ANNEX 1

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

16 July 2009

A – Introduction note

Article 31.7 (d) of Directive 2001/18/EC[1] 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 months[2].

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

Member State: LATVIA

Name of ministry/ies contact Person/s: Inese Aleksejeva Veterinary and Food processing department Ministry of Agriculture of Republic of Latvia

Contact Address: Republikas laukums 2, Riga, LV -1981

Telephone: +371 67027069 **Fax**: +371 67027205

E-mail Address: Inese.Aleksejeva@zm.gov.lv

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

Research
Media
Municipalities

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
At the present, there is no any GM crop cultivation in Latvia and there are no any field trials carried out with GM crops in Latvia.

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?
Any GM crops that might be introduced in Latvia in the future will create both - economic and social risks for the conventional farmers, organic farmers, beekeepers, seed producers (both convential and organic).

- farmers' revenues (output prices and agricultural yields);
- farmers' production costs;
- labour flexibility;
- quality of the harvest (e.g.mycotoxines);
- 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: it is one of the main concerns of farmers
- 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: theoretically calculated cost of coexistence measures is high and do not cover potentially possible benefit from cultivation of GM crops in Latvia. This is determined by the fact that the fields are relatively small in Latvia.

- conflicts between neighbouring farmers or between farmers and other neighbours: conflicts between neighbouring farmers or between farmers and other neighbours are prospective and unavoidable, due to above mentioned relatively small fields and of disposition of farms (one estate among the another estate). Information exchange between neighbouring countries (Lithuania, Belarus etc.) not arranged as well.

- labour allocation- insurance obligations: inquiry find out that there will be problems with insurance obligation. Insurance companies do not want to insure GM crops in Latvia.

- opportunities to sell the harvest due to labelling;

- communication or organisation between the farmers;

- farmer training: not started yet.

- beekeeping industry: high risk for beekeeping industry in case if GM rape seed crops will be cultivated in future. Beekeeper farms are located all over Latvia. There is no free area from beekeeping farms.

Any other impacts you would like to mention:

Based on conclusions of the Ministry of Agriculture-funded research project 2007 "Economic evaluation on growing of genetically modified crops in Latvian " potential losses at the territory of Latvia are linked to the following business activities:

1) organic farms;
2) seed farming and science centers dealing with multiplication of the higher class of seed material on its territory, and in cooperation with the neighboring farms provide the necessary seed material for production of cruciferous crops;
3) farms engaged in bee-keeping;
4) farms and businesses dealing with rural tourism, as well as providing medical rehabilitation services.

Uncontrolled spreading of GM crops may negatively affect not only agricultural producers, but all rural residents engaged in agriculture, growing vegetables and cruciferous for domestic consumption and dealing with beekeeping.

GM crops could create the damage to Latvia, similar to *Heracleum sosnowskyi Manden* introduced in Latvia on a large scale for fodder needs in 60-70-ies of the last century. This plant has spread from the cultivated fields into the wild and for many years now is beyond human control.

Heracleum sosnowskyi Manden control program for 2006 - 2012 envisages LVL 15 351 800, of which to cover implementation purposes (including. administrative) costs ~ LVL 3351.8 thousand, practical eradication of *Heracleum sosnowskyi Manden* requires ~ LVL 12 million.

Spreading of GM crops can affect conservation of biodiversity and a sustainable environmental development.

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:

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 - **yes**

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.

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;

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?

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?

1.8. Laboratories

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

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

Any other impact you would like to mention:

1. Phytosanitary Laboratory. Currently, the laboratory is coping with the provided samples; there are sufficient personnel, equipment and rooms.

If the number of GMO samples significantly increases, it will cause the employment growth. Additional staff will be required both for technical preparation of samples and for qualified testing job.

The staff should be trained in addition. Expensive new equipment should be obtained and separate premises for it needed.

2. Seed Testing Laboratory still is working only with determination of seed quality (purity, germination etc.) only for conventional seeds. If the demand arises for quality estimation of GMO seeds, it could request supplementary budget in order to ensure impurity and coexistence with analyses of organic and conventional seeds. It means higher prices for analyses.

1.9. Innovation and research

There is no any GM crop cultivation in Latvia and there are no any field trials carried out with GM crops in Latvia.

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.).

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

Any other impact you would like to mention:

A public questionnaire "For or Against GMO in Latvia" was organized by the Ministry of Environment of Latvia during the period of December 10, 2008 – March 10, 2009. There were 37 440 respondents (total population of Latvia by *Eurostat* data at 1 January, 2009 – 2 261 294):

- 95% of all the respondents are against GMO cultivation;
- 94% of all the respondents are against GMO ingredients in fodder;
- 96% of all the respondents are against GMO ingredients in food;
- 91% of all the respondents are for GMO free zone.

Upper mentioned results of the questionnaire serves as serious concern for preparation of the report and elaboration of the policy concept on GMO issues in Latvia.

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?

Taking in account that market of species with authorised GMO seeds is less importance in seed market of our country due to climatic conditions, we can not see impact for Latvian internal market so far.

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?
The impact could be for State Plant Protection Service involved in control and monitoring of coexistence conditions in Latvia.

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: potentially - yes
- the farm production practices (e.g. increase or decrease of monoculture); potentially - increase of monoculture
- the reputation regarding other commercial activities of the region/localities: potentially - loss of reputation regarding other commercial activities.

Any other impact you would like to mention:
Based on the 2007 Ministry of Agriculture funded research project "Genetically modified crops growing economic evaluation of Latvian" the largest relative losses are expected in the Vidzeme region - 27.6% and Kurzeme region - 26,2%. In these regions the expected loss exceeds 50% of all potential losses in organic farming in the country, which may result from uncontrolled spread of genetic products.

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)?
There is no sense for GM insect resistant maize in Latvia as there is no corn borer in Latvia.

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?
In Latvia there is no GMOs approved for cultivation. Theoretically, in some cases GMOs has potential to reduce use of pesticides or/and 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? - potentially yes

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

Does GMO cultivation have an impact, and if so which one, regarding**:** potentially yes
- protected or endangered species;
- their habitats;
- ecologically sensitive areas;

Does GMO cultivation have an impact, and if so which one, regarding: potentially yes
- migration routes;
- ecological corridors;
- buffer zones.

Does GMO cultivation have an impact, and if so which one, regarding: potentially yes
biodiversity;
- flora;
- fauna;
- landscapes.

Any other impacts you would like to mention:
Latvia belongs to those European countries having the richest biodiversity resources. There are concerns that GMO cultivation may have negative impact on protected species, their habitats and will cause reduction of biodiversity.

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?

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?

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 Implications