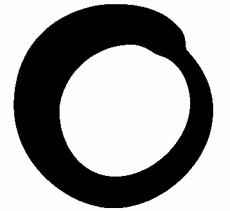




GM Contamination Briefings



Friends of the Earth

4. Bees, honey and GM crops

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

- Honey can be contaminated by GM pollen, leading to potential economic losses for beekeepers
- Bees are primary agents for cross pollination of crops such as oilseed rape, travelling considerable distances and potentially causing crossing of GM and non-GM crops.
- There is no system to ensure beekeepers are consulted about the growing of GM crops, or to provide compensation in the event of financial loss.

Honey

Honey contains pollen grains from plants that bees have visited, and can therefore be contaminated by GM pollen. Friends of the Earth in Englandⁱ, and the Sunday Times in Scotland have already detected GM pollen in honey produced in the UKⁱⁱ. The former Food Safety Minister Jeff Rooker stated that honey containing GM pollen would have to be labelled before being soldⁱⁱⁱ. But this only applies to honey containing pollen from GM crops which have gained permission to be sold as food. If honey became contaminated with GM pollen from a test site growing a GM crop which does not yet have permission to be sold, it could be illegal to sell it. Pollen from unapproved GM crops could also be present in imported honey.

Honey contaminated with GM pollen will either have to be disposed of safely, or sold as a GM product. Either of these options is likely to cause financial harm to beekeepers. Yet there is no system to ensure that beekeepers are consulted about GM crops being grown nearby, nor are there any provisions for compensation in the event of financial losses which might result.

It is not known what effect honey containing GM pollen could have on people consuming it. For example, the novel proteins produced by GM crops can also be present in their pollen. There

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are already cases of people who are allergic to honey, and this has been linked to pollen in the honey^{iv}.

Cross pollination

Bees are extremely important for the pollination of UK crops, particularly oilseed rape, the crop to which commercial hives are most often moved^v. Pollination contracts provide an important source of income for many beekeepers, and many farmers rely on honey bees for their vital pollination role each spring. The value of this service to UK farmers and growers was over £172 million for outdoor crops and over £29 million for glasshouse crops in 1996^{vi}.

Honey bees commonly forage up to two km from the hive, but oilseed rape fields are such an attractive source of nectar that bees may travel at least five km to get to them^{vii}. During the Farm Scale Evaluations (FSE), the British Beekeepers Association recommended that beehives should be sited at least six miles from the nearest GM trial field.

The voluntary guidelines used in the Farm Scale Evaluations, which may form a basis for future legislation, specify a separation distance of just 200m between GM oilseed rape and certified seed producing oilseed rape/organic oilseed rape, and only 50m between GM oilseed rape and the conventional crop^{viii}. It is clear that bees can travel between fields much further than this, and the guidelines also make no provision for the protection of beehives.

A lot of research on bees and cross-pollination focuses on oilseed rape, but bees also visit other crop plants, including maize. Bees collect pollen for food, and in the US it was found that pollen from maize fields can make up to 20 per cent of the total collected by bees from nearby hives^{ix}.

Conclusion

Companies or farmers planting GM crops do not have to consult with neighbouring beekeepers, or even tell them that there is a GM crop nearby. Even if the beekeeper finds out that there is a GM crop nearby, it is up to them to test their honey for contamination. Because of this, it is likely that beekeepers have already unwittingly sold GM honey to the public as a result of contamination from the GM crops grown in the Farm Scale Evaluations.

Not only are beehives near to GM oilseed rape fields likely to become contaminated with GM pollen, but the bees may spread GM pollen to non-GM crops several miles away. It is likely that in the future farmers will be growing oilseed rape for the 'GM-free' market. In such cases, contamination of the crop could cause financial loss to the farmer. It is unclear whether the beekeeper might be held responsible for this as well as the farmer who grows the GM crop.

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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ⁱⁱ http://www.foe.co.uk/resource/press_releases/20000516185312.html

ⁱⁱⁱ Macaskill M (2002). *GM crop taints honey two miles away, test reveals*. Sunday Times 15 September 2002.

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