

THE FAILURE OF GENETICALLY MODIFIED FOODS AND CROPS IN EUROPE.

Summary

European opposition to genetically modified (GM) foods and crops is likely to increase if the import of a new GM maize is approved in Europe. The member states of the European Union remain divided over the safety of GM Organisms (GMOs) and numerous regions are now taking steps to make themselves GM free in order to protect traditional and organic farming. The market for GM foods is virtually dead and the planned approval for the import of a new GM maize will not increase consumer demand. On the contrary the move will probably harden opposition.

Introduction

It looks almost certain that Europe will soon approve the first new GM food for over five years. The European Commission (see box) intends to force new GM foods into Europe by approving the import of a maize called Bt11 made by Syngenta. This is despite huge public opposition, almost total market rejection and scientific disagreement over its safety.

What is the European Union?

Since May 1st the European Union (EU) is made up of 25 separate "member" countries ranging from Portugal to Poland. Europe-wide Directives and Regulations are introduced by the European Commission – the non-elected executive arm of the EU. Decisions are made by complex voting arrangements that need the agreement of the individual member states, the Commission and the elected European Parliament.

Consumers don't want GM

Because of safety concerns, the European public is largely against the approval of GM foods or crops. Any breaking of the moratorium by the Commission will therefore be against the will of the people. Official opinion polls published by the European Commission show that 94.6% of EU citizens want the right to choose, 85.9% want to know more before eating GMOs, and 70.9% simply do not want GM food¹.

The market has responded to the public's concerns and most large food manufacturers and retailers in Europe have removed GM ingredients from their products. This is the real moratorium and no matter how many GM foods the Commission approves, the market remains virtually zero.

A certain amount of GM crops are imported into the EU and these are fed to farm animals. However even here many large supermarkets reject the use of GM animal feeds. In addition, since April animal feeds also have to be labelled if they come from or contain GM ingredients.

Consumer Groups Worried By GM

According to Consumers International, the umbrella group that links and represents over 250 consumer groups and agencies in 115 countries, "*Consumers are concerned about the uncontrolled releases of transgenic [GM] organisms and the impacts that they may have; that the use of antibiotic marker genes may contribute to increased antibiotic resistance and that gene manipulation has the potential to increase allergenicity. There are also unexpected toxin levels and unexpected changes in toxin levels and the emergence of new toxins.*"

GM Free Europe

The number of regions in the EU that want to ban the growing of GM crops is continuously growing. There are initiatives started in at least 22 European countries. In France over 1000 town mayors support GM free zones and in the UK over 44 regions have called for special protection in their areas. More than 500 cities in Italy have also taken a position against the use of GMOs in agriculture. As the number of GM free zones increases the likelihood of GM crops being grown in Europe on a large scale diminishes².

Direct Action

In many countries people have taken the law into their own hands and have pulled up any GM crops growing in their area. In the UK over 3000 people, including politicians, have pledged to pull up or support those that pull up GM crops if they are grown there³.

Testing evaporates

The biotech industry clearly sees little future in Europe. The number of applications to field test future GM crops has reduced from a high point in 1997 (264 applications) to only 56 applications in 2002⁴.

Companies in retreat

Over recent months the biotechnology industry has started to retreat from Europe. Not only are they testing less crops but they are also withdrawing future GM seed varieties. For example in the UK the industry has reduced the number of applications for GM seed varieties from over 50 down to just two⁵. In addition, in October 2003 Monsanto closed its wheat development centre in Europe, citing "*our lack of success in hybrids means this is no longer a good strategic fit for Monsanto.*"⁶ Earlier this year Bayer reportedly sacked many of its GM managers in Europe and in March withdrew its only commercial crop from the UK stating that it was "*economically non-viable*"⁷

Exports lost

The refusal of European consumers to eat GM foods has had a dramatic effect on GM exporting countries who have seen their exports crash. For example, the export of maize from the US to Europe has declined from 3.3 million tonnes in 1995 to just 25,000 tonnes in 2002. Similarly Canada has lost all of its oilseed rape (canola) market to Europe since they introduced GM crops (worth an estimated \$300 million).

Source: European Commission regrets US decision, Press Release 13 May 2003

Safety concerns

There are serious differences of opinion in Europe over the safety of GM foods and crops with scientists and Governments disagreeing over their long-term impacts. Even though the public will potentially consume GMOs over their whole lifetime, there has been no proper long-term health testing. However some research has already started to highlight that there may be problems. Research in the UK using human volunteers discovered that gut microflora had absorbed the GM DNA after just one meal⁸. This was unexpected and raises concerns about those crops that currently contain antibiotic resistant genes and whether this resistance will be spread to humans. In March 2004 the British Medical Association, which represents the majority of UK doctors, reiterated its call for more research into the health effects⁹.

The largest research trials on the growing of GM crops were carried out in the UK between 1999 and 2003. The researchers concluded that growing GM oilseed rape and beet was worse for biodiversity than growing the conventional counterparts. In the case of Bayer's herbicide resistant GM maize the researchers concluded that it was better for biodiversity. However the GM maize trials have been heavily criticised¹⁰, because they did not represent real farming conditions and compared the GM maize against conventional maize treated with the herbicide atrazine which has now been banned from Europe because of its environmental impact¹¹. Incidentally, Bayer have now withdrawn this maize from the UK.

National bans

Many countries in Europe have banned either GM foods or crops. For example, Italy has banned four types of GM maize, Germany has suspended the approval of an insect-resistant maize and France has stopped two varieties of oilseed rape. In addition some countries are now recommending that GM crops such as oilseed rape and beet should also be banned after the UK trials showed that they damaged biodiversity. Where GM crops have been approved (before the moratorium started) then there has been very mixed results. In the Netherlands for example, Bayer's fodder maize was approved in 1999 but has never been grown as the dairy industry refused to buy milk from cows fed it.

Lonely Spain

The only country in Europe that grows some GM crops is Spain. However there is evidence that this has contaminated organic farms, produces low yield and may be building environmental problems in the future as insects become resistant to the GM toxin¹². Furthermore, the Government now looks set to ban Syngenta's Bt176 maize from next year following scientific advice against the use of the antibiotic resistant gene that the maize contains.

History of the so-called European 'moratorium'

GM foods were first allowed in Europe in the early 1990s. However in 1998 Environment Ministers in Europe agreed to improve the rules governing the release of GMOs into the environment. Whilst this was happening a number of European countries agreed not to approve any new GMOs until the public and the environment were better protected. This was called the "de facto" moratorium and since October 1998 no new GMOs were approved in Europe.

Since then, new laws for releasing GMOs were agreed and came into force in October 2002.¹³ They are a marked improvement on the previous legislation and require companies to carry out risk assessments to judge the long-term impacts of growing GM crops and the indirect effects of GMOs. In addition GM crops that have been modified to contain antibiotic resistant genes will be banned. In contrast the approval process in the United States relies heavily on voluntary testing by the biotechnology companies.

Europe has also developed new laws for the labelling and traceability of GM foods and animal feeds to provide better information for the public. These come into force on April 18th 2004¹⁴ and are probably the most comprehensive GM labelling laws in the world. Foods that either contain GMOs or have been derived from GM crops (even if they don't contain any modified DNA in the final product, like oil) have to be labelled if their GM content exceeds 0.9%. Animal feed also has to be labelled for the first time.

In the meantime the US, Argentina and Canada, acting through the World Trade Organisation (WTO), launched a trade dispute against the EU in May 2003. They have complained that the EU's moratorium and national bans are a barrier to trade and affect their farmers who grow GM crops. The process of hearing this complaint has been drawn out by difficulties in appointing the WTO panel to hear evidence. It is expected that a final verdict will be reached in Spring 2005. Friends of the Earth believes that the WTO is a secretive and undemocratic organisation that should not be making decision about what we eat (see www.bite-back.org).

GMOs in the pipeline

To try and relieve the pressure coming from the WTO dispute the European Commission is trying to force through the commercial approvals (i.e the approval to market, but not to grow) for the import of a GM maize called Bt11 (made by Syngenta)¹⁵. The maize has been genetically engineered to contain a deadly toxin that will make it resistant to some insects.

Problems with Bt11 maize

Serious safety questions have not been fully addressed.

- concerns about whether the genes had been inserted as expected
- criticisms that the safety conclusions made by Syngenta have not been proven
- questions over whether the toxin produced by the corn will cause allergies.

Many EU countries oppose its approval and there is no political or scientific agreement over its safety. If no consensus can be reached when EU states vote (through a “qualified majority”), the Commission has the powers to make the decision. The member states voted on Bt11 on 26 April 2004 and failed to reach the qualified majority. The Commission has stated it will approve Bt11 in the coming weeks. In other words, regardless of the scientific disagreements over its safety the Commission will approve it on political grounds. It should be noted that so far the Commission has made no attempt to force through any new applications for actually growing GM crops in Europe.

Co-existence

In 2003 the EU introduced a new law that allows member states to take measures to restrict GM crops contaminating neighbouring crops. This is called “co-existence”. Member states are now developing their own laws to prevent contamination if GM crops were to be grown, eg by setting separation distances between GM and non-GM crops. However scientists say that for some crops, such as oilseed rape, co-existence is likely to be extremely difficult, even impossible¹⁶.

Liability and insurance

A big question for European farmers is who should pay if conventional or organic crops are contaminated by GM crops, or if environmental damage was to occur. Various member states are also developing their own liability regimes. For example in Germany a draft new law makes GM farmers liable for any contamination. In addition many insurance companies are refusing to insure farmers against contamination. For example, in the UK a survey of farming insurance companies found none willing to insure farmers¹⁷.

Conclusion: Europe is no market for GM foods or crops

It is clear from the above that there is little future for GM food and crops in Europe. The market is virtually closed, an increasing number of regions are declaring themselves GM free and evidence is pointing to environmental damage that should lead to a number of crops being banned. European opposition to GM foods and crops is likely to increase with the approval to import a genetically-modified (GM) maize in Europe.

REFERENCES

¹ europa.eu.int/comm/research/press/2001/pr0612en-report.pdf

² For more information see www.gmofree-europe.org

³ www.greengloves.org

⁴ biotech.jrc.it/deliberate/dbcountries.asp

⁵ www.defra.gov.uk/planth/pvs/pubreg/preg01.htm

⁶ www.guardian.co.uk/gmdebate/Story/0,2763,1064024,00.html

⁷ www.bcsbioscience.co.uk/

⁸ Netherwood T. et al. *Nat. Biotechnol.* 22, 204–209 (2004).

⁹ www.bma.org.uk/ap.nsf/Content/GMFoods

¹⁰ House of Commons Environmental Audit Committee, 2004, GM Foods- Evaluating the Farm Scale Trials. HMSO, London.

¹¹ www.defra.gov.uk/environment/gm/fse/index.htm

¹² www.foeeurope.org/press/2003/AW_26_August_failing.htm

¹³ EU Deliberate Release Directive 2001/18/EC

¹⁴ Food and Feed Regulations 2003/1829/EC and the Labelling and Traceability Regulations 2003/1830/EC

¹⁵ Critiques of these crops can be found at www.foeeurope.org/GMOs/pending/index.htm

¹⁶ Sweet J & Eastman K (2002). *Genetically modified organisms (GMOs): The significance of gene flow through pollen transfer*, European Environment Agency Environmental issue report No 28

¹⁷ www.farm.org.uk