

## **Response to ACRE request for submissions on FSE results 14/11/03**

The Farm Scale Evaluations were the biggest exercise of their kind in the world, and have been understandably praised by those who designed and implemented them. This is in spite of their many widely publicised limitations. In terms of the advice that you give to government however, some things are patently clear. The lack of testing of gene-flow (although partially overcome by the latest DEFRA funded research), and its consequences to ‘wild relatives’ and related crops (partially covered by Wilkinson et al), and the lack of testing of soil structure, the total food chain and horizontal gene transfer led to the FSEs being the lowest possible hurdle for GM crops to overcome prior to commercialisation.

The results clearly proved that two GM crops could not overcome even this low hurdle. GM Oilseed rape and sugar beet, when used in the manner their genetic modifications determine, showed clear damage to biodiversity. This is necessary and sufficient grounds to prevent any further growing of these GM crops in the UK. Article 4 of EU Directive 2001/18 states:

“Member States shall, in accordance with the precautionary principle, ensure that all appropriate measures are taken to avoid adverse effects on the environment which might arise from the deliberate release or the placing on the market of GMOs. GMOs may only be deliberately released or placed on the market in conformity with Part (b) or Part (c) respectively.”

This is based on the environmental risk assessment procedure laid out in Annex II. This evaluates risks to the environment, whether direct or indirect, immediate or delayed. “Indirect effects” refers to effects on the environment occurring through a causal chain of events, including changes in use or management. It may be argued that using different “management regimes” could allow these crops “over the hurdle”. This is fraught with difficulties:

How much testing would be necessary, and on what scale, and at whose expense? How would the trials be designed and who would design them? If carried out in the open environment, they themselves would further damage biodiversity. GM corporations would obviously have ideas, and produce statements, however trust in them is very low, especially as they can’t even put the “right seeds in the right bag” (ARM contamination of GM FSEs). What benefit would the British public and farmers gain, when existing conventional agricultural techniques (products which actually have demand) are already proven to be less damaging to the environment.

Yield is also an issue for the economic viability of commercial practice. The much publicised Brooms Barn research into how changing herbicide applications may be used to support biodiversity with GM sugar beet found final yields were reduced by between 24% and 32%. Farmers and society should not have to accept the yield penalties associated with changing spraying dates, just to try to prove that GM crops can be grown without their associated herbicide regimes damaging the environment. Why not just increase organic production, which is optimal for the environment, and increases farmers' margins? Farmers will actually try and optimise yield and ignore the recommendations of the "regimes" as this will be in their best interest, (especially due to the extra expense of GM seed and contracts and their lack of market). Infringement of Regulations has already been documented in the US, where the USDA found 115 infractions of Biotech rules in GM trials and the Centre for Science in the Public Interest found that 19% of all Bt corn farms in 3 states (10,000 farms) violated US EPA refuge requirements. (13% had no refuges at all). Even in the FSEs recommended guidelines for herbicide usage were ignored, and even banned herbicides were used. (Champion et al: 'Crop management and agronomy of the FSEs', pgs 1809-1811).

It could be argued that incentives may help overcome this, but why is it necessary? Who will pay for this, who monitors, regulates and checks farmers etc are actually following procedures and at what cost? Why not offer incentives to increase existing environmentally beneficial agriculture? Finally, what would the effect be on the funding applications via the CAP of introducing new regulations (in terms of management). Would the latest CAP proposals have to be re-drafted, again, if so why, and at whose expense? There is a need to stop treating symptoms and start addressing underlining causes. Increasing red tape for farmers, for the sake of GM companies, is unnecessary and impractical. Instead we should concentrate on the widespread growing of good quality food (that consumers want to buy and eat) in an environmentally sustainable manner, avoiding further expensive administrative chaos.

"The FSE trials are designed to mimic the expected UK commercial farming practices under UK conditions" (Michael Hartley, DEFRA GM Crops policy, 23 July 2002)

In the case of maize, the recent EU ban on the use of Atrazine (believed to have been used in 75% of FSEs), and the evidence from the US of the ineffectiveness of glufosinate (where up to 90% of farmers use a mixture with three times as much Atrazine than glufosinate) invalidates the majority of the FSEs. This is further supported by the findings of the Texas Agricultural extension service, Result Demonstration report:

'Weed Control in Liberty Link Corn', 1996-1999, by Brent Bean and Matt Rowland which declared "In general Liberty should not be used as a stand alone treatment". Both

comparative herbicide regimes used in the FSEs will not mimic commercial UK conditions. This also has implications for original risk assessment on T25 maize.

The results of the trials where Atrazine was not used overcomes a small part of the above problem but are still insufficient in themselves to reach any overall valid conclusions. Furthermore, yield measurements were not a component of the FSEs, a critical omission, especially as maize is very sensitive to weeds, and yields are badly affected by weeds in the crop.

We understand that you are specifically looking at the results of the FSEs, but these of course cannot be looked at in isolation. If you choose to go down the “potential farm management” route, this will involve certain subjective judgements. In making these you should bear in mind the overwhelming rejection of GM crops and foods as evidenced by GM Nation, Eurobarometer 55.2 surveys, and the Consumers Association survey, ‘GM Dilemmas’.

The scientific evidence from the FSEs clearly shows that GM OSR (spring) and the two types of GM sugar beet should not be grown in the UK again.

The GM maize trials are fraught with difficulties and are effectively invalid evidence of how UK biodiversity would be affected by growing GM Maize. As such, no commercial growing of GM maize should be recommended by your Committee.

Yours sincerely

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