, regarding:

- migration routes;
- ecological corridors;
- buffer zones.

Does GMO cultivation have an impact, and if so which one, regarding:

- biodiversity;
- flora;
- fauna;
- landscapes.

Malta does not have any GMO cultivation. However, Maltese landscapes are known for their colourful nature due to the fact that fields are mostly less than one hectare and surrounded by rubble walls to reduce erosion and mark field borders. Thus multiple ownership occurs in a large agricultural area unlike in the rest of Europe where such a large area would be owned by a single farmer. The colours mentioned earlier are made up of the variety of crops you would find in such a multiple owned area, since different farmers would be growing different crops. Therefore, if GM cultivation would take place, to be a viable venture, such farmers would have to get together and grow the same crop, with the farmers on the borders of the area growing refuge plants to be inline with co-existence measures. However, this would destroy the landscape and biodiversity of the area since one crop would be grown and would affect the flora and fauna of the area since a GM monoculture with intensive herbicide applications and intensive agricultural systems with no crop rotation would replace the flora of the area (being wild or cultivated) and indirectly effect the fauna who would be striving on such a diverse area.

Any other impacts you would like to mention:

2.3. Renewable or non-renewable resources

Does the placing on the market of GMOs have an impact, if so which ones, regarding the use of renewable resources (water, soil...)?

Same comments as per Section 1.2 apply

Does the placing on the market of GMOs have an impact, if so which ones, regarding the use of non-renewable resources?

Same comments as per Section 1.2 apply

Any other impacts you would like to mention:

2.4. Climate

Does GMO cultivation have an impact regarding our ability to mitigate (other than by possibly reducing CO2 emissions from fuel combustion – see next section) and adapt to climate change? If so, which ones?

Same comments as per Section 1.2 apply

Any other impacts you would like to mention:

2.5. Transport / use of energy

Does the cultivation of EU approved GMOs have an impact regarding energy and fuel needs/consumption? If so, which ones?

Same comments as per Section 1.2 apply

Does the cultivation of EU approved GMOs have an impact regarding the demand for transport in general terms? If so, which ones?

Same comments as per Section 1.2 apply

Any other impacts you would like to mention:

3 - Other Implications

N/A