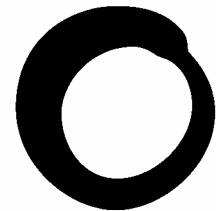




GM Contamination Briefings



Friends of the Earth

1. Seed contamination

This briefing is part of a series explaining the difficulties involved in growing GM and non-GM crops together ('co-existence'), and why a strong legal framework is needed to deal with this issue. Under European law, Member States can create a legal basis for coexistence and liability, and the UK Government has now started this process. It is vital that strict laws are put into place to prevent contamination of non-GM crops and ensure that biotechnology companies are held liable for any damage caused by their products. Local and regional authorities should have the democratic right to decide whether or not GM crops are grown in their areas.

Key points

- Contamination of seeds can quickly affect the entire food chain
- Farmers who save seed may be particularly affected
- Major contamination incidents have already taken place
- Dealing with contamination after it has occurred will be very difficult and expensive

Seeds are the foundation of the food chain. In order to protect the public's right to choose non-GM food, or for farmers to grow non-GM crops, it is essential that seeds remain free of GM contamination. Once seed is contaminated, GM material can pass quickly up the food production chain, and removing material from breeding lines would be extremely difficult and costly. It is essential that GM-free seed lines are maintained for future plant breeding.

The European Commission is in the process of amending the Seeds Marketing Directives, including proposals to allow certain thresholds for GM contamination of conventional seed varieties. These should be set at the limit of detection, currently 0.1%, but the proposals are for higher thresholds. The UK Government's position on this is unclear at present.

Farm saved seed

GM seed contamination will particularly affect farmers who save seed, a practice that occurs widely in the UK for some crops – up to 40 per cent of seed grown¹. Farmers save seed for agronomic and economic reasons – the saved variety may be better suited to local conditions, and it saves money. But commercialisation of GM crops would mean farmers, including those who save seed, will face the threat of cross pollination from GM crops. To ensure they are growing GM-free crops, farmers may be forced to buy certified seed instead, or have their own

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seed tested, both at greater cost. In the USA and Canada, farmers who planted GM-contaminated saved seed have faced legal action for breach of patent regulationⁱⁱ.

Contamination incidents

Several major seed contamination incidents have occurred over the past few years. In spring 2000, it was discovered that more than 6000 hectares of farmland across the EU had been planted with GM-contaminated oilseed rape. The seeds came from Canada, and it is believed that contamination occurred due to cross pollination with GM oilseed rape, despite the four kilometre separation distances used: five times the Canadian regulatory separation distance for seed productionⁱⁱⁱ. The voluntary guidelines used in the Farm Scale Evaluations, which may form a basis for future coexistence legislation, advise a separation distance for oilseed rape of just 200m at most^{iv} – clearly inadequate, given this experience.

In 2002 it was discovered that GM oilseed rape seeds used in the UK Farm Scale Evaluations since 1999 were contaminated with a different GM oilseed rape containing a gene conferring resistance to two antibiotics, and which did not have consent to be grown experimentally in the UK^v. And in 2005, it was discovered that Syngenta had been mistakenly selling unapproved Bt10 GM maize seeds to US farmers for four years, instead of Bt11. The resulting chaos led to emergency measures to restrict the import of US maize gluten and brewers grain imports into the EU^{vi}, and to date 14 contaminated US cargoes have been rejected by Japan^{vii}.

In North America, contamination of seeds has become endemic. The US organic certifier Farm Verified Organic has stated that GM contamination of maize, oilseed rape and soya is so pervasive that they believe it is impossible for North American farmers to source GM-free seed^{viii}. Canadian organic farmers claim that contamination of oilseed rape is so widespread that their market has been wiped out, and most organic farmers have given up growing it altogether^{ix}.

Conclusion

EU legislation limits GM food, feed and crop approvals to 10 years, after which authorisations must be renewed. This enables GM crops to be withdrawn if problems occur. But withdrawing a crop when contamination has spread into seed supplies will be impossible.

Various proposals have been put forward for GM crops that would prevent or reduce contamination, but these are often expensive and/or impractical. The use of the controversial 'terminator' technology – where no fertile seeds are produced – has been proposed. But this technology prevents farmers from saving seed, increasing corporate control of the food chain and creating serious implications for food security in developing countries^x. Besides which, no current or near-commercialisation GM crops use this technology, so even if it were made available in the future, it is likely that contamination would have already occurred.

Seed contamination will force farmers to label crops as containing GM and potentially lose their premium market, or be unable to sell the crop at all. The contamination of GM-free seed lines would have serious implications for future plant breeding and should be avoided at all costs.

It is vital that a strong legal framework is put into place to prevent such contamination occurring, and ensure that liability is clear if contamination does occur.

References

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