

ANNEX 1

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

16 July 2009

B - Contact Details

Member State:

ESTONIA

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ANNEX

Lead questions per area and stakeholder

As no farmer in Estonia grows currently GMOs, then we have virtually no experience or data to share, most of following answers are speculative.

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

- farmers' revenues (output prices and agricultural yields);

Currently, as much as it concerns GM maize cultivation in Estonia, then no impact is foreseen.

- farmers' production costs;
- labour flexibility;
- quality of the harvest (e.g. mycotoxines);

As Bt maize contains less mycotoxines, then the quality would rather increase.

- 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;

We do not foresee any effect to farmers rights to use their own 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;

Farming practices would clearly change after our farmers would starts growing GMOs, but so far the interest has been very low, so we do not foresee any significant change in the nearest future.

- cost of coexistence measures;

Implementation of coexistence measures will cost a lot to the farmer (registering fields, buffer zones, etc), especially as public interest is high.

- conflicts between neighbouring farmers or between farmers and other neighbours

A conflict between organic and GMOs farmers cannot be excluded. In Estonia organic agriculture is very viable and popular. Also other conflicts between neighbours are possible as media has created the opinion that GM farming could be dangerous. .

- labour allocation- insurance obligations;

Compensation of damages caused by growing of GMOs is regulated according to the Law of Obligations Act, no insurance scheme is foreseen, even though it was discussed during the process of set up of coexistence measures.

- opportunities to sell the harvest due to labelling;

According to the survey among Estonians (2009), 43 % of population would not buy GM products, only 2 % agrees to buy, rest of them are not sure about their preferences. At the same time, most of people prefer cheaper products, so in case products would be labelled and cheaper than normal products, then they could have competitive advantage on the market.

- communication or organisation between the farmers;
- farmer training;

According to the coexistence measures training is mandatory. Training is paid by government, and is for farmers free of charge. Farmer who wishes to grow GMOs has to participate at the training and gets the certificate that is valid for 5 years.

- beekeeping industry.

An additional notification to bee-keepers is required to avoid any possible contamination of organic bee-keeping.

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.*

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:

As GMOs are not yet cultivated in Estonia, it is difficult to answer. GM maize MON810 has no competitive advantages comparing with conventional maize in Estonia, as European corn borer is not present here.

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);

According to the survey among Estonians (2009), 43 % of population would not buy GM products, only 2 % agrees to buy, rest of them are not sure about their preferences. 54 % of answered people prefer to buy an organic food.

- the price of the goods;

Generally, the price of the product is decisive. GM product has a competitive advantage if it is cheaper.

- consumer information and protection;

According to the survey among Estonians (2009), 43 % of answered people is in opinion that GMOs have to have an additional special label denoted as GMO.

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;

Harvests of GMOs and conventional production has to be separated, it makes it more expensive.

- handling and storage;

Separation from conventional crops makes handling and storage of GMOs more expensive.

- transport;

Additional or separated transport for GMOs and an extra care for avoid spillage makes it more expensive

- administrative requirements on business or administrative complexity.

Any other impact you would like to mention:

Setting up and implementation of separation measures is expensive.

1.5. Food and feed industry

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

- range of products on offer;

Increases the range of products on offer.

- employment, turn over, profits;

Probably it has a positive effect on profit.

- work organisation;

Separated harvesting would increase the workload and expenses

- crop handling (drying, storage, transport, processing, etc...);

Separated transport, an extra care for prevention spillage would make it more expensive.

- administrative requirements on business or administrative complexity;

More labour-intensive at first stage, e.g. creation of GMO-register. For business it would mean some extra obligations (registering the fields, informing neighbours etc).

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?

There are requirements for cleaning and separate lines hence that will have impact. NO impact to insurance.

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?

No insurance scheme is foreseen.

1.8. Laboratories

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

- employment, turn over, profits;

Increasing number of analysis enhance the laboratory performance and increase profit, which compensate e.g. a real-time PCR operating costs. Additional workers may be needed in many tests should be done – positive effect to the lab.

- feasibility of analyses;

Estonia has an accredited laboratory for GMO analysis; probably no effect to feasibility.

- time necessary to provide the results;

Difficult to estimate

- prices of the analyses.

Usually the number of analysis determines the final cost.

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);

Supposedly yes.

- investment in research in minor crops;

Supposedly yes.

- employment in the R&D centres in the EU;

Supposedly yes.

- use of non-GM modern breeding techniques (e.g. identification of molecular markers);

Supposedly yes.

- access to genetic resources;

Supposedly yes.

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

Definitely yes.

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

Several costs are foreseen: handling of submitted of applications (budget is increasing every year s the number of applications grow, at the moment government pays the most of application handling costs), surveillance, operating costs of GMO register etc.

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)?

Presumably yes.

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;

Farms have to consider with an additional area for buffer zones. The smaller farm, the bigger area proportionally should be separated for buffer zones.

- the farm production practices (e.g. increase or decrease of monoculture);

Should not be a case as fields in Estonia are comparatively small and good agricultural practices are used everywhere.

- the reputation regarding other commercial activities of the region/localities.

Organic farmers have rather negative attitude to the GMO farmers, so it might affect the reputation of GMO growers.

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)?

Presumably yes.

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?

Patterns of use of chemical herbicides would change and the amount of used herbicides may rise as well.

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?

According to our knowledge, no cases are known.

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

According to our knowledge, no cases are known.

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

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

According to our knowledge, no cases are known.

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

- migration routes;

- ecological corridors;
- buffer zones.

According to our knowledge, no cases are known.

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

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

According to our knowledge, no cases are known.

Any other impacts you would like to mention:

Cultivation of GM maize should have no impact in Estonia.

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...)?

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

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?

Supposedly there is no impact in EU. GMOs are not cultivated in sufficiently large areas to talk about any measurable impact on climate change.

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?

Probably biodiesel could have an impact to fuel consumption.

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

Any other impacts you would like to mention:

3 - Other Implication