

GM Flax Contamination from Canada

Q&A for businesses and the media

November 2009



This briefing provides a summary of the current GM contamination incident of food crops involving GM flax based on the best available information at the time of writing. If significant new information becomes available, GM Freeze will provide updates as required.

What's Happening?

The world's supply of flax is contaminated with a GM event that has yet to be identified. The contamination was first detected into food products in Germany in mid September 2009. As of 19 October 2009 at least 36 countriesⁱ have found the contaminated flax, including the UK. Some 13 alerts have been issued by the EU Rapid Alert System for Food and Feed (RASFF). Confirmation of the GM trait(s) and levels of contamination involved have not been made public.

What's Happened in the UK?

GM Freeze sent two samples for testing in Germany – one of whole flax seeds and one a loaf of bread from Marks and Spencer. The bread came back positive; it contains an unauthorised GM ingredient. Given the number of samples we had tested, it is clear one does not have to look very hard to find illegal GM in the UK food supply.

At the time of writing there has been no Food Alert issued by the Food Standards Agency (FSA) to formally warn businesses of the extent of the problem or the risks, despite the FSA having initiated one of the EU alerts. So it is impossible to gauge the extent of contamination in the UK or elsewhere. The FSA insists that they only issue food alerts in "certain circumstances", and that unidentified, unauthorised GM material in the food chain provides "no grounds" for such an alert. The Department for Environment, Food and Rural Affairs (Defra) says the FSA are "dealing with" the situation.ⁱⁱ

GM Freeze believes that the UK authorities should have acted already. This situation repeats the poor performance by the FSA during previous incidents of GM contamination of the UK food supply, for example, the contamination of long grain rice in 2006/07 with the GM trait LL601. Until the nature and the source of the flax problem are confirmed, EU and UK authorities should be acting with utmost caution in line with the EU's precautionary approach and entirely sensible "zero tolerance" to substances unapproved as safe for human consumption entering the food chain.

What is the problem with flax in the EU?

No one knows, apart from the fact that an unidentified, unauthorised GM trait has been found. It is currently assumed that Canadian imports are responsible, but Canadian authorities are unable to locate the source of the contamination.

In early September traders signalled their fears that Canadian flax exports were contaminated with an unknown GM event.ⁱⁱⁱ By mid September a German food company discovered the GM contamination, and the flax was distributed via internal EU trans-shipments to several other EU countries.^{iv} Within weeks the contamination had been discovered in over 30 countries worldwide.

It has been also assumed that the GM trait involved is called CDC Triffid, a product deregistered in Canada in 2001 (ie, not approved for commercial cultivation) in order to prevent flax exports from being contaminated. Stocks of the GM flax should have been destroyed at that time, so at present it is illegal to market the GM flax in Canada and in the EU.

However at the time of writing test results have not confirmed which GM crop is actually contaminating flax.

One report states:

"Extensive sampling of deliveries from Western Canada has so far failed to find where the contaminated flax is getting into the system. As well, it is not yet clear whether some farmers have purposely grown the variety or whether some of the original seed was somehow mixed in with seed that has been carried over from year to year."^v

Thus the true nature of the problem is still unknown.

Are there any health risks?

No one knows, as the nature of the contamination has not been identified.

The GM construct involved contains three different antibiotic resistant genes for ampicillin, streptomycin/streptinomycin and kanamycin. The presence of the ampicillin and streptomycin/streptinomycin gene would mean that the flax would never get approved in the EU following advice from EFSA that they should be placed in EFSA Group 2, which should not be used in crops placed on the market. The clinical importance of kanamycin is being debated between the European Medicines Authority (EMA) and the European Food Safety Agency.^{vi}

Other possible health impacts include allergic reactions to the GM proteins or other altered proteins. Non-GM flax can cause allergenic reactions in rare cases.^{vii} Other health impacts could arise from the presence of novel chemicals arising from the disruption caused to the flax genome by the genetic engineering process and the presence of antibiotic resistance genes, which could be transferred to harmful bacterium adding to resistance problems in medicine and veterinary medicine.

Previous widespread GM contamination incidents have raised concerns about possible allergenic reactions. For instance, a GM insect resistant maize known as Starlink developed by Aventis, approved for animal feed but not human consumption in the US, caused widespread recalls of contaminated food products in 2001 in the USA amid much controversy that US Food and Drug Administration's safety assessment failed to account for increased allergenicity in children and only tested 18-20 people, among other potential dangers.^{viii}

What is the origin of the contamination and who is responsible?

No one knows. It is important that the origins are discovered as quickly as possible so that the contamination can be stopped at source.

At present the most likely source is that the GM variety called Triffid contaminated seed during a short period of commercial cultivation between its authorisation and deregistration^{ix} in the late 1990s and early 2000s in Canada.

Have any contaminated products been detected in the UK?

Yes. One of the RASFF alerts, initiated by the FSA, names the UK as an origin of the GM flax. Furthermore GM Freeze tested a loaf of Marks and Spencer bread, and those tests came back positive for an unauthorised GM event. UK food supplies are contaminated.

However, despite alerting EU authorities of the problem, the FSA has not issued a domestic food alert, so businesses have not been notified by the normal alert system that there is a problem, and the extent of the spread of the contamination is unknown.

The UK imported over 900 tons of linseed directly from Canada in 2008, and also imports linseed from other EU states (eg, The Netherlands, Belgium and Eire). The origins of these imports are not clear, as crops imported from outside the EU are often trans-shipped within the EU but recorded as imports from the EU country. The UK's total import of flax/linseed was 10,308 tonnes in 2008.^x Flax is grown in the UK on a small area (approximately 4,000 ha^{xi}) to produce linseed. Very little flax is grown to produce fibre in the UK at present.^{xii} Seed imports in 2008 came from The Netherlands (14 tonnes^{xiii}). At present the origin of the imported seed is not known, but until UK seed is tested contamination cannot be ruled out.

On 14 September GM Freeze asked Defra for assurances that seed stocks were being checked to ensure that any contamination was identified, isolated and destroyed. While waiting for five weeks for an answer, the Scottish Government provided the useful information that EU seed imports are neither monitored nor tested for GM presence.^{xiv}

On 20 October 2009 Defra told GM Freeze that in the UK a program of "voluntary audits" of seed is conducted "to ensure that seed producers and importers are aware of the risks of adventitious GM presence in seeds and that they are managing those risks". The letter continued that the UK authorities "do not at this time consider there to be a generic problem with adventitious GM presence in linseed/flax seed". Defra says the GM Inspectorate has "issued notices" and will "follow up with phone calls" to "all known producers and importers of linseed/flax seed to make them aware of the potential risk and to advise them to discuss this with their suppliers and growers". Thus at present there is no monitoring of flax seed imported into the UK and no information on its origins. This is significant – contaminated seed guarantees a contaminated crop.

What is the legal position of companies importing, manufacturing or selling flax or flax products?

Retail or food manufacturers

It is illegal to sell foods contaminated with unauthorised GMOs in the EU regardless of what level of contamination is present in the food on sale. Under the EC Food and Feed Regulation (1829/2003), genetically modified foods have to pass through a strict risk assessment for food safety and environmental impact before they can be granted a consent to be marketed. In the UK, the maximum penalties for marketing unauthorised GMOs is a £5,000 fine or 6 months in prison (if convicted in a magistrates court), or 2 years in prison and an unspecified fine (if convicted in a crown court).^{xv}

What's happening to Imports?

Imports of Canadian flax have been suspended pending the adoption of a testing protocol to determine the nature and extent of the contamination.

On 19 October representatives of the Canadian Government and DG Sanco presented a proposed flax testing protocol to the GM Food and Feed and Environmental Risk section of the EU's Standing Committee on the Food Chain and Animal Health. The protocol outlines a system of sampling, testing, and documenting to the presence of FP967 (CDC Triffid) in shipments of Canadian flaxseed to the European Union (EU).^{xvi}

However, at the time of writing the actual test the Canadians are waiting to be developed had yet to be validated.

Furthermore, if Triffid is not the origin of the contamination, or not the only origin, this protocol will not be sufficient to prevent further contamination reaching EU markets.

What should we do as a company?

Companies such as retailers, wholesalers and restaurants/hotels have a duty under General Food Law and GMO legislation to sell only products that have been approved for marketing in the EU. In order to ensure they are not illegally handling contaminated products, companies should commission testing by an accredited laboratory. Any foods found to be contaminated, at any level, should be withdrawn, along with all products in that batch. By demonstrating that such action is being taken to prevent the illegal sale of contaminated flax, your company would be able to avoid enforcement or legal action.

What should be done with any contaminated products?

Any contaminated products would have to be withdrawn from sales and disposed of in an approved manner.

Who will pay if my products are contaminated?

Who will be liable for cleaning up flax supply chain is not clear. Logically those responsible for the contamination should be liable, but there is no legislation to require this. It would therefore appear complicated and costly to pursue and may not bring about a satisfactory conclusion. In previous contamination cases the exact cause was not clear, and this can further muddy legal waters.

In the case of the 2006 contamination of US long grain rice with LL601, Bayer CropScience is still being pursued in the courts by US rice farmers. In August 2009, some 1,500 US farmers filed a lawsuit against Bayer CropScience, claiming damages for the contamination of their crops with the unapproved experimental variety.

In the case of flax contamination it would be logical for businesses to lobby the Government to pursue compensation with the relevant authorities directly, and in the meantime request that the Government pays compensation to those affected. The argument for this is strengthened by the fact that the FSA has thus far failed to respond through official alert systems to the incident unnecessarily prolonging the exposure of the food industry to risk.

What can we do to prevent similar contamination in the future?

GM contamination is always a risk. This is one of the clearest arguments against the technology.

GM Freeze believes that in order to protect the businesses importing and selling food from countries growing GM crops that are not authorised in the EU, the UK Government and European Commission should start an ongoing programme of proactive monitoring of incoming cargoes from at risk crops and countries before they are unloaded. This will require the EU to obtain information and the necessary reference materials for GMOs being trialled or grown commercially around the world to enable testing to be accurate and reliable. Unapproved GM products should not be re-exported for sale elsewhere but destroyed at the importer's expense.

GM Freeze has asked a series of questions of UK authorities about the current flax incident that would help

clear it up and protect UK businesses, farmers and consumers in the future.

With regard to food, we have asked the FSA to issue a full Food Alert and to initiate all appropriate steps to find, contain and remove unauthorised GMOs from the market in the UK and to ensure they are properly destroyed.

What lessons can we learn from the contamination?

The EU authorities have again failed to spot contamination in imports before they were distributed. It apparently took a Germany food company conducting its own tests to find the problem, and it has been growing in magnitude ever since. If the GM involved in this episode is Triffid, then it is possible that global flax supplies have been contaminated for many years without any of the regulatory systems revealing it, further undermining public confidence in the agencies charged with keeping food safe.

If the FSA had prepared in advance and fully understood the market for flax products and seed, it would not have taken so very long to decide if testing is required, and action could have been taken by now to recall products potentially contaminated with this illegal GMO.

This episode also undermines that the assurances of UK, EU, US and other authorities that GM is a safe, contained and predictable technology, and that "coexistence" with non-GM crops is impossible.

GM Freeze are renewing our call for a Parliamentary committee to be set up to exercise oversight of the FSA to ensure it properly carries out its responsibilities to "provides advice and information to the public and Government on food safety from farm to fork, nutrition and diet. It also protects consumers through effective food enforcement and monitoring".^{xvii} GM Freeze first made this call after the FSA's poor handling of the 2006 contamination of US rice imports prompted a Judicial Review, and a High Court Judge found the FSA's mistakes included:

- failure to issue any Food Alerts to local authorities.
- failure to notify the public of which batches of rice were contaminated.
- failure to provide legal guidance to local authorities at the start of the incident.^{xviii}

All of these mistakes are being repeated now, showing that the FSA's internal review of the rice incident has not improved either practice or procedures.

ⁱ Canada: Austria, Belgium, Croatia, Czech Republic, Cyprus, Denmark, Egypt, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Luxembourg, Mauritius, Netherlands, Norway, Poland, Portugal, Republic of Korea, Romania, Singapore, Slovakia, Slovenia, Spain, Sri Lanka, Sweden, Switzerland, Thailand, UK, USA. See <https://webgate.ec.europa.eu/rasff-window/portal/index.cfm?event=notificationsList>

ⁱⁱ Letters to GM Freeze and others from FSA and letter to GM Freeze from Defra dated 20 October.

ⁱⁱⁱ *Alberta Farmer*, "Prairie flax bids fall over Europe's GMO concerns", 4 September 2009. See www.albertafarmexpress.ca/issues/ISAarticle.asp?aid=1000340063&PC=FBC&issue=09042009

^{iv} See GM Freeze press release, "Illegal GM contaminates flax - UK fails to respond", 14 September 2009.

^v Winnipeg Free Press, "Zero Tolerance Leaves Farmers in the Dust", 24 October 2009. See www.winnipegfreepress.com/business/zero-tolerance-leaves-farmers-in-the-dust-65891617.html.

^{vi} See <http://www.emea.europa.eu/pdfs/human/opiniongen/5693707en.pdf>

^{vii} Canadian Flax Council, undated. See www.flaxcouncil.ca/english/pdf/FlxPrmr_4ed_Chpt8.pdf

^{viii} See www.consumersunion.org/pub/core_food_safety/002294.html and www.cropchoice.com/leadstryae5a.html?recid=350.

^{ix} "Transgenic flax grown for several years in Canada has nevertheless contaminated probably the country's entire flax seed stock; that's why flax should never be used to produce transgenic industrial and pharmaceutical chemicals." Professor Joe Cummins. See www.i-sis.org.uk/theDayOfTheTriffids.php.

^x Source UK Trade Info see www.uktradeinfo.com/index.cfm?&hasFlashPlayer=true.

^{xi} *The John Nix Farm Management Pocket Book 40th Edition (2010)*, p12.

^{xii} *Ibid*, p24.

^{xiii} Source UK Trade Info see www.uktradeinfo.com/index.cfm?&hasFlashPlayer=true.

^{xiv} Scottish Parliament written answers, 6 October: "EU seeds legislation requires that Member States should ensure that they are notified of the particulars of any seed (to be used for multiplication purposes as opposed to grain) weighing over 2kgs which is directly imported from Canada or any other third country. No such notifications have ever been received by Scottish Ministers regarding seed from Canada. *This information is not, however, routinely compiled at EU level and the Scottish Government has no information on such notifications elsewhere in Europe.*" (Scottish Parliament written answer S3W-27785) (emphasis ours), and, "EU seeds legislation does not require the monitoring of seed imports for adventitious GM presence (AGMP)." (Scottish Parliament written answer S3W-27787)

^{xv} www.food.gov.uk/multimedia/pdfs/gmguidance.pdf

^{xvi} Personal communication with Canadian Biotechnology Action Network (CBAN). See also www.portageonline.com/index.php?option=com_ezine&task=read&page=9&category=22&article=14268&Itemid=87.

^{xvii} See www.food.gov.uk/aboutus/how_we_work/

^{xviii} See www.gmfreeze.org/page.asp?ID=311&iType=1079