

At Ease With Radical Knowledgeⁱ: the more we know, the less we like GM

The Farm Scale Evaluation report is published: two out of three GM crops are shown to be more damaging to the environment than their conventional equivalents, while the third test is compromised by the use of inappropriate herbicides. The public still doesn't want GM; scientists cast more doubt on its safety; insurance companies won't cover it: but will the government listen?

Anti-GM campaigners' concerns about the potentially detrimental environmental effects of the technology were largely vindicated in October by the publication of the results of the government's three-year Farm Scale Evaluation.

The FSE was designed to compare GM crops and their conventional equivalents for effects on biodiversity under different management regimes. Test plots of both types were grown side by side and comparative observations made of wildlife among the crops and at the field margins.

The report, published on 16th October, concludes that 'Growing conventional beet and spring rape was better for many groups of wildlife than growing GM herbicide-tolerant beet and spring rape.'ⁱⁱ

In contrast, GM maize was claimed to be better for some wildlife when compared with conventional maize, with more weeds and more butterflies and bees. However, this is not surprising, considering that the conventional maize was sprayed with the lethal herbicide atrazine, banned in many countries and being phased out in Britain, but widely used in the USA.

The GM maize was treated with glufosinate ammonium (Bayer's 'Liberty'), to which weeds rapidly develop resistance, and which has, in the USA and elsewhere, had to be mixed with atrazine in order to maintain its effectiveness. It is clear that, had the maize trials been treated according to actual, rather than theoretical, usage, the results would have been rather different.

Ian Panton, a spokesman for GM Free Cymru, said *"The trials give no guidance whatsoever as to the likely effects of growing GM maize commercially in the UK. For a start, the Atrazine used on the non-GM fields for comparison is so dangerous that its use will shortly be discontinued. It is already on the "banned" list in France and other countries. Other herbicides will be used on non-GM maize in the future. So we are no further forward in knowing what the "baseline" ecological effects of growing conventional maize are."*

Mr Panton said the Government also knew in advance of the trials that the manufacturer's recommended herbicide for GM maize, used by some 75% of growers, is Liberty ATZ, in which the proportion of atrazine is 32%.

Prof Mike Owen of Iowa University found the actual percentage of atrazine used by GM farmers is closer to 90%.

"If this herbicide mix was ever licensed for use in the UK it would have a much more dramatic effect on wildlife than the FSE programme suggests," he said.

Although mentioned in the report, the press has largely ignored the point that the FSE was never intended to be a test of the safety of GM, but rather a comparative herbicide management experiment: it only compared one form of chemical farming with another, while taking no account of organic agriculture as a viable alternative. Parallel testing for biodiversity against chemical-free farming would undoubtedly have proved embarrassing for the biotechs, fond as they are of rubbishing organic methods.

"The real comparison should be between GM and organic agriculture. But organic is so obviously better for the environment that the GM industry refused point blank to have this included in the trials."ⁱⁱⁱ

Dr Firbank, scientist commissioned to conduct the FSE, was careful to underline the limitations of the exercise:

"One of the key points to remember is that the results are only applicable to the three crops studied, and only under the regimes of herbicide usage which were employed."

John Sherrell, FARM founding member and South West dairy farmer, said *"These trials are completely useless for working farmers. Not only have they been invalidated by the use of the now banned herbicide Atrazine, but they also provide no evidence of how these crops would perform under practical commercial conditions. It is amazing how the Government are trying to force farmers to grow these crops without providing the information farmers need."*

Research in Hungary in 1998 revealed that Liberty alone was inadequate to control weeds on GM maize: *"The results of field experiments showed that a weed management strategy with glufosinate must include multiple applications, residual herbicides or mechanical control"^{iv}*

The limitations of Liberty were known and made public in June 2002 and was covered in the press and on Newsnight, yet the issue was never raised by the FSE Steering Committee, nor was the herbicide regime altered.

With two out of three trials finding against them, and a third rendered impotent by tests clearly biased in their favour, we might have expected the biotechs to keep their heads down and re-evaluate their position. Instead, they wheeled out their arch spin doctor, Dr Paul Rylott, whose talent for Newspeak would surely have taken him into politics, were it not for his fascination with science.

Faced with possibly the worst day in the history of the GM industry, Dr Rylott managed to turn the results neatly on their head:

"These results confirm what industry has long argued. The flexibility of GM crops allows them to be grown in a way that benefits the environment."

"Activist groups claimed that GM crops were in effect 'green concrete' and would 'wipe out' wildlife. These studies show that this sort of scaremongering is not supported by the evidence. On the contrary - this evidence shows that GM crops are more flexible and can enhance biodiversity." ^v

So remarkable were his Alice-in-Wonderland assertions, that on Newsnight on the day of publication of FSE report, Jeremy Paxman could not conceal his amusement. With one eyebrow raised, he asked, *"Are you sure you have read the same report?"*

Surprisingly, no comparative yield testing was included in the FSE, raising speculation that the biotechs are less than confident in this area.

While oilseed rape and sugar beet are both processed before entering the human food chain, the maize varieties tested in the FSE are animal fodder crops, which would be consumed by us second-hand via meat, milk, and eggs. Yet there has apparently been no published, peer-reviewed, long-term feeding trials, either on humans or animals.

GM NATION?

The findings of the "GM Nation?" debate revealed that most people were "cautious, suspicious or outrightly hostile" about GM crops. Some 54 per cent of the 40,000 people who took part were against the commercialisation of GM crops with a further 25 per cent undecided. Only two per cent said they would be happy to eat GM foods, with 86 per cent saying they definitely would not eat them.

Paul Rylott complained that the findings of the 'GM Nation?' debate were biased, laying most of the blame at the door of environmentalists and 'middle-aged mothers':

"Websites run by groups opposed to GM crops had urged members to attend meetings in force, for example. And the report identifies middle-aged mothers as displaying the most 'implacable' opposition." ^{vi}

However, accusations of 'ignorance and extremism' by the biotechs towards protestors were contradicted by the debate committee, who pointed out that the more people became informed, the more sceptical they became of the technology.

POOR LOSE OUT IN GM POWER PLAY

The world's poor and hungry are the big losers in the transatlantic power play over GM foods, according to the independent Food Ethics Council. They demolish arguments that GM foods are a moral crusade to feed the poor.

"The US government is playing the hunger card to breach EU opposition to GM crops," says Dr Tom MacMillan, the executive director. "Meanwhile, as we saw in Cancun, both the US and Europe are refusing to make the policy changes that are really needed."^{vii}

Contrary to US claims, the EU's caution on GM crops is unlikely to harm the world's poor and it is not 'immoral'. The new report argues that the EU should maintain a moratorium on GM crops until regulation is reformed to take public concerns more seriously.

The report also rejects claims that it is in the interests of world's poor to spend more public money on GM research. Future food security research should be driven by the needs of farmers and consumers, rather than only those of international business and the scientific establishment.

"Farmers and consumers are locked out of key spending decisions, then locked into the course of action chosen in their absence – they're offered GM crops in ways they can't refuse."

The report questions why resources are invested in GM crops, in the name of solving hunger, whilst existing approaches that might work better are left to languish. One reason is that GM crops can be patented, which makes money for firms and public bodies.

"GM crops like Golden Rice promise simple solutions, but problems like vitamin A deficiency are complex," explains Dr Elizabeth Dowler, a nutritionist and member of the Council. "Although Golden Rice is unproven, it is already being sold as a reason to spend more on GM research."

Helen Browning, who chairs the Food Ethics Council, says it is time governments got honest.

"GM crops have made food security a big issue for US and EU policy-makers, but for the wrong reasons. If our governments are sincere, they must tackle the unfair subsidies and trade rules that really make people poor and hungry."

FRENCH AND SPANISH PROTESTS

In September, an experimental Monsanto GM maize crop in southern France was attacked and destroyed a few hours after an anti-GM demonstration.

Another of Monsanto's GM fields, also in the southwest of France near

Toulouse, was destroyed in July.

Spanish farmers and ecologists invaded fields of genetically-modified maize to protest against cultivation of the crop in the only European country where it is grown on a commercial scale. Around 80 protesters picked corn cobs, cordoned off GM plants, unfurled banners and spray-painted slogans on walls at three GM trial sites throughout Spain.

Organizers said this was the first time farmers have risked arrest by interfering with GM crops at a protest in Spain, where 20,000 hectares of genetically modified maize were cultivated in 2002, out of a total of 460,000.

"I'm here to demonstrate my repulsion at genetically modified crops," said one 24 year old co-operative member. "We want to spark a debate on GM crops, because in Spain there is silence on this issue."

A number of similar attacks have been carried out by peasant farmers against Monsanto in India and Brazil.

MEACHER SLAMS USA

Former environment minister Michael Meacher accused the United States of "grotesque misrepresentation" in its portrayal of Africa as wanting GM foods.

He condemned the US pressure on Europe to accept GM through accusations of causing hunger in Africa.

His remarks were confirmed by a spokesperson for Africa, Dr Tewolde Egziabher. The idea that Africa would accept GM food if Europe did is "rubbish," said Dr Tewolde.

Dr Tewolde points out that Africa led negotiations in the Biosafety Protocol^{viii}, which permits countries to reject GM if they deem it risky. They would not have done so if they wanted unregulated GM foods. *"Hunger in Africa is caused by problems of storage, distribution and economic factors"*, said Dr Tewolde, *"GM cannot address this."*

US actions are seen as a message to Africa not to reject GM foods or face WTO reprisals.

MONSANTO PULLS OUT OF EUROPE

Disheartened by Europeans' stubborn refusal to eat what they are told is good for them, Monsanto is withdrawing from many of its European operations and laying off up to two thirds of its British workers.

"If there's no market for something, you go elsewhere," said a spokesman. *"The big companies are looking to China, South-east Asia and South America."*

Monsanto said it was closing its multi million-pound research centre in Cambridge with the loss of up to 80 jobs.

NFU PRESS FOR NO COMPENSATION

The Soil Association has attacked the National Farmers' Union's position that non-GM farmers should have no financial protection if GM crops are grown in the UK. The NFU are keen that GM farmers do not have to pay in full for any damage they cause, saying that it would "be disproportionate to allow the entire responsibility for implementing management measures for coexistence [to] fall on the grower of a GM crop".

In fact, they seem happy for the entire responsibility to fall on non-GM and organic farmers - but they don't come clean and say so. The NFU published their Policy Statement on the coexistence of GM crops with conventional and organic production on 7 October.

Patrick Holden, Soil Association Director, said *"This weasel worded statement from the NFU tells us what they don't want: GM farmers to be responsible for the economic losses they might cause their non-GM and organic neighbours. What the NFU don't have the guts to say is what they do want - which is to leave non-GM farmers paying for the damage that they will suffer if GM crops are ever grown in the UK"*.

The NFU says compensation schemes, whether funded by the taxpayer or industry, would be problematic, and could be highly bureaucratic. They "fundamentally oppose a levy" and appear to favour insurance - which means the cost (of insurance premiums) would fall on non-GM farmers and organic farmers.

Patrick Holden added *"The NFU's irresponsible position threatens the future of the vast majority of conventional farmers who do not want to grow GM crops. It could also spell financial ruin for many organic farmers. The Soil Association's position is clear: responsibility for any financial losses suffered by non-GM farmers, organic and conventional, should be met by the GM chemical companies who stand to profit from GM crops"*.

NO INSURANCE FOR GM

Embarrassingly for the NFU, their own insurance company, NFU Mutual, refuses to offer cover to GM growers. They believe that the risks are not fully understood, and they cannot see this position changing in the near future. Their recommendation to farmers considering growing these crops is to approach the industry/seed companies and obtain some liability insurance through them.

A survey of the principle insurance underwriters in the UK, carried out by the new campaigning group FARM, found that neither farmers considering growing GM crops or non-GM farmers seeking to protect their businesses from contamination by GM crops would be able to find anyone willing to give them

insurance.

The survey conducted by FARM staff and working farmer members revealed a level of opposition from companies taking on the risks of insuring GM crops, comparable to the public's hostility to purchasing and eating them.

Insurance company spokespeople compared GM crops to 'Thalidomide', 'Asbestos' and 'Acts of Terrorism'.

All the companies surveyed felt that too little was known about the long term effects of growing these crops on human health and the environment to be able to offer any form of cover:

"50 years ago insurers were writing policies for asbestos without a care in the world – now they are facing claims of hundreds of millions of pounds. The insurance industry has learned to be wary of new things, and there is a real feeling that GM could come back and bite you in 5 years time", said one company spokesperson.

National Coordinator, Robin Maynard said, *'When insurers quantify GM crops in the same category as thalidomide, asbestos and terrorism, no thinking farmer should risk their business and public reputation by taking on this unproven, unwanted and unnecessary technology.'*

Time and time again, farmers have borne the brunt of someone else's mistakes or short-cuts – BSE, organophosphates, salmonella etc. It's time farmers got out of the firing line and let those seeking to force GM crops into our fields and onto supermarket shelves take the flak.

If Government and their friends in the Biotech. companies dispute the judgement of the professional insurers, perhaps they will offer unlimited cover to the few farmers willing to risk growing GM crops? In addition, for both farmers and consumers, they need to guarantee, what the insurers clearly believe isn't possible, that GM-crops can be grown without contaminating the crops of the majority of farmers who want to remain GM-free.'

AIUA (Agricultural Insurance Underwriters Agency) have an exclusion clause for liability arising from GM crops: they had "no idea what the long term effects might be, as there is such a degree of uncertainty surrounding the potential risks, and the effects could take generations to manifest".

Rural Insurance Group (Lloyds) Also have a set exclusion clause – putting GM crops in the same bracket as 'acts of terrorism'.

MARKET FORCES

The British public has once again given GM, in its present form, the thumbs down. Monsanto has tucked its corporate tail between its legs and trotted off to seek richer pickings elsewhere. Bayer is at bay.

The Farm Scale Trials are at best deeply flawed. The Science Review^{ix} was dogged by resignations over undue pressure from vested interests and ultimately was inconclusive.

The one thing everyone agrees on is that, if nobody wants to buy GM food, nobody is going to grow it.

As I write, the government has not pronounced on the future of GM in Britain. Given Tony Blair's declared position, however, campaigners do not expect any sudden U-turns.

"It is curious that this government, which goes to such lengths to show that it responds to market forces, appears to believe, when it comes to genetic modification, that the customer is always wrong."^x

Several groups have promised escalating campaigns of civil disobedience if Blair fails to listen to public opinion. But public opinion failed to stop him waging war on Iraq: will he be able to ignore the will of the electorate twice in one year?

P J Chandler

Phil Chandler is managing director of the Wholesome Food Association.

ⁱ "We could choose to be a nation at ease with radical knowledge, not fearful of the future, a culture that values a pragmatic evidence-based approach to new opportunities." Prime Minister Tony Blair, quoted on Newsnight 25-6-03

ⁱⁱ DEFRA, GM crop Farm Scale Evaluation Scientific Steering Committee, 16-10-03

ⁱⁱⁱ Greenpeace executive director Stephen Tindale

^{iv} WSSA Abstracts, 1998, Ref: 1.14 [glufosinate maize study - Agricultural Research Institute of the Hungarian Academy of Sciences, Martonvasar, AgrEvo Co Ltd. Budapest, Hungary]

^v BBC web site

^{vi} Western Morning News, 25 September 2003

^{vii} 'Engineering nutrition: GM crops for global justice?' 25-9-03 The FEC is an independent group of scientists, academics and consumer representatives set up to review ethical issues in food and farming and to make recommendations for change.

^{viii} The Biosafety Protocol entered into force on the 11th September 2003.

^{ix} Weighing up the costs and benefits of GM crops, July 2003

^x George Monbiot Tuesday October 7, 2003