



THE IMPOSSIBLE COEXISTENCE IN THE FRENCH AGRICULTURAL LANDSCAPE CALLS FOR A MORATORIUM ON GM MAIZE CROPS

**L'impossible coexistence
dans le cadre des paysages agricoles français
appelle un moratoire sur les cultures de maïs GM
(Synthèse Argumentaire 23/02/2007)**

I. Call for a moratorium prior to the 2007 planting season

Laws for the legalization of GMO cultivation in France are still not finalized, therefore any commercial growing of GMOs in 2007 will, as in 2006, take place **without any controls** in place. Furthermore, only one GM crop is likely to be grown on any significant scale – GM maize (Monsanto's MON810) as there are de facto moratoria on GM oilseed rape and sugar beet.

As in 2006, transgenic maize could be grown without any public information, anywhere: in protected areas, Regional parks or other zones that wish to remain GMOfree, next to beehives, organic crops or traditional maize varieties (Maïs population), thus leading to uncontrollable contamination. GMO proponents are already announcing that 30 to 100 000 hectares of transgenic maize will be grown in France this year and are clearly counting on the "Brazilian strategy"¹ whereby faced with a "*fait accompli*", the government could be forced to adopt a legal framework enabling, as opposed to banning, contamination.

Last year, according to the Department of Food Safety, a register of sites where GMO were grown commercially was established by the Ministry of Agriculture, but this register was not made public. On December 12th 2006, the Ministry announced that it would be publishing all the sites where GMOs will be grown commercially therefore firmly allowing farmers the right to grow GMOs wherever they wish, thus ignoring any views that Parliament may have on the issue, as well as refusing any opportunity for consultation with citizens, local government and other farmers.

It is therefore urgent to adopt a moratorium, especially as such a move by the Government is allowed under EU law and requires therefore only the political support of elected representatives and the government. Even if a law on GMOs was adopted in France now, the right to ban a GMO remains valid according to EU legislation.

¹ In Brazil, Monsanto organised illegal distribution of GM soya seed from Argentina until the Government was obliged to authorize the commercial growing of GMOs, running to 10s of thousands of hectares.

II. A moratorium is allowed under EU law

Article 23 of Directive 2001/18 allows an EU country, on its territory, to limit or provisionally prohibit the use and/or the sale of a GMO that has been authorized at EU level. In order for a country to do this, the law stipulates two requirements:

- new or complementary information on risks to health or the environment must be available
- re-evaluation of existing data is necessary because of new or complementary scientific knowledge

On December 18th 2006, the EU Environment Council supported the provisional prohibition measures put in place by Austria for GM maize MON810 and T25 (based on Article 23 of Directive 2001/18, see above). The Council stated in its decision that:

- the two GMOs were placed on the market under the old EU legislation (Directive 90/220) which has since been replaced by a new law (Directive 2001/18). The old legislation did not require as stringent environmental or health impact assessments and so these are lacking for MON810.
- that the application of the “safeguard clause” (article 23) of Directive 2001/18 is therefore legitimate
- that “different farming land structure and regional differences need to be taken into account systematically when evaluating environmental risk”

Maize varieties obtained from the MON810 event are the only varieties sold and commercially grown in Europe since Bayer dropped its maize T25. Banning MON810 would therefore in the short term effectively ban all GMOs authorized for commercial growing in Europe. Nothing is stopping the French government from taking the Austrian position on board, which it supported at the EU Environment Council, in order to adopt an immediate ban on the use and the sale of MON810 in France. Taking such a stance, or failing to do so, is a purely political act which, following the decision of December 18th, is not illegal not impossible for technical reasons.

The key issues concerning MON810 fall under the legal requirements and the Council conclusions:

- Inadequate impact assessment of MON810 at the EU level
- Lack of impact assessment on different farming models and regional biodiversity

1. Inadequacies of EU level evaluation of MON810 and the need for a re-evaluation

The existing evaluation of MON810 is controversial for a number of reasons:

- The EFSA (European Food Safety Authority) has been regularly criticized for the poor quality of its work, including by the EU Environment Council and by the European Commission in its report to the WTO panel on GMOs ²
- Research by Professor Travick has shown negative health effects on small scale farmers and village inhabitants in the Phillipines from a maize hybrid produced by crossing MON810 with a local variety. As this work could not be repeated (no sponsor volunteered to that effect), it could not be validated nor published in a peer-reviewed scientific journal.
- Peer reviewed research shows **unexplained negative effects of transgenic plants on animals or for human health**, which has resulted in the European Communities' stating, in the above mentioned report to the WTO panel that: *However, in the absence of exposure data in respect of chronic conditions that are common, such as allergy and cancer, there simply is no way of ascertaining whether the introduction of GM products has had any other effect on human health.*(para 45)

None of these publications directly concern MON810 but their existence can raise awareness of political decision makers on the need to test different animal species, for more than 90 days, and not a single species for 20-90 days as is currently the case. There is also a clear need to epidemiological studies which include traceability of consumed food.

- Research also shows the negative effects of GMOs on the environment as well as the inadequacies of research in this area. Indeed, the European Communities paper to the WTO GMO panel concludes that: *"It is a reasonable and lawful position to say that no Bt crops can be planted until there is information on all potential non-target organisms in the soil..."* (para 702)

Although MON810 has been judged safe at the EU level, scientific research exists which show health impacts of this maize. The existence of such research results should encourage decision makers to fund research projects to deal with such uncertainties.

If a national ban against MON810 were to be overturned by the European Commission, then a new risk evaluation would be required immediately in order to respect the requirements of Directive 2001/18 for stricter impact assessments and the respect of the precautionary principle. This will provide greater safety for the European public.

² « European Communities – Measures affecting the approval and marketing of biotech products (DS291, DS292, DS293). Comments by the European Communities on the Scientific and Technical Advice to the Panel », Geneva, January 28 2005. This documents was published by Friends of the Earth and Greenpeace in Spring 2006 following an access to information request.

2. Lack of impact assessment on farming structures and regional biodiversity

The European Union and EFSA carry out risk assessment for a transgenic event on the environment and on human health in general, but currently omit to include any specificity of farming structures or models, nor do they take regional ecological conditions and regional biodiversity into account.

The Council statement of December 18th 2006 underlined the failings of the EU system in this regard “Different farming structures and regional geographic structures within the EU must be taken into account in a more systematic manner during environmental risk assessment”

This is therefore up to Member States to do this within their role as risk managers.

- Article 26 bis of Directive 2001/18 allows Member States to take necessary steps to avoid accidental presence of GMOs in other products. There is nothing to say that such measures could not take the form of a limitation or a ban, in line with the Safeguard clause.
- Furthermore, article 23 allows a State to intervene should a new risk to human health or to the environment arise. Environment, in this context, can mean non cultivated land, cultivated land and associated farming land: the Italian Seed Law of 2001 links environment to farming system, as did the EU Environment Council in December 2006.

Indeed, GMO presence in products raises questions as to the long term existence of the farming systems from which they are produced and the environmental damage that they can cause, even if economic loss that they create can be compensated. It is this risk that has to be taken into account, and it is in this context that coexistence must be evaluated – in terms of the environment or each region and in each country.

Up until now, the French government has done nothing to ensure that risk assessment allows for farming structure and regional biodiversity and has no mechanism for taking any results of an evaluation into account. This, despite there being nothing under EU law to prevent this from happening, and when the EU Environment Council actually recommends that it be carried out.

Depuis 1998 (dernières autorisations d’OGM pour la culture), de très nombreux travaux scientifiques sur les flux de gènes et la coexistence ont été publiés.

Les seules études concernant les flux de pollen entre champs de maïs ont été réalisées sur de courtes distances : lors du premier séminaire de restitution du Programme ANR³-OGM les 14 et 15 décembre 2006 à Paris, Claire LAVIGNE⁴ reconnaissait **qu’il est impossible d’extrapoler sur de longues distances les résultats des modèles à la parcelle.**

³ Agence Nationale de la Recherche – National Research Agency

⁴ University of Paris Sud, UPS-CNRS-ENGREF, Models on the dispersal of transgenes to different scales : summary of studies carried out in France over the last few years.

III. Scientific arguments in favour of the moratorium

For a country to apply the Safeguard Clause (article 23), it needs to produce:

“new or complementary information that has become available after the authorization was granted, and which affects environmental risk, or the need for re-evaluation of existing information following new or complementary scientific knowledge (that raise) queries as to whether an authorized GMO presents a risk to human health or the environment” (unofficial translation from French)

The notorious inadequacy of this type of approach is broadly recognised today: during the first planning seminar of the ANR-OGM⁵ on 14th/15th December 2006 in Paris, Claire LAVIGNE⁶, when pressed by many other scientists, recognised that it is impossible to extrapolate results from the “plot” model with reference to long distances.

Yves BRUNET shows that, during the flowering season, maize pollen travels upwards for up to 2 km in maize-producing regions such as Aquitaine (France). His calculations indicate that on average 2000 pollen grains, for fertile maize, fall on each square metre of the region. Approximately fifteen small maize plots growing experimental white maize, growing several km away from the nearest maize fields, were pollinated in this way, to levels of 0.05% and 0.25% respectively depending on whether the white maize was had been sterilised. or not.

In a report on coexistence, submitted to the European Commission at the beginning of 2006, Antoine MESSEAN and Frédérique ANGEVIN⁷ looked at various models for maize production in the French regions of Poitou-Charente and Pyrénées Atlantique. The results showed that:

1. Even with seed lots showing no trace of GMOs, a threshold of 0.01% GM presence in non GM crops is systematically exceeded whatever the distance between the GM and non GM crops. **This indicates that coexistence is not possible between GM crops and crops who's harvest is destined for the “nonGM” market.**
2. Given the fact that imported maize seed is contaminated with GMOs (that is to say over 0.01%) in over 30% of seed batches, a 0.1% threshold at harvest is not possible for the majority of cases. With a level of contamination in seeds of 0.5% (accepted contamination level at border controls today), then the 0.9% threshold will be impossible to meet in almost half of cases. Indeed all seed producers are saying that seeds with no GMO content are impossible to obtain in all areas where GM maize are being developed.
2. Respecting a 0.9% threshold would necessitate pure seeds and agreements between farmers that are just unrealistic in the majority of cases, especially for small scale farmers wishing to produce GMO-free.

⁵ National Research Agency

⁶ University Paris-sud, Models for the dispersal of genetically modified plants at different levels: synthesis of studies carried out in France over recent years

⁷ INRA-ECO/INOV Paris Grignon – National Institute of Agronomic Research

3. Where GMOs would be grown, the additional costs required to produce non GM seed, even assuming an allowed contamination of up to 0.3% or 0.5% , would result, as acknowledged by seed producers themselves, in their re-localisation outside of the EU to GMO-free zones.
- An experiment carried out by the CIVAM Agrobio of the Lot and Garonne region in France in summer 2006, showed that pollen harvested whilst a GM maize field located 1200 metres away was in flower, contained transgenic DNA at levels of 39%. Pollen is valued for its nutritional qualities and even the slightest trace of transgenic DNA would make it impossible to sell. **The inevitable contamination of pollen and honey by GM maize will make it impossible to produce GMO-free bee products.**

If large areas of GM maize are cultivated, non GM producers will most likely oppose beehives in their fields due to the fear that their fields will be contaminated. This will put not only beekeepers at a considerable disadvantage, but also fruit growers and sunflower producers who need bees to pollinate their fields.

The 0.9% threshold is a labelling threshold over which products must be labelled « contains GMOs ». It is not relevant at the field level. In order to guarantee the quality of the grain, sweet corn is kept on the cob until it is tinned. For one tin of sweet corn sold to the consumer, only a limited number of grains from a small number of cobs are used. If contamination is under 0.1% at the field level, this will result in a majority of tins being GMO-free but will also result in tins being contaminated at levels of over 0.9%. Given the impossibility to analyse each tin before it is put on sale (the cost of checking would be greater than the cost of the tin!), the overall lot of tins will have to be labeled “contains GMOs” as soon as there is any contamination at the field level including when contamination levels in the fields are considerably lower than 0.9%. Any GM maize grown in a region will therefore mean that all sweet corn production in that same region will be impossible.

- Pascal SIMONET⁸ has shown that transgenes from GM plants can be found in the soil 4 years after the plants have rotted, and that these transgenes can provoke transformation as well as gene transfer to soil bacteria.

These studies show the risks that GM crops represent for the existence of farming systems because of the contamination of nonGM crops, of wild relatives and of the soil.

⁸ CNRS Lyon (National Centre for Scientific Research, Lyon)