

GM Contaminated Oilseed Rape in Somerset: Freedom of Information Act (2004) Tribunal Hearing Monday, 6 December 2010

Special briefing



4 December 2010

Summary

In December 2008 Defra announced the discovery that a field of oilseed rape was contaminated with a GM trait giving tolerance to the herbicide glyphosate that was not approved for cultivation in the UK. They confirmed that the contamination had spread to a nearby crop.

GM Freeze felt that it was important that neighbouring landowners, farmers, beekeepers and gardeners should know where the contaminated site was located so they could take action to limit any harm that might arise. Defra refused to supply a six-figure map reference on the grounds that it was personal information under the Data Protection Act 1998 and that it was not in the public interest to reveal it against the wishes of the farmer. Appeals to Defra and the Office of the Information Commissioner were turned down.

So GM Freeze decided to opt for a Tribunal before a judge under the Environmental Information Regulations 2004. This Tribunal is due to take place on at:

**10am, 6 December 2010
Court Room 5, Audit House, 58, Victoria Embankment, London EC4Y 0DS**

Case Background

No GM oilseed rape is approved for commercial cultivation in the EU. Any test sites for GM crops have to be approved under the GMO Deliberate Release Regulations 2002 by Ministers in London, Edinburgh, Cardiff and Belfast. No such licences have been granted for GM oilseed rape in the past decade.

In September 2008 the Scottish Government revealed that three National List trials and variety trials (all small-scale) for non-GM oilseed rape had been found to be contaminated up to 0.05% (1 seed in 2000) with an unauthorised GM trait called GT73, which conveys tolerance to the herbicide glyphosate. Upon discovery of the contamination, the organisation conducting the trials destroyed all three trials using an approved contact weed killer.

On 19 December 2008 Defra announced that a field of non-GM winter oilseed rape located in Somerset, which had been harvested 2008, had also been contaminated with GT73 at the same level as in Scotland. Furthermore the contamination had spread to a neighbouring crop of spring oilseed rape at 0.01% (one seed in 10,000) by cross-pollination. The field was revealed following the Scottish contamination.

GM Freeze and others requested more information on both the Scottish and Somerset cases, including the precise location of the contaminated field in Somerset.

As a result of these enquiries and others made by MSPs and MPs by means of Parliamentary Questions, letters to Ministers from December 2008 to March 2009 and the annual report of the GM Inspectorate (GMI)¹, the following information came to light concerning this contamination incident:

- The seed sown in Somerset and Scotland originated in Idaho, USA.
- The testing of the seed used in the national list trials (NLT) in Scotland was at the request of the British Society of Plant Breeders.

- Seed submitted for NLT in England was also found to be contaminated to 0.05% and was destroyed by the GMI.
- The seed company who submitted the seed for NL had also run the private trial in Somerset.
- The seed company involved was new to the European seed market.
- The GT73 GM trait is owned by Monsanto Europe.
- The nearest oilseed crop to the Somerset contamination was 4 miles away.
- In Somerset the contaminated field was 0.9ha (2.2 acres) in area and the neighbouring field 0.5ha (1.2 acres).
- In Somerset neither crop had entered the food chain (although the company was told that the crops could be sold as animal feed, but they instead opted to dispose of them in landfill in May 2009).
- In Somerset the contaminated crop was located in South Somerset DC and eventually, by process of elimination of one parliamentary constituency, the location was deduced to be somewhere in the Somerton and Frome constituency (confirmed by Defra in August 2009).
- The farmer who sowed the Somerset crop was unaware of the contamination at the time of planting.
- GMI put forward proposals for their GM audit of conventional seeds to be extended to seeds imported for trials.

What was not revealed

Despite requests from GM Freeze, Dorset, Devon and Somerset County Councils, the District Councils in South Somerset, North Dorset and West Dorset, as well as others, the six-figure map reference for the contaminated field in Somerset has not been revealed by Defra. Neither has the exact reason for the crop being grown, nor the distance between the two crops known to be contaminated.

Defra refused to release the six-figure map reference because they have classified it as personal information under the Data Protection Act 1998, and they did not consider it in the public interest to release it against the wishes of the landowner. They claimed the landowner's interests may be harmed by the information becoming public. Appeals to Defra and the Office of the Information Commissioner failed to get the map reference released.

Why the location is important

By Defra's own admission the GT73 GM trait sown by the Somerset farmer had already cross-pollinated with a neighbouring crop of spring oilseed rape either by wind or on insects or both. Both forms of cross-pollination are possible in oilseed rape, and experiences in the field show that this is possible over considerable distances.

For example, seed crops of oilseed rape are grown with significant separation distances between each variety to ensure that varietal purity is maintained. The separation distances used for oilseed rape seed production in the UK and internationally to achieve these levels of purity range from 100 metres to 500 metres. The separation distances for non-hybrids range between 100 metres and 200 metres. Based on these distances, seed purity of 99 to 99.7 per cent is said to be achieved for non-hybrid certified seeds. For hybrid seeds (500 metres separation) basic seed purity is said to be 98-99 per cent, and for certified seeds (300 metre separation) purity is 90 per cent.

However, during the EU process to set a GM threshold in seeds (which is ongoing) the EC's Scientific Committee on Plants recommended the seed production separation distance for hybrid oilseed rape to increase from 500 metres to 5000 metres for basic seed and 3000 metres for certified seed to meet a threshold of 0.3 per cent GM contamination (3 seeds in every 1000)ⁱⁱ.

Research by the Scottish Crop Research Institute for Defra found that GM pollen had been transferred 26 km to a male sterile bait plantⁱⁱⁱ. The researchers suggested that the likely vector was a pollen beetle, which had been observed on flowers.

Furthermore, a Canadian Food Inspection Agency investigation into seed contamination incident(s)

in 2000 found that separation distances between GM crops and non-GM seed crops of 800 metres were maintained^{iv}, and yet seed imported into the EU was found to be contaminated up to 2.8%. The seed was imported by Advanta Seeds UK, and in their evidence to the House of Commons Agriculture Committee in 2000 the actual separation distance for the contaminated seed crops was stated as four kilometres^v (five times the Canadian regulatory separation distance for seed production in Canada).

Another source of contamination is honeybees, which are attracted to flowering oilseed rape crops because they are a rich source of pollen and nectar, and they will travel considerable distances to gather both. In 1999 Friends of the Earth consultants found that honeybees had carried GM oilseed rape pollen 4.5km back to their hive in Oxfordshire. In gathering pollen honeybees become covered in oilseed rape pollen and carry large amounts on their body hairs, which can be transferred to other bees in the hive that can then carry it to other oilseed rape crops where it can pollinate flowers. Thus honeybees are capable of cross pollinating oilseed rape over several miles.

Honey produced from bees foraging on oilseed rape flowers contains significant amounts of pollen. An opinion survey carried out in 2003 found that nearly two thirds of people who regular brought honey did not want it to contain GM pollen. To avoid such GM contamination, the British Beekeepers Association's the current advice is to allow a 6 mile separation distance between hives and the nearest GM crop.

South Somerset has a high number of registered beekeepers.

Other pollination insects, such a bumble bees and pollen beetles, could also have visited the contaminated fields and transferred pollen to neighbouring crops or plants.

Thus there was a possibility that GM pollen from the contaminated field in Somerset could have been transported by wind and insects and cross-pollinated other crops or contaminated local honey. The market for both crops and honey could have been affected, as the majority of UK food manufacturers and retailers are looking to source ingredients without any GM content.

In addition oilseed rape is known to cross with a number of wild plants present in South Somerset, for example wild turnip (*Brassica napus*), hoary mustard (*Hirschfeldia incana*), wild radish (*Raphanus raphanistrum*), white mustard (*Sinapsis alba*) and charlock (*Sinapsis arvensis*), as well as with oilseed rape itself. Most areas where this crop is grown also support a feral population of oilseed rape arising from seed that has been spilled during transportation or from combine harvesters. These populations could act as a reservoir for GM contamination if not controlled.

Although the Somerset field was contaminated at a relatively low level, this was still capable of pollinating the neighbouring crop. A 0.05% contamination in seed would produce 600 GM plants per hectare when sown. Thus the contaminated field would have contained around 540 GM plants. The neighbouring field would have contained approximately 60 GM plants per hectare.

Oilseed rape seed is shed from the pods in significant amounts before harvest, such that an average of 3,575 seeds per square meter was deposited on the soil in one research project (range 2,000-10,000 per m²)^{vi}. Oilseed rape seed has the capacity to go dormant if buried in the soil after being shed. This dormancy can last for many years. The EC Scientific Committee on Plants reported that volunteers could arise from spilled seeds "for up to 10 years, possibly longer"^{vii}. Defra sponsored research on the impact of GM oilseed rape on crop purity predicted that some oilseed rape could survive for up to 16 years^{viii}, if no attempts were made to control it, and still result in following non-GM crops exceeding the labelling threshold for accidental contamination.

Thus there was potential for the Somerset contamination to persist in the environment for many years and result in loss of income from contaminated crops long after the initial event. Similarly contaminated wild plants could persist and increase in number if not controlled.

Therefore one small contamination incident could eventually grow into a significant weed control

problem if the GM plants are allowed to persist and multiply in the area over several years. Although absolute control of these GM plants would be impossible, farmers could do much to prevent glyphosate resistant weeds and volunteers becoming a problem by acting swiftly to remove resistant plants from their fields.

However most farmers would not think to do this automatically (why would they expect such plants to be present in normal circumstances?) unless they knew GM contamination was in their area.

Defra's failure to provide the precise location of the contaminated field has prevented the potentially contaminated area being correctly delineated on a map so that farmers, beekeepers and gardeners could make plans to monitor for GM volunteer oilseed rape and wild relatives and to control them. Beekeepers may choose to monitor their honey for GM pollen and to move their hives away from the potentially contaminated area in future years.

The case

The case revolves around whether a map reference is personal data under the Data Protection Act 1998 and whether or not it is the public interest to override the DPA in this case. GM Freeze believes it is because many land owners and beekeepers could have been affected without knowing it.

Although the GM contamination was relatively low compared with previous oilseed rape contamination incidents in the UK, GM Freeze believes that there is a chance that the contamination could spread and the GM trait could have crossed into other crops producing GM volunteers, GM feral plants and GM wild relatives.

Defra argue that the contaminated farmer's interests and reputation may be damaged by the release of the location. However the neighbouring landowners could be equally damaged if their land has been contaminated with GM oilseed rape.

The farmer who grew the contaminated crops has been able to take the appropriate action to limit the long-term consequences of the incident. His neighbours have had no such luxury because they would be unaware of the presence of the GM trait in plants on their land.

Summary

This is a significant case. Contamination of crops with GM traits can spread to other people's land and crops and into honey. Once established it will be hard to remove and could develop into a significant farming and wildlife problem. GM Freeze believes that one way to reduce the risk of GM spreading from contaminated crops is to be open and transparent, although prevention is by far the most effective approach. The organisation is therefore taking this case to the Tribunal on 6 December to attempt to establish the public's right to know.

ⁱ GM Inspectorate, 2009, ⁱ *Annual report on GM inspection and enforcement activities 01 April 2008 - 31 March 2009*.

ⁱⁱ Memorandum to the European Commission by the Scientific Commission on Plants on the growing conditions and other requirements for seed purity circulated by the Plant Variety Rights Office and Seeds Division of Defra, 9 July 2001.

ⁱⁱⁱ Ramsey, G, Thompson, C and Squire, G. 2003. *Quantifying landscape-scale gene flow in oilseed rape* Defra research project RG0216. See http://webarchive.nationalarchives.gov.uk/20081023141438/http://www.defra.gov.uk/environment/gm/research/pdf/epg_rq0216.pdf.

^{iv} Canadian Food Inspection Agency, 2002. Trace Amounts of Genetically Modified Materials in Canola Seed Exported to Europe.

^v House of Commons Agriculture Committee, 2000. Oral evidence from David Buckridge and Mike Ruthven, Advanta Seeds UK, 18 July 2000. See www.parliament.the-stationery-office.co.uk/pa/cm199900/cmselect/cmagric/812/0071803.htm

^{vi} Lutman, PJW et al, 2005. *Persistence of seeds from crops of conventional and herbicide tolerant oilseed rape (Brassica napus)*. Proc.R.Soc B (2005) 272, 1909-1915 22 September 2005.

^{vii} Scientific Committee on Plants SCP/GMO-SEED-CONT/002-Final, 13 March 2001. *Opinion of the Scientific Committee on plants concerning the adventitious presence of GM seeds in conventional seeds*.

^{viii} Squire, GR and Begg, GS, August 2003. *The potential for oilseed rape feral (volunteer) weeds to cause impurities in later oilseed rape crops. Final report of the DEFRA project: Consequences for Agriculture of the Introduction of Genetically Modified Crops, RG0114*. See http://webarchive.nationalarchives.gov.uk/20081023141438/http://www.defra.gov.uk/environment/gm/research/pdf/epg_rq0114.pdf.