

What now?

This leaflet is only a very brief introduction to the state of knowledge on GM maize, and the issue of engineered crops as a whole. If you want to find out more, try these contacts:-

For a 7-page briefing on farming and GE, contact
Gene Watch 01298 871898 www.genewatch.org

Transcripts are available from talks given by American farmers about their mixed experiences with GM, and a comprehensive 50-page newslog for farmers. For these ring **GM-Free Cymru 01348 831244**.

The NFU's financial reports in 2001 revealed substantial investments in biotechnology. For a less biased perspective on what GM might mean for farming try **The Small & Family Farmers' Alliance** on **01726 843647**.

Ensuring that your herd is GM free could prove to be a seriously profitable.

"The only farmers making any money out of GM are those who are growing non-GM stuff and can prove it."

Linda Edwards, Canadian Farmer 2000

Already farms in Dorset that guarantee this are being promoted in a new scheme aimed at producers (ring 01305 783621 for further details), and customers continue to lobby producers about sourcing GM-free products.

If you want to prevent the imposition of GM crops, talk to your neighbours about the issue. Sign the GM-free pledge so that distant beauraucrats know what you think. Put pressure on your local MP, and ask your seed rep to source GM-free feed.

GM food is one of the few issues where consumers have consistently put their money where their mouth is. In 1998 supermarkets withdrew GM foods from their shelves after the public made it clear they didn't want it. A 2003 Mori poll showed that 56% of people are actively opposed to GM and only 14% support it. There is currently a campaign demanding 2p for GM-free milk, requiring that supermarkets charge the consumer 2p extra on a pint, on condition that this money goes directly to farmers and the milk comes from cows not fed on GM feed.

Whatever the government's decision, it seems there will be a strong economic advantage in being GM free.



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by the Totnes Genetics Group, a voluntary organisation
campaigning for a GM-free West Country

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GM Maize

the story so far

Why should I read this?

Because the Government is about to launch a propaganda campaign to convince you that growing GM crops is a good idea. The first variety proposed for commercial growing is a kind of fodder maize called Chardon LL, from the pharmaceutical company Bayer, designed to be resistant to the herbicide glufosinate ammonium (often sold as Liberty). These seeds could be on sale from 2004.

Because the vested interests of government, the biotech companies and much of the farming press are skewing the information reaching farmers.

GM crops have only been grown internationally for around eight years. The evidence that follows is derived from those experiences, and government and scientific experiments. Sources for all these references are available from 01803 840098.

Why would I want to grow it?



The supposed benefit of Chardon LL is **easy weed control**. You can spray the company's broad-spectrum herbicide after the crop has emerged, thus doing away with the need for Atrazine. But a recent study in Canada of the same crop (broadcast June 2002 on Newsnight) showed that in practise the company sells atrazine and glufosinate ammonium together, as **glufosinate ammonium alone fails to control weeds adequately**.

Dr Brian Johnson of English Nature has since expressed concern that this changes the entire complexion of the technology's environmental claims.

Even if this issue is resolved in the short term, there are several factors that mean weed problems could be exacerbated by GM.

Because you can spray more frequently than before, and because only two forms of herbicide are being used in conjunction with GM crops worldwide, **the evolution of herbicide-resistant weeds is happening more rapidly than ever**. Australia and Malaysia already have glufosinate ammonium-resistant ryegrass and goosegrass problems.

Volunteer weeds can become unmanageable. Volunteers tolerant to both glyphosate and glufosinate have been detected in experiments by MAFF. A 2002 English Nature report done in Canada found that volunteers resistant to a variety of widely used herbicides were found on every site studied. Dr Brian Johnson said that this could make the science "self defeating" and stated that "the SCIMAC code is probably inadequate to prevent gene stacking happening in Britain."

In addition, **GM seeds are expensive**, due to the companies' need to recoup the research costs. Although their relatively high take up in America suggests that they must be economic, a study by the European Commission's Agriculture Directorate concluded that "The available studies do not provide conclusive evidence on the profitability of GM crops".

In fact, **many farmers have experienced problems with the reliability of the seeds**. In April 2000 160,000 US farmers collectively tried to sue Monsanto for reduced crop yields from GM soya, and in 1997 fifty-four farmers sought compensation when Monsanto's herbicide-tolerant cotton developed deformed 'bolls', which dropped



prematurely. It's very possible that these failures were due to the additional genes in the plant causing unpredictable side effects under certain conditions.

There are also **problems generated by the need to segregate crops** on the farm. The industry body SCIMAC recommends "cleaning drills thoroughly after use before leaving the field".



Also, because of the risk of contamination from GM crops, **separation distances of 200 metres from organic maize and conventional sweetcorn crops are required**. However, this gap is far less than maize pollination distances reported in scientific journals. The onus is on the GM farmer to notify their neighbours in writing and to resolve differences.

"No insurer provides insurance cover for the risks of GM crop contamination" (NFU Mutual) because they believe the risks to be too great. Claims may therefore be made against growers of GM if their plants damage their neighbours' businesses.

Growing GM could also affect the value of your land, the European Landowners' Association said. "If GMOs contaminated land clearly this would have an effect on the value of the property." The European Society for Chartered Surveyors has called on the EU to set up a register of land where GM crops are grown.

The governments economic review is not taking any of these costs into consideration.

What effect will it have on my cows?

There were no safety tests of feeding maize to cattle before Chardon LL was given approval. One of the tests that was done involved feeding the variety to chickens for two weeks. Twice as many chickens died when fed the GM maize as is statistically normal with broiler hens. But this anomaly in the data wasn't noticed by the regulators and, unusually for results of this kind, the experiment was not repeated fourteen times (as other scientists have advised).



"As a scientist I wouldn't drink milk from cows fed GM maize with the present state of knowledge."

Bob Orskov, OBE, Director of the International Feed Resource Unit in Aberdeen

So who's going to buy it?

Because of the public's concern about GM, **most supermarkets have made commitments to source non-GM fed dairy products**.

Sainsbury says it is "committed to the removal of GM from animal feed and are progressively working towards its removal from own label products." For details of each supermarket's position and phase-out timeline check out www.greenpeace.org.uk.

EU law will soon require GM animal feed to be labelled. It could therefore be difficult to sell GM maize on to others. This legislation will, however, make it more possible to buy GM-free cattlefeed. Mole Valley Farmers already supply a GM-free feed to those who request it. At the moment crushed GM soya from the US constitutes a large proportion of commercial feed mix and is unlabelled.

Seed saving will be traceable and could result in prosecutions. In the



US, even farmers whose seeds have been accidentally contaminated by neighbouring crops are being sued by the biotech companies for infringement of royalties, because the GM seeds are patented. Most famously Percy Schmeiser was sued after his oilseed rape from farm-saved seed was found to be accidentally contaminated with GM. There are regular incidents of private investigators searching out similarly 'guilty' farmers and threatening them with fines as high as ten thousand dollars. Many settle out of court to avoid lawyers' costs.

Anyone wanting to ensure their seeds are GM free prior to planting will have to buy genetic tests at their own expense. According to a European Commission report published in May 2002 **if GM is commercialised the massive shake up required in farming practises to reduce the risk of cross pollination could create "unsustainable costs of production"**.

The public's concern over buying GM also stems from the increasing control of the food chain by biotech companies. While such corporations try to tell us that their products are needed to 'feed the world', in 1998 delegates from eighteen African countries responded to GM marketing campaigns by saying, "We strongly object that the image of the poor and hungry from our countries is being used by giant multinational corporations to push a technology that is neither safe, environmentally friendly nor economically beneficial to us."

