

RESPONSE of AUSTRIA

ANNEX 1

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

7th January 2010

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 if their responses were 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: Austria

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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

Introductory remarks

Austria appreciates the efforts by the Commission to collect experiences of Member States with regard to socio-economic effects caused by GMO cultivation. However, we believe that many questions in the questionnaire are phrased in such a way, that it is very difficult to answer them, because of the limited experience with GMO cultivation in Europe. To our knowledge no or only very limited data on such effects are available and therefore the questions which focus on actual experience and concrete data cannot be answered by most of the Member States simply because there is no or only small scale cultivation of GMOs. Although we therefore think that many questions should have been phrased differently in order to receive more meaningful answers, the Austrian Authorities in the following provide answers to most of the questions in order to provide the Commission with the broader views from an Austrian perspective on the issue of socio-economic effects of GMOs.

Austria is also aware of the ongoing discussion following the Council Conclusions of December 2008 regarding the definition of criteria for socio-economic effects and the evaluation on the basis of those criteria. One proposal for such criteria has been published by COGEM of The Netherlands and presented at the recent Conference in November in Scheveningen. We believe that this proposal is a step in the right direction, but details on how to define such criteria and which are the most relevant ones for GMO cultivation still need to be discussed on an EU level, including the different opinions and the socio-economic background of each Member State.

We believe that only after a thorough discussion and an EU-wide common understanding on criteria for socio-economic effects of GMO cultivation, a questionnaire phrased as the current one can be answered based on sound data. However, we have included our answers to the questions, which are based on the agricultural structure of Austria and possible socio-economic effects which are likely to be caused by GMO cultivation.

General statement:

To date, no GMOs have been cultivated in Austria.

Nevertheless Austria thinks it is important that precautionary measures are taken in the EU to prevent the unintentional spread of genetically modified plants in the environment and the adventitious presence of GMOs in other products. Austria is the EU Member State having the highest share in the “agri-environmental programme”. More than 90% of Austria’s agriculturally utilised area is covered by this programme. Austria is also the EU member having the highest portion of organic growing area in its agriculturally utilised area. Both organic and conventional farmers prefer not to apply genetic engineering. Therefore, as a minimum a general framework must be guaranteed which allows each farm to maintain a GMO-free production. In any case GMO cultivation must be subject to the observation of safety distances or the establishment of buffer zones between land on which GMOs are applied and land with non-GM plants of the same genus. This applies in particular to transfrontier cultivation areas of Member States!

Due to the small structure of Austria’s areas under cultivation and the ensuing risk of uncontrolled spread of GMOs the EU Commission’s idea of the “coexistence” of GMO and non-GMO cultivation is for some crops (rape, sugarbeet seed propagation) simply not feasible in Austria and, altogether, will certainly not be feasible Austria-wide (cf. AGES study, Vienna 2004: “Die Produktion von Saatgut in abgegrenzten Erzeugungsprozessen zur Vermeidung einer Verunreinigung mit Gentechnisch Veränderten Organismen im Kontext mit der Koexistenz von konventioneller Landwirtschaft mit oder ohne GVO und ökologischer Landwirtschaft”).

Austria’s farmers are anxious that, as a result of the rising number of authorisations issued for GMOs, they might become dependent on but a few trusts of the seed and crop protection industry. The one-sided orientation of the new technologies does not take account of the many regionally specific needs.

Politically, Austria thus advocates a right of self-determination concerning cultivation, not only vis-à-vis the EU (initiative by Federal Minister Berlakovich), but also on the part of Austria’s nine Federal Provinces all of which are members of the European Network of GMO-free Regions.

1.1. Farmers

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

- farmers cultivating GM crops;

Problems:

- The prevailing mood concerning GMOs (media and people’s opinion) is sceptical to negative.
- It is to be expected that neighbours of farmers intending to grow genetically modified varieties will address consumer or environmental organisations or will

organise protest campaigns to attract media attention. Wilful destruction cannot be ruled out in that case (cf. experimental releases of GMOs in other Member States).

- From the point of view of agriculture a major problem will be the risk of outcrossing and the contamination of other crops as well as the resulting questions of liability. As a consequence, also the marketability of the harvested product would be jeopardised.
- As regards damage claims on the part of other farmers or of beekeepers, no practical experiences have yet been made; given the small structure of the agricultural land major problems in neighbourly relations must be expected in the event of GMO cultivation. Neighbouring farmers and beekeepers will probably sue for damages.

- *and/or conventional crops;*

Problems:

- In the practice, the complete logistical separation between conventional products and GMO products does not appear to be feasible (in particular not in the feed sector).
- Though the question of liability for GMO contamination has been regulated in the framework of sections 79 a-m of the Genetic Engineering Act, it has not yet been applied to coexistence matters in the practice, as there has been no GMO cultivation in Austria so far. In the event of GMO cultivation we have to reckon with long-running legal disputes.

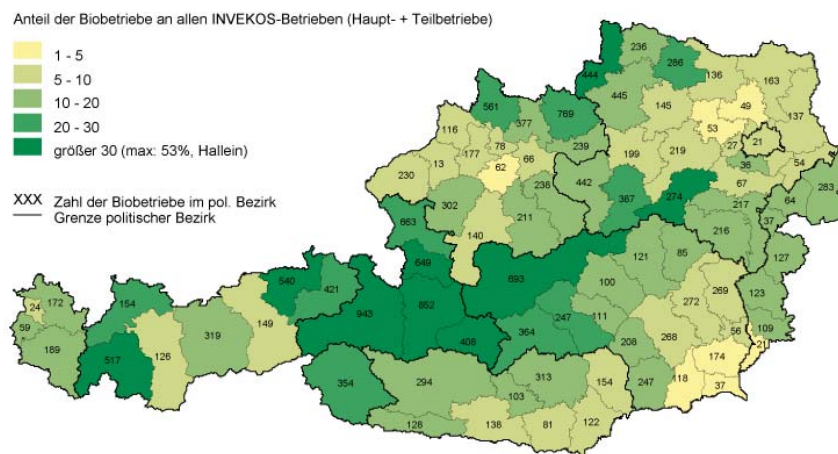
- *and/or organic crops;*

Problems:

- Analogous problems as for “conventional crops” as organic farming is widespread in all Austrian provinces.
- In animal production, sufficient availability of GM-free protein feed is increasingly becoming a problem.
- If we take the whole Austrian territory, an average of almost 15% of all organic farming enterprises are faced with the problem of coexistence.

Verteilung der Biobetriebe nach politischen Bezirken 2008

19.961 Biobetriebe; 14,7% Anteil an allen Betrieben (Basis 136.217)



Quelle: AMA, eigene Berechnung



- *beekeepers*;

Problems:

- GMO-contaminated honey will hardly be marketable in Austria.
- There are no legal rules or regulations protecting beekeepers against such economic disadvantages in marketing or in the establishment of beehives in GMO cultivation areas.

- *seed producers producing GM seeds*;

Problems:

- In the field of seed production, complete logistical separation is required not only between conventional and organic but, additionally, also between those two and the GMO line of production.
- At present, no GMO seeds are sold in Austria. If that happened, this would probably lead to a loss of image compared to the present, valuable absolute absence of GMOs.

- *seed producers producing conventional seeds*;

Problems:

- In the field of seed production, complete logistical separation is required not only between conventional and organic but, additionally, also for the GMO line of production.
- Additional investments in measures to protect against GMO contamination would be necessary if, in addition to the conventional and the organic lines of seed production, also seeds of genetically modified species were created in Austria.

- *seed producers producing organic seeds*;

Problems:

- In the field of seed production, the complete logistical separation has already been implemented between conventional and organic, but not yet for GMO seeds.
- Farms managed according to organic farming criteria tend to be small-structured. In the event of GMO cultivation on bordering areas under cultivation, problems are inevitable. The cultivation of GMOs for commercial purposes would threaten the existence of seed producers practising organic farming.

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

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

As a matter of principle, GMO-contaminated organic products can no longer be marketed as organic and have to be sold as devalued products (lower price). For this reason we expect a loss of income for the organic farming sector and occasionally also for conventional commodities.

- farmers' production costs;

For lack of experience with GMO cultivation, no concrete statements can be made. It is to be expected, however, that for example genetically modified seed which is designed to be marketed exclusively in combination with a specific herbicide will create higher costs for the

buyer. There is no solid proof of actual savings in connection with pesticide use! There are even studies that prove the contrario.

- labour flexibility;
- quality of the harvest (e.g. mycotoxines);

Conceivable positive impacts, for example of insect-resistant (against corn borer) plant species on the quality of the harvest can be achieved also by means of conventional breeding and control methods.

- cost of alternative pest and/or weed control programmes;
- price discrimination between GM and non-GM harvest;

Longer transport distances to local product dealers who accept GMO products cannot be excluded. As a rule, the investment costs incurred by local product dealers for the logistical separation of the lines "conventional, organic and GMO" have to be borne by the producers and consumers.

- availability of seeds and seed prices;

There would probably be no significant change as regards the availability of seeds. In the long run GMO seeds would at all events be more expensive, depending on which technology costs would be passed on to farmers in Europe (license fees to the holder of the patent). According to the study "Impact of Genetically Engineered Crops on Pesticide Use: The First Thirteen Years" (Benbrook, Ch., Nov. 2009) additional costs of \$80 per acre have been calculated for herbicide-resistance crops.

- dependence on the seed industry;

There is danger that, due to the concentration processes in the international seed business, big seed corporations will give priority to GMO crops rather than to regionally important species and varieties. According to reports farmers' dependence on big seed corporations is lower in Europe than it is in America with its offensive marketing policy.

At the moment, large-scale GMO cultivation is practised only for maize in the Community. In the case of a hybrid crop like maize, where farmers naturally purchase new seeds every year, no reproduction takes place. As even today maize breeding is to a very large extent carried out by but few globally acting companies, contractual obligations of farmers concerning the purchasing of the seed (together with the herbicide in the case of herbicide-resistant seed) must be expected in GMO cultivation.

- farmers' privilege (as established by Article 14 of Regulation (EC) No 2100/94 on Community plant variety rights) to use farm-saved seeds;

This does not concern the plant hybrid maize. However, the trend towards hybrid breeding at large industrial groups leads to the replacement of reproduction, as in the case of hybrid seed, reproduction is no longer profitable for the farmer. This means also a disadvantage for European breeders, as they breed fewer hybrid varieties (loss of income due to the reproduction of their non-hybrid varieties).

- 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;

Isolation requirements for GMO cultivation occasionally require changes in the crop rotation or in the crops cultivated on the farm. In some cases we also have to reckon with bottlenecks in the supply with feed of the declared GMO-free animal production, for example in organic farming.

- cost of coexistence measures;

It would be appropriate that the farmer who wishes to grow GMOs should also be responsible for the coexistence measures and should bear their costs. It cannot be excluded that the costs incurred for these safety measures would by far exceed the potential benefits of GMO cultivation.

- conflicts between neighbouring farmers or between farmers and other neighbours

In large parts of Austria the conflict potential in the case of GMO cultivation would be considerable.

- labour allocation- insurance obligations;
- opportunities to sell the harvest due to labelling;
- communication or organisation between the farmers;

As very different interest groups will collide, the atmosphere and the mood of conversation among farmers will probably become worse.

- farmer training;
- beekeeping industry.

GMO contamination of honey will certainly cause marketing problems. Beekeepers as well as producers of and traders with honey would seriously be affected by GMO farming or GMO foresting, because bees use forage from these sources (nectar, pollen, honeydew, resins) to produce bee products (honey, pollen, royal jelly, propolis, wax).

Any other impacts you would like to mention:

The cultivation of GMOs would lead to the development of a control system for the protection of conventional producers and consumers similar to the one presently existing for organic products. Its costs would presumably be to the detriment of the conventional (GMO-free) products.

1.2. Seed industry

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

The Austrian seed production industry is small- to medium-structured. Mergers became necessary to ensure the continued existence of indigenous domestic breeding. Enterprises should not be regarded separately in terms of breeding, propagation, processing and selling of seeds, but are sometimes tightly interwoven and cooperate intensively in these fields. Companies are interested in satisfying the immediate needs and requirements of Austria's farmers. Also breeding specifically for the requirements of organic farming is practised. As the cultivation of GMO maize, which is authorised in the EU, is not practised in Austria, the range of seed products on offer focuses on GM-free varieties. The range of seeds checked for GM-contaminations complies with the requirements of Austrian consumers and farmers and is favourably received by the public.

- plant breeders;

There are only two breeders dealing with maize in Austria. Breeders of cereals are not yet concerned by the ongoing GMO debate. For Austrian maize breeding the existing – GMO-free – strategy has proved successful, as all market opportunities can be realized with it.

- multiplying companies;

The production of seed becomes more expensive due to the increased complexity in field selection, field control, analysis, and storage. Because of the risk of contamination it would not be possible to produce GMO, conventional seed and organic seed at one and the same site and in one and the same region.

- seed producing farmers;

The question of coexistence and liability increases both risk and costs.

- seed distributors;

A broader product range and higher complexity cause higher logistical costs. The service of taking back seed which has not been needed, which is a common practice in Austria, would be possible only at high handling costs.

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;*

We have to reckon with a general loss of added value for the business sector, which is the result of the reduced competitive strength over countries with more suitable structures (large pieces of land) in seed production.

- the production of seeds (easiness/difficulty to find seed producers, easiness/difficulty to find areas to produce these seeds...);

The production of GMO seed is a question of a possible coexistence between GMO versus conventional and biological production, which depends on the size structure, the species in the crop rotation of the regional/national agriculture and landscape features in these agricultural regions.

Due to the problem of coexistence the area for seed production would be massively constricted. Seed production is subject to crop rotation requirements and stringent selection criteria as regards the land used for seed propagation (prevention of the contamination of varieties). Additional GMO cultivation would put further limits to the range of available multiplication areas.

- marketing of seeds;

The production of certified GMO-free maize seed in Austria has led to increased demand in other countries and thus to an extension of production.

- 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;

European plant breeders are above all small- and medium-sized enterprises; large combines are the central suppliers of the genetic modifications. For the SME themselves, no positive effects can be expected. The diversity of species and the ensuing genetic variability found with SMEs also help greatly to protect against any regionally occurring epidemic diseases. This conventional form of plant breeding appears to be threatened by the strategy of GMO breeding, which confines itself to just a few characteristic features and does not comply with the requirements of the wide range found in sustainable breeding.

- for seed multiplication;

The spreading of GMO puts limits on the multiplication of conventional seed (see also above on "the production of seeds").

- for seed producers;

- for the availability of conventional and organic seeds;

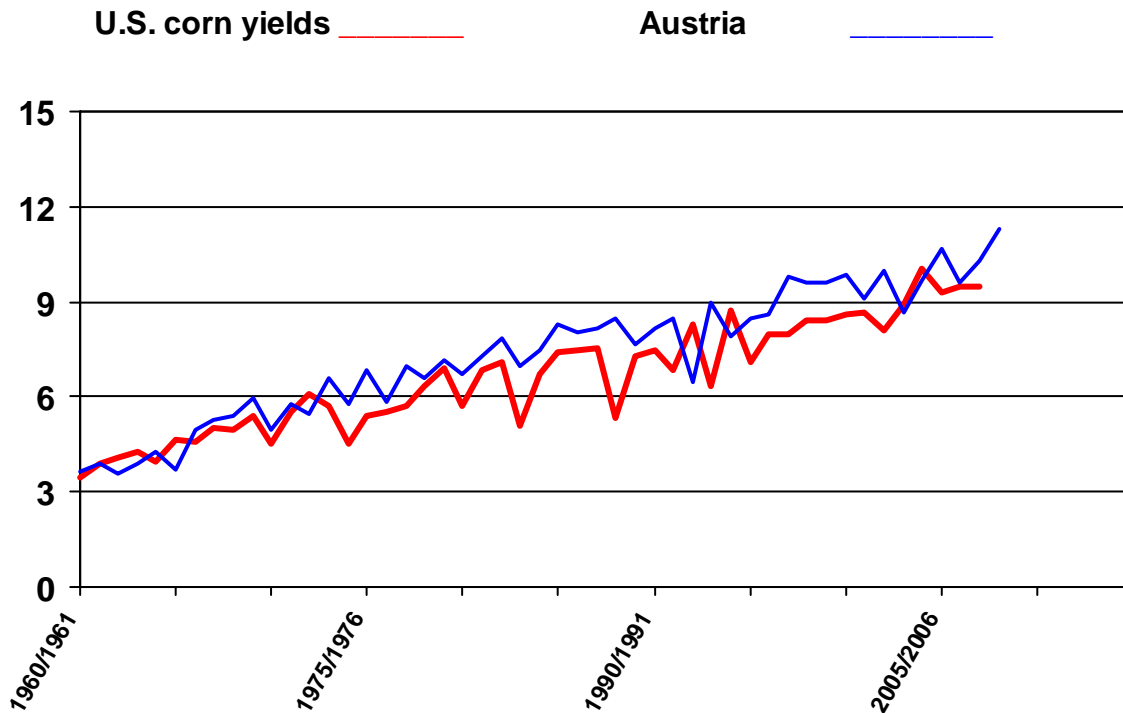
As the demand is very high, we do not expect displacement, but their production will become more difficult (see above).

- creation/suppression of barriers for new suppliers;

- market segmentation.

Any other impact you would like to mention:

The below table illustrates the breeding progress for yielding maize in the U.S.A. (with genetically modified maize varieties) and in Austria (without genetically modified varieties). In the practice, the use of genetic engineering does not show benefits. Maize yields in Austria are even slightly higher than they are in the U.S.A.:



Source: Union of Concerned Scientists, April 2009 USA: Failure to yield – Evaluating the Performance of Genetically Engineered Crops; BMLFUW

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);

Austrian consumers clearly advocate supply with GMO-free products. Genetic modifications in food and feed are not considered advantageous.

- the price of the goods;
- consumer information and protection;

Any other impact you would like to mention:

In a referendum held in 1997 1,225,790 Austrians (over 21% of the persons entitled to vote) voted against GMOs in food and against the release of GMOs. In 1998 the organisation “ARGE Gentechnikfrei” (Union for GMO-free cultivation) was established to support the

interests of citizens who want to buy food which is absolutely GM-free. The Austrian dairies in the Provinces have already converted, or are presently converting, their milk production, avoiding any genetic engineering (GM-free feeding of the dairy cows). Also other initiatives have been launched in the food sector (see Chapter 1.12). On 11 March 2009 all political parties represented in the Austrian Parliament unanimously decided to continue defending the Austrian bans on genetic engineering.

In the EU all products produced from and with the help of genetically engineered components are subject to labelling. However, many Austrian citizens who write directly to the representations of interest and to the government request that also food from animal production presently not requiring GMO labelling which was produced with the use of GM feed should be labelled as “genetically modified”. For this purpose the label “GMO-free” was created in the so-called Codex Alimentarius Austriacus. Moreover, also all products from organic farming fulfil the criteria of non-GMO production in essence.

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.

All in all it must be assumed that segregation causes additional investment, handling and administrative costs. Moreover, compliance with the threshold value of 0.9% GMO contamination in conventional and organic food and feed has to be connected with the determination of more stringent thresholds in the early steps of the production of the final product so that the required final threshold (0.9%) can be complied with.

Any other impact you would like to mention:

As far as the food sector is concerned no significant impacts on management and labour organisation have been notified, as the GMO constructs so far authorised in the EU have been used primarily in the feed sector or in industrial processing.

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:

The authorisation and cultivation of GMOs makes it increasingly difficult for enterprises in the food and feed industry to produce and sell guaranteed GM-free products. There is danger of mixtures between GMO and non-GMO raw materials, which may seriously impair

the placing on the market of products, but also downstream production in the upgrading industry and the value added chain.

To minimise this risk, enterprises concerned must design their production processes in a way that there can verifiably be no mixing of GMO and non-GMO products. This is usually connected with high expenditure so that many enterprises decide to do completely without GMOs. According to a German study (Costs and benefits of segregation and traceability between GM and non-GM supply chains of final food products; Science Centre Straubing) the additional costs from coexistence and segregation amount to up to 13% of the product turnover for oil mills and the starch industry.

This development is particularly observed in the feed sector, where due to the importance of GM-free production in the dairy sector exclusively non-GM animal feed is used. In livestock feeding, the high-quality protein feed soybean is therefore to an always greater extent replaced by DDGS in Austria (by-product from the production of bio-ethanol from cereals).

Nevertheless the supply with GM-free soy has remained a problem in Austria. Austria can produce only about 10% of its demand in GM-free soy. This quantity is indispensable and difficult to replace by replacer feed. Soy is playing a particularly important role in the feeding of fattening pigs and poultry (special feed value) and in organic farming (generally, non-GM feed from organic production required).

1.6. Transport companies

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

So far, the Austrian food chain has voluntarily dedicated itself to offer exclusively products not labelled as genetically engineered. By doing so, the expected high costs of establishing a segregation chain have been avoided. This would be connected with enhanced quality management including the identification of threshold levels for GM contaminations.

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?

In Austria no insurance is offered which would cover the risk of GM contamination in products not declared as genetically engineered. This applies also to the cultivation of GMOs. As insurance companies lack an appropriate pool for insurances against GMO contamination (Sub-Division Bernhard Koch, Vice-Director of the Institute for European Tort Law of the Austrian Academy of Sciences, Conference of the European Commission "The Freedom of Choice", 4 – 6 April 2006, Vienna), the residual risk for damage which cannot be paid by those responsible would have to be borne by the state.

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.

Any other impact you would like to mention:

At present, there is no GMO cultivation in Austria. However, the Austrian Agency for Health and Food Safety “AGES” (AGES publication on the homepage) conducts a monitoring programme every year in connection with the annual production of seed.

AGES also conducts a monitoring for potential GMO contaminations for several Federal Provinces on their behalf. In the event of GMO cultivation the costs of monitoring would be markedly higher.

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.).

To date, there have also been no experimental releases with GMOs in Austria. Research in GMO therefore comprises exclusively work in closed systems. For this reason, activities focus rather on safety research serving the appraisal of the impacts of GMOs on health and the environment. Except for biotechnological breeding techniques which do not include genetic engineering (e.g. marker assisted selection), applied research with GMOs is of minor importance in Austria. The access to genetic resources is excellent in Austria. Austria is a member of the International Treaty on Plant Genetic Resources and, as the other member states, provides easier access to them.

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:

To date, no GMOs have been cultivated in Austria. National public administrations therefore consider a quantitative assessment of the economic and social impacts of GMO cultivation to be difficult. Given the competence of the Federal Provinces for cultivation and, thus, for the

problem of the coexistence of conventional and organic farming beside the cultivation of genetically modified varieties, special Genetic Engineering Precautionary Measures Acts were adopted there.

We have to proceed on the assumption that the precautionary legal regulations will cause significant administrative expenditure. If cultivation takes place, execution requires specific expert knowledge which would be required even more in the case of large-scale GMO cultivation. With that in mind, it is impossible to provide concrete figures for the costs of execution expected to arise for the Provinces, as no such procedures have yet been carried out and no comparable data are thus available.

Checking compliance with legal regulations on GMO cultivation requires not only the expected higher administrative costs but also a couple of monitorings which have to cover the entire chain from the placing on the market of the seed to the cultivation on the field. These monitoring activities cause high extra costs for the budgets. As GMO cultivation is not practised in Austria, the monitoring comprises only the activities of the seed certification authority at the moment.

In the event of GMO cultivation the administrative costs would significantly rise for the competent provincial authorities, in particular as regards the preliminary proceedings (information of neighbours and authority by applicant, consultation procedure on the adjustment of GMO cultivation).

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?

In general it has to be questioned whether a complete free internal market for GMO-seeds is desirable. It must be reckoned that such a case would negatively impact the free internal market of GMO-free seeds as well as organic or other GMO-free food and feed products.

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)?

In global production, a concentration process in GMO cultivation has already taken place for soybean, maize and rape hybrids. Austria does not consider this to be positive (see above explanations).

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

Any other impact you would like to mention:

A complete appraisal of the potential impacts on the Internal Market is impossible at the moment, as GMO cultivation is very limited in the EU. However, in the case of further authorisations for GMO cultivation cross-border problems of coexistence and the accompanying questions of liability have to be feared. Already now the EU's seed market suffers from the fact that there are still no EU thresholds for this field. Austria thinks that seed has been controlled for genetic contamination for many years already and that this has proved to be an advantage rather than a disadvantage on the seed market.

It is foreseeable also that storage and logistical costs will rise, as separate flows of commodities have to be identified, ensured and documented. In addition to the separation of organic and conventional commodities required already now, the same would be necessary also for the GMO commodities.

This leads to the problem and the yet unsolved question who should bear these additional costs.

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.

In Austria's 9 Federal Provinces (given in alphabetical order) agriculture principally aims at a general non-use of genetic engineering.

Burgenland

The association "Bio Austria Burgenland" promotes the non-use of genetic engineering in the media at regular intervals. 20% of the agriculturally utilised areas are already managed by organic farms (production without the use of genetic engineering).

Carinthia:

The Genetic Engineering Precautionary Measures Act of Carinthia, which entered into force on 1 January 2005, has been a model for the other Austrian provinces and other countries in Europe. With this law, Carinthia wants to ensure that cultivated agricultural land in the Province is protected against unintended contamination through genetically modified organisms.

GM-free milk production in Carinthia:

In the period from autumn 2005 to the end of 2006 the company Kärntnermilch reg.Gen.m.b.H. obligated all its milk suppliers to produce without the use of genetic engineering; the dairy Berglandmilch started the shift in spring 2006 and completed it in 2007. This means that milk suppliers must no longer use genetically modified feed. Guidelines have been worked out which identify and explain the conditions for milk suppliers in detail. By their signature, farmers participating in the project undertake to comply with the terms and conditions of production and to keep appropriate records to allow verification and transparency.

In cooperation with the control bodies “agroVet” and “Vetcontrol GmbH” 1,414 farms supplying milk to Kärntnermilch and 163 suppliers of Berglandmilch have been certified as GM-free producers. These farms were supported by the Province of Carinthia (costs of control). The Province of Carinthia supports GM-free production, as the Constitutional Law of Carinthia provides in its Article 7a para.2(1) that the possibility of the GM-free management of natural resources has to be guaranteed. Furthermore, the Provincial Parliament of Carinthia in its 19th meeting on 29 September 2005 adopted a decision requesting the Provincial Government of Carinthia to immediately take all necessary steps to ensure the lasting existence of GM-free agriculture in Carinthia.

Lower Austria:

The entire plant production is presently without the use of GMOs. The entire organic production (approx. 75,000 hectares of arable land and approx. 30,000 hectares of grassland) as well as about 3,000 hectares of rape, about 1,500 hectares of waxy maize and about 500 hectares of soy are labelled GM-free.

Milk:

7,000 dairy farmers deliver 550,000 tonnes of “GM-free milk” per year.

Since September 2009 the entire Lower Austrian milk has been produced exclusively with GMO-free feeding and has been marketed as “GM-free”.

Protein feed:

At the bio-ethanol production facility at Pischelsdorf about 180,000 tonnes of DDGS (Dried Distillers Grains with Solubles) are produced annually as a high-quality protein feed. This quantity can replace about one third of the protein imports.

Seeds:

In Lower Austria, seeds are produced on about 16,000 hectares of land. Thanks to the compliance with the Ordinance on Genetic Engineering in Seeds this production is GM-free also in the endangered crops (without contaminations). Due to the high contribution margins to be reached maize, sugar beet and hybrid rape propagation are particularly interesting for farmers.

Average reproduction areas of the individual groups of crops in Lower Austria

Species group	Area in ha	Species group	Area in ha
Cereals	12,800	Rape, mustard etc.	350
Maize	1,500	Various special crops	300
Pea, soy, field bean, etc.	500	Clover, lucerne	200
Sugar beet	300	Grasses	50

Initiative Waldviertel:

The “Initiative Waldviertel” was launched in 2002 with the objective of permanently safeguarding the GM-free production of food in the Waldviertel region on a purely voluntary basis. By their signatures over 5,500 farmers from the Waldviertel decided on the basis of their voluntary decision not to use genetic engineering in cultivation. By way of decisions of the municipal council the municipalities of the Waldviertel promised to support the “Initiative Waldviertel”.

From the very beginning farmers relied on the cooperation with strong trade partners and processors so as to ensure the marketing of the regional GM-free products. Several Waldviertel specialities such as rye bread, potatoes, onions, and poppy products are now offered in the shelves of big trade companies.

Upper Austria:

Apart from the 3,797 organic farms with a cultivation area of 67,352 hectares, the successful conversion to controlled GM-free dairy cow feeding by the two biggest Upper Austrian dairies Bergland Milch (4,340 enterprises, approx. 310 million kilogrammes of raw milk supplied) and Gmundner Milch (3,077 enterprises, approx. 250 million kilogrammes of raw milk supplied) has led to almost area-wide GM-free dairy cow feeding in Upper Austria. Certification and control of the GM-free production of milk is carried out according to the Austrian codex guideline (Codex Alimentarius Austriacus) for the production of GM-free food.

Moreover, the business location Aschach a.d. Donau has become an Austrian centre of GMO-free food production. The producing companies VOG (rapeseed oil “RAPSO”) and Agrana (starch) use non-GMO production consistently as a special quality attribute. The expressly GM-free protein feed, which is suited for feeding farm animals for the production of GM-free food according to the Codex guideline, can be used to replace protein feed imports from overseas to Austria (cf. Lower Austria), where non-use of genetic engineering is not guaranteed.

Also the company Resch & Frisch Franchise GmbH Wels guarantees GM-free raw materials and seamless control of the entire production chain for their bread, cakes and pastries.

In general, the Province of Upper Austria has launched a comprehensive Provincial Programme to replace GM-feed in Upper Austrian agriculture which is to promote the production of domestic protein and to reduce the import of GMO soy. In this context for example the project “Area-wide introduction of GM-free milk cow feeding in Upper Austria” with accompanying monitoring and independent control of the farms has been subsidised just as much as a feeding test project of the Upper Austrian Chamber of Agriculture aimed at gaining practical experience in substituting soy meal through domestic rape cake. Rape cake from the farms at Aschach and DDGS from Pischelsdorf can be used for that purpose. Thanks

to the above-described efforts approx. 5.4% of the total soy meal consumption in Upper Austria and 21.7% of the soy meal consumption in livestock feeding were substituted in 2008.

Furthermore, in the framework of the action campaign "Wir sind so frei" about 1,500 conventional and organic farmers committed themselves vis-à-vis the Province of Upper Austria to do without genetic engineering in cultivation.

Eventually, we would like to point out that the Province of Upper Austria together with the Austrian Agency for Health and Food Safety (AGES) has conducted (and will continue) a systematic GMO monitoring both for seed and for the existing crops, which determined the non-use of GMOs on the Upper Austrian fields for 2009.

Salzburg:

All milk-processing enterprises located in the Province of Salzburg aim at achieving a certification as GMO-free by 1 January 2010. This is accompanied by the requirements for conversion described by the Province of Tyrol. From that time onward the entire milk production in Salzburg should thus be GMO-free. 1 processing company has been certified as being GMO-free for quite some time.

in Salzburg about 40% of the holdings practice organic farming (3,647).

Styria:

1.) **Action for a GM-free Styria "GM-free map"**

Start project "Map for a GM-free Styria"

In 2006 the association BIO-Ernte Steiermark launched in cooperation with the Federal Province of Styria and the Chamber of Agriculture of Styria, the project "Map for a GM-free Styria" as a follow-up project to the field board action "We are so free and grow without genetic engineering" ("Wir sind so frei und wachsen ohne Gentechnik"). In order to prepare this map a special declaration on the renunciation from the cultivation and planting of genetically modified plants and seeds was worked out. The area referred to in the declaration signed by the farmer is incorporated in the map and the necessary protective distances (4000 m for rapeseed and/or 1000 m for maize) are added in order to ensure freedom from genetic engineering. This project has been continued also in 2009 and launched, in cooperation with the newspaper "Kleine Zeitung", a series of articles "for a GM-free Styria".

Goal of the map:

The map is destined to achieve that for the protection against the outcrossing of GMO plants with GMO-free plants, no GM-cultivation is possible within the framework of the small-scaled agriculture next to the incorporated farms (organic farms, GMO-free conventional farms) and their areas, as well as next to areas relevant to nature-conservation (European protected areas, nature conservation

areas, nature parks and the national park Gesäuse), in compliance with the necessary protective distances, This map is to be on the one hand an argumentation aid for a GMO-free region Styria, and on the other hand it is to be used as a working tool for potential authorisation procedures on GM-cultivation. Not only shall the project prevent GM-cultivation in Styria, but it shall also serve as an example for imitation for other Federal Provinces and/or states. Great interest in this project was shown on the occasion of the international conference of European GMO-free regions in Urbino.

Interim balance:

Since the start of the project in 2006 about 4500 farmers and more than 950 garden owners with more than 110,000 parcels have participated in it.

2.) Organic farms in Styria

In 2008 3370 farms worked in Styria as organic farms at 100 % GM-free – and strictly controlled.

3.) Milk

Enns valley	Milk	Stainach
Processing quantity	67 Million	Litres Milk
Turnover:	61	Million
Staff members:	190	
Milk suppliers	900	
Area	Total district of Liezen	

With high quality standards and modern safeguarding systems the compliance with the International Food Standard or ISO 9002 is guaranteed. Special attention is paid to the freedom from genetic engineering of the product.

Stainz dairy

All dairy products of the dairy of Stainz are produced from animals with non-GMO feeding. The feeding of the cows with non-GM feed and the production of the goods without the means of genetic engineering at the dairy of Stainz are checked by an independent control institute (agroVET).

“Stainzer Milch“ is a cooperative, which is at 100 % owned by the dairy farmers. Today almost 500 dairy farmers are delivering about 85 000 litres of milk per day to the Stainz dairy. Total turnover 2008 21.5 million Euros (+9.4 % compared to 2007)

Obersteirische Molkerei (Upper Styrian Dairy cooperative with 3500 staff members, 1950 milk suppliers, delivery of 135 kg of milk): Region Murau Knittelfeld, Judenburg, Bruck a.d. Mur, Mariazell, Mürzzuschlag, parts of Graz and surroundings. It produces absolutely GM-free.

4.) Meat

Schirnhofen company - ALMO farmers

Feeding:

Apart from the fact that about 10% of the ALMO farmers are organic farmers and must thus not use any GMO feed, all other ALMO farmers are feeding verifiably as well GM-free feedstuffs.

Whereas the EU only stipulates that genetically modified feed and food must be labelled from a GMO-share of 0.9 % onwards, it is according to the Austrian legal system also possible that GM-free products are labelled as such. For this purpose strict production conditions, as laid down in the Codex Alimentarius, have to be complied with.

Control system:

In order to completely exclude the use of genetic engineering and to guarantee a GM-free production the whole production chain is supervised and controlled. AgroVet GmbH, an independent control and certification company, was commissioned by the Schirnhofen company with the development of a concept on GM-free production and control of ALMO-Almochsen. A control concept for all relevant fields (feed production, agricultural trade, farmers and meat processing was worked out and has been implemented since 2005.

GM-free feedstuffs as a prerequisite:

In a first step the supply with GM-free feedstuffs was ensured. The crucial point in feeding is that with ALMO-Almochsen they refrain in principle from using soy meal for feeding. All other feedstuffs are checked as well for freedom from genetic engineering of all their components. The farms participating in this project may only use feedstuffs permitted for the project.

5.) Eggs

“Tonis Freilandeier” Ing.Anton Hubmann, Knittelfeld.

Independent controls examine the hygiene standards, the freedom from genetic engineering and the species-appropriate husbandry on chicken farms.

Products:

Toni's Freilandeier
Toni's Bio Freilandeier
Toni's Schafmilchjoghurt

6.) Steirisches Vulkanland

GMO-free region Steirisches Vulkanland

The Styrian Vulkanland comprises basically two districts (Feldbach and Radkersburg) with 75 communities.

For five years the networking of crafts and economic initiatives has been promoted and the region has been strengthened by means of refinement of products of the region.

The relatively new goal, the GM-free region, can be more easily pursued due to this innovative structure.

47 communities decided at the Community Council meeting that they want to refrain from using GMOs and to raise awareness. The farmers signed first an agreement over

a period of five years where they commit themselves to not using any genetically modified seeds. In a small community, named Auersbach, the mayor succeeded in having the agreement signed by all land-owners.

Tyrol:

Organic farming:

In Tyrol there are about 2,580 organic farms (about 17 % of all farms in Tyrol). They have to comply with the requirements of the EU Organic Regulations No 834/2007 and No 889/2008. The organic guidelines do not only stipulate the utilisation of organic and/or GMO-free seeds, but also the organic and GMO-free feeding on the whole farm.

Dairy sector:

In addition to that in Tyrol GM-free production plays first and foremost an important role in the dairy sector. GM-free milk production is regulated by the Austrian Codex Guideline on the definition of “GM-free production” of food and the appropriate labelling of food products. Apart from the use of GMO-free seeds the main focus is on GMO-free feeding and/or the use of GMO-free feedstuffs.

As the first European dairy “Tirol Milch” has been placing on the market for several decades controlled GM-free milk. Under these conditions several GM-free areas with respect to milk production have developed in the West of Tyrol. The controlled GM-free milk supply area comprises the districts of Landeck, Imst and the area to the East of it as far as Innsbruck. The milk suppliers in this area are subject to strict controls and have to comply with the guidelines of the Codex Alimentarius Austriacus.

Special characteristics of controlled non-GM milk suppliers (according to information provided by Tirol Milch): Use of non-GMO feedstuffs, use of non-GMO seeds, regular controls by independent control agencies and complete examination of the whole production chain.

Moreover it is planned that from 1 January 2010 onwards all milk suppliers of Tirol Milch shall produce controlled GM-free milk. The preparations are already underway so that even now most of the milk suppliers of Tirol Milch meet the requirements. Thus, with the beginning of the forthcoming year about 5,200 dairy farms (about 34 % of all farms in Tyrol) will have opted for this type of production. This concerns of course also the feed producers, which have, in view of these circumstances, almost completely transformed their assortment to GM-free feedstuffs.

Another priority area of non-GMO production is in the Zillertal. The Privat Sennerei Zillertal (Private Alpine dairy Zillertal) is processing per year about 15 million litres of GM-free milk. The enterprise is supplied by about 380 farmers from the surroundings in the district of Schwaz.

The control of GMO-free cultivation and GMO-free feeding constitutes in organic, as well as in GM-free production, a special priority and entails thus considerable costs. The utilisation in compliance with the guidelines is controlled on the basis of invoices and records. Moreover feedstuff samples are drawn. In 2008 alone a total of 3,470 farm inspections with examination of non-GMO feed purchases as well as sampling and analyses of about 830

feedstuffs were carried out for this purpose by the largest control agency and a possible presence of or contamination with GMOs was examined in accredited laboratories.

In the course of the farm inspections in 2008 not one single prohibited utilisation of GMOs in feedstuffs was proved. However, a GMO contamination of less than 1 % total soy DNA content was found in one sample, another sample showed a GMO contamination of less than 0.2 % total soy DNA content, and in 8 samples a GMO contamination of less than 0.1 % total soy content.

The great number of controls and analyses of Tyrolean farms and/or feedstuffs provides a good survey of the use of GMOs in feedstuffs. To sum up, one could state that feedstuffs which were labelled as GMO-free, apart from a few exceptions, contained in fact only GMO-free components. In the final analysis the results have shown as well that a contamination can never be completely excluded, and furnish proof that so far one has not succeeded in completely separating the production chains and/or the flows of goods of GMO and/or GMO-free products. By the authorisation and the cultivation of GMOs the situation would be further aggravated so that it would become increasingly difficult to produce and to distribute guaranteed GMO-free products.

Moreover, this year an additional field monitoring in maize populations was carried out in order to achieve security with respect to the freedom from genetic engineering in Tyrol and to carry out an examination for the purposes of the Genetic Engineering Precautionary Measures Act (Gentechnik-Vorsorgegesetz). In the course of the inspections commissioned by the Provincial Government of Tyrol leaf samples were drawn on various maize fields, randomly distributed across the whole Federal Province, and examined at AGES (Austrian Agency for Health and Food Safety) in Vienna. The analyses confirm the freedom from genetic engineering in Tyrol. No evidence of GMOs was found.

In the year 2009 the citizens' initiative "GMO-free Eastern Tyrol" ("Gentechnikfreies Tirol") in the political district of Lienz launched a signature campaign "against genetic engineering in agriculture" (gegen Gentechnik in der Landwirtschaft). In the course of this campaign 1,200 signatures (about 2.4 % of the total population of Eastern Tyrol were collected and submitted to the competent political spokesman in Tyrol with the demand to implement appropriate measures.

Content of the petition: "Due to the danger of uncontrolled spreading of genetically modified organisms a coexistence with other plants is not possible in our Federal Province. Thus we call upon the government of the Federal Province of Tyrol to regulate the prohibition of the cultivation of genetically modified plants by law and to make Tyrol a "Model region without use of genetically modified organisms". Moreover we demand a clear and explicit labelling for all foodstuffs containing genetically modified organisms and also for all products of animal origin (dairy products, meat or eggs) from animals which were fed with genetically modified organisms or got in any other way into contact with them."

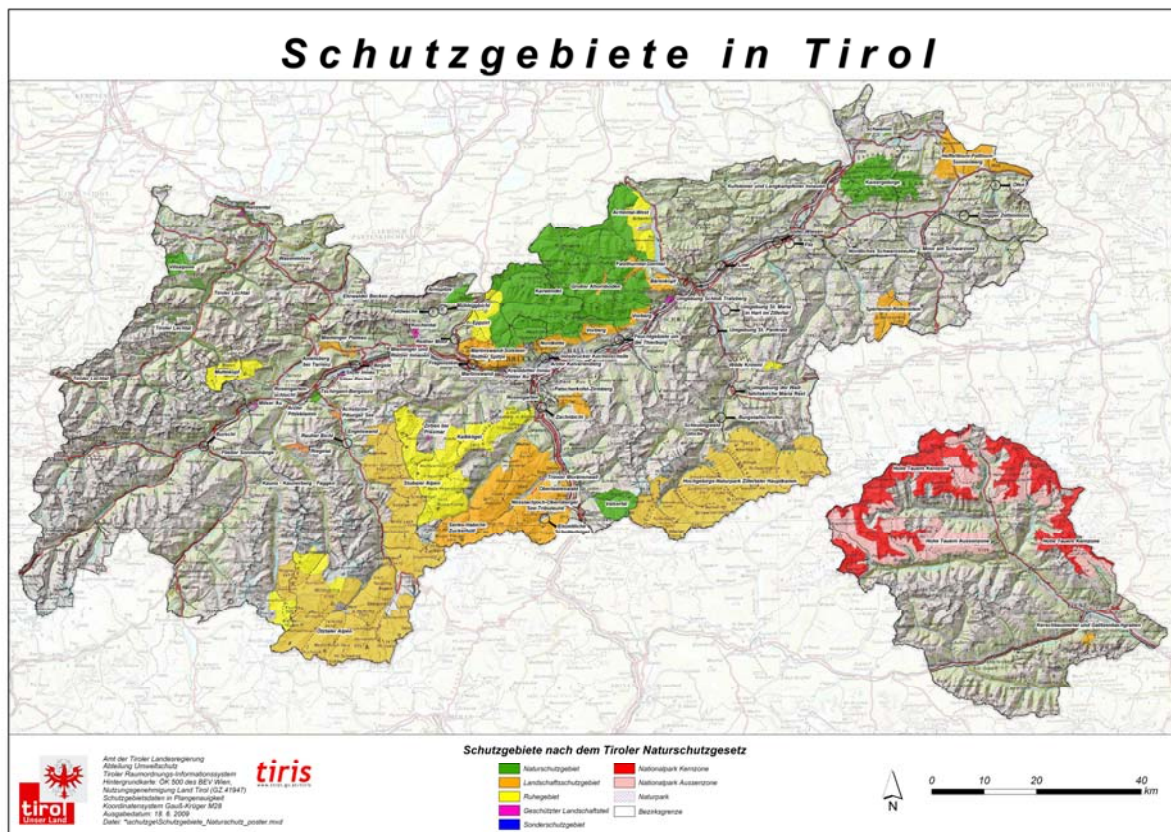
In May 2009 the Parliament of the Federal Province of Tyrol voted unanimously in favour of a GM-free Tyrol. With this initiative it was demanded that measures are to be taken to ensure a GM-free region of Tyrol. Among other things the prohibition of patent rights on living beings shall be laid down in the Federal Constitution and precautions shall be taken that increasingly GM-free feedstuffs are offered on the Austrian market and at European level the withdrawal from the market of genetically modified products which have been authorised so far shall be vigorously advocated. Furthermore mandatory clear labelling is

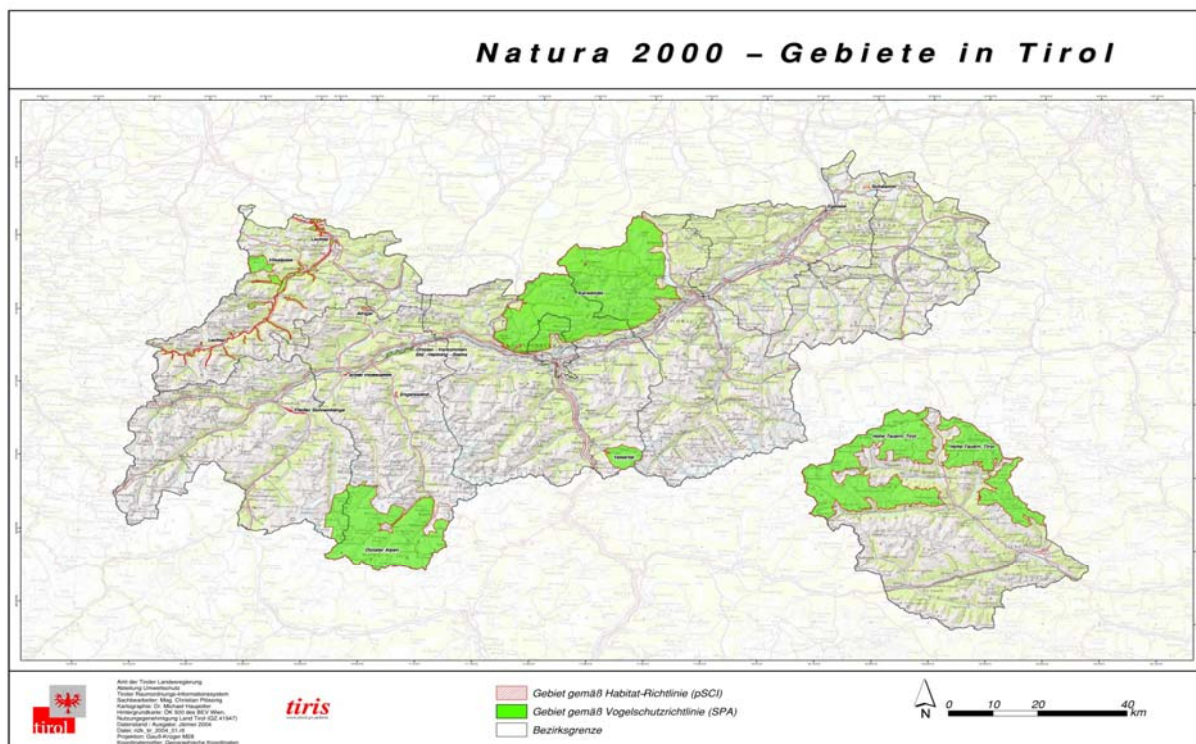
demanded for all products with genetically modified components, so that the consumers can differentiate unequivocally and transparently between the products.

Implemented in concrete terms have been so far preventive measures against the undesired spreading of GMOs in the environment and against the unintended existence of GMOs in other products. Besides it has to be guaranteed that agricultural areas on which genetically modified organisms are not applied can be cultivated without impairment by GMOs either conventionally or organically. Moreover it is also a matter of the preservation of life animal and plant species and their natural habitats in areas which are especially protected by nature conservation legislation.

Due to the small-scaled structure and the close interrelatedness of growing areas, but also of protection areas (see also the attached map material) and the resulting danger of uncontrolled spreading of GMPs, a coexistence of GMPs and non-GMPs is only possible to a limited degree in the Federal Province of Tyrol and is also subject to considerable reserves on the part of the population.

Especially regions like Tyrol with strong traditions and high-quality production of food which is typical of the region, small-scaled agriculture and nature worth being protected, and biodiversity have a justified interest in preserving their traditions and their special character.





On a global scale the existence of many traditional crops and their varieties, which are often only utilised on small-scaled areas, is endangered and they are threatened with extinction. This trend is further accentuated by the authorisation and cultivation of GMOs. The protection of biodiversity is a general concern and is based on economic, ethical, and cultural-historical aspects and is thus supported by the Federal Province of Tyrol. In order to counteract the loss of genetic resources the Federal Province of Tyrol maintains a gene bank with agricultural crops and/or old varieties, so-called “local varieties”. It contains more than 1,000 different local varieties from about 40 different species (all cereal species, peas, beans, millet, buckwheat, linseed, poppy, maize, potatoes, blue-white clover, chives, tomatoes, parsley, onions, fodder turnip and many others). Moreover, in the year 2007 planting gardens for rare apple varieties were established in addition to that. In these planting gardens 67 apple varieties each, with triple protection, have been planted.

Collection, preservation and description of old regional varieties constitute in this respect important instruments for the protection against the loss of genetic material and serve as a basis for the ex-situ preservation of genetic resources in gene banks. From the holistic point of view of the preservation of biodiversity it has been and still is the desire of the gene bank of the Federal Province of Tyrol to subject these varieties of different origin again to utilisation and to preserve and to revitalize in this way also valuable knowledge and cultural heritage.

Moreover, various projects of the gene bank of Tyrol, in cooperation with various institutes, associations and institutions, have aimed at the replanting and at the spreading of old local varieties, but also at collection activities. Just to mention several successful projects as examples:

The Interreg IIIA Project “gene save“ (Austria/Italy) for the collection, preservation, and description of still existing old local varieties from the fields of arable farming, horticulture and pomology, a common project of the Office of the Government of the Federal Province of

Tyrol, the Province of South Tyrol with the experimental station Laimburg and the association Sortengarten Südtirol, the Chamber of Agriculture of the Federal Province of Tyrol and the Provincial Federation of Associations of Fruitgrowers and Horticulturalists in Tyrol. Within the framework of this project more than 400 different local varieties from arable farming and horticulture have been registered in North, East, and South Tyrol. In addition to that there have been more than 1,100 registrations of old fruit trees. In the Federal Province of Tyrol alone about 400 different apple varieties have been found.

The bread project, a common project of organic cereal farmers, a local bakery, the Chamber of Agriculture of the Federal Province of Tyrol, Agrarmarketing Tirol, the cooperative Bio-Alpin and the Tyrolean gene bank at the Office of the Government of the Federal Province of Tyrol. In the course of this project, among other things, old local cereal varieties have been reactivated, propagated on a large scale and made available to the farmers. The works were started about 8 years ago; the project is running very successfully for all parties involved.

Currently the Provincial Environmental Advocacy is working, within the framework of the administration of protection areas and the improved cooperation with the farmers affected by the protection areas, on the production and marketing of local specialities, with the Tyrolean gene bank making available material from the gene bank.

Within the framework of another co-operation between the gene bank and the association of fruit-growers and horticulturists again old apple varieties shall be refined and planted. In this way the trees affected by fire blight but also by physiological age can be replaced.

Vorarlberg:

Within the framework of the special exhibition “natural jewels” the topic of freedom from genetic engineering constituted a priority at the Spring Fair 2009 in Dornbirn. For this purpose a touring fair was prepared, which was already presented around Lake Constance on the occasion of various small and large-scale events. In addition to that a folder “Vorarlberg Gentechnikfrei im Anbau” (Vorarlberg - free from genetic engineering in terms of cultivation) was designed prior to the fair.

The freedom from genetic engineering is especially viewed as a transboundary issue. The Federal Province of Vorarlberg supports the initiative GM-free region Lake Constance (gentechnikfreie Bodenseeregion) in terms of content and financially. In this context it is worth mentioning that in November 2008 a lecture evening by Percy Schmeiser [“GM pollen don’t know any frontiers” (“Gentech-Pollen kennen keine Grenzen”)] took place, which was organised jointly by the Bavarian farmers’ association and the Chamber of Agriculture of Vorarlberg in Hohenems.

Vorarlberg is free from genetic engineering in terms of cultivation and has implemented that in legal provisions [Section 16 para. 2 Law on Nature Conservation and Landscape Development (Gesetz über Naturschutz und Landschaftsentwicklung)]. In principal the application or sowing of genetically modified organisms in nature is not provided for. A GMO-release requires an authorisation by the provincial government. Since the year 2005 it

has been increasingly appealed to the sole responsibility of the maize-growing farmers, who have been called upon to let the seed suppliers confirm that the delivery is GMO-free.

The Institute for Environment and Food Safety (Institut für Umwelt und Lebensmittelsicherheit) has been carrying out monitoring for years in cooperation with AGES (Austrian Agency for Health and Food Safety) examining the growing areas annually on the basis of random samples. As an example it has to be mentioned that the 17 samples examined in the year 2007 and the 12 maize growing areas examined in 2008 in Vorarlberg were free from genetically modified organisms.

Vienna:

Vienna has, like no other metropolis in Europe, a considerable extent of agriculture. About 16 % (more than 6,000 ha) of the territory of the Federal Province of Vienna is agriculturally utilized. Production priorities are horticulture, viticulture, and arable farming. Particularly characteristic for urban agriculture are the close spatial interrelatedness of utilized agricultural areas with the urban areas of the town as well as the high share of ecologically particularly valuable areas (national park, biosphere park, landscape protection areas, etc. within the territory of the town. The utilized agricultural areas do thus not only serve agricultural production, but they have first and foremost enormous importance as short-distance recreational areas for the urban population and the many visitors of Vienna contribute sustainably to the image of Vienna as “environmental model town”.

Not least due to this special situation in terms of agricultural structure – which renders a coexistence of organic, conventional, and GMO cultivation impossible – and the multifunctional importance of agriculture in Vienna, an ecologically oriented and in particular a GM-free agricultural production in the Federal Province of Vienna is of special importance for the citizens of Vienna and thus also a declared goal of the government of the City of Vienna. GMO cultivation within the borders of the Federal Province of Vienna would have a sustainable negative impact on this image of Vienna.

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)?

This question cannot be answered conclusively in Austria for lack of cultivation. However, international experiences have shown that presumably higher pesticide application levels are necessary due to the cultivation of GMOs.

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

This question cannot be answered conclusively in Austria for lack of cultivation. Moreover there is not yet any genetically modified seed of herbicide-resistant varieties which may be placed on the market in the EU. The study "Impact of Genetically Engineered Crops on Pesticide Use: The First Thirteen Years"(Benbrook, Ch, Nov.2009) leads to the conclusion that since the beginning of commercial cultivation of GMOs in the USA about 145,000 tonnes of pesticides more have been applied.

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)

As in Austria no GMOs are cultivated we cannot provide concrete information about the possible impacts on biodiversity, fauna, flora and landscape. However, reference is made to a study of the Federal Environment Agency "Umwelt- und naturschutzrelevante Aspekte beim Anbau gentechnisch veränderter Organismen" (Aspects of environmental protection and nature conservation in the cultivation of genetically modified organisms) by Marion Dolezel, 13 November 2007, according to which negative effects on biodiversity are to be expected.

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

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

A concentration of the cultivation on just a few varieties would be expected in the case of the cultivation of genetically modified crops, which does not constitute a positive contribution to biodiversity. Moreover it is to be expected that in the course of cultivation less attention would be paid to old local varieties and organic varieties.

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

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

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.

Due to the authorisation and the cultivation of GMOs the preservation of wild animal and plant species and their natural habitats in areas which are especially protected by nature conservation law is endangered. In this context national parks, nature conservation areas,

special protection areas, the surroundings of natural monuments, Alpine pastures, glaciers including catchment areas and moraines, alluvial forests, wetlands, areas under contractual nature conservation and Natura 2000 areas constitute areas which are particularly worth being protected. Effects on the biodiversity of the soil are yet to be examined.

The local citizens in the regions are immediately affected by the cultivation of genetically modified plants. Especially regions with strong traditions and high-quality production of food which is typical of the region, small-scaled agriculture, nature worth being protected, and biodiversity have a justified interest in preserving their traditions and their special character. In many of these regions the local citizens reject the cultivation of genetically modified plants.

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 one, regarding the use of renewable resources (water, soil...)?

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

Any other impacts you would like to mention:

The presently marketable GMO constructions have not been developed especially for this purpose. This question can thus not even be discussed at theoretical level. The same applies presently also to the effects with respect to climate change.

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?

[See 2.3](#)

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 one?

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

Any other impacts you would like to mention:

[See 2.3](#)

3 - Other Implications