

Monsanto lunacy takes giant leap for industry-kind

This July, after months of delay, the European Commission finally approved three new types of GM soya beans, including Monsanto's Roundup Ready 2 Xtend soya bean. These crops have not been approved for cultivation in the EU, but may be imported and processed for feeding animals and people.

Monsanto has designed these crops to *'trump super weeds that have evolved along with the company's glyphosate-based Roundup biocide.'* How? By modifying them to be resistant to a much older pesticide called dicamba. Dicamba was first approved in 1967 and has been linked to high rates of cancer and birth defects in the families of food

growers, according to [several US scientific studies](#). Consumer, health, environmental and farmer advocates have fiercely opposed the new Xtend system over health and environmental concerns.

This short-sighted development comes with **3 main problems**:

1. It's illegal to use dicamba on these crops

Monsanto launched its new seeds earlier this year. But whilst dicamba has been around for decades, the US Environmental Protection Agency has not finished its review of whether it can be used on the GM soya 'over the top' of glyphosate. And even though Monsanto has given growers clear

instructions not to use the herbicide on the crops, some farmers are using it anyway. Many farmers are struggling to control pigweed (*Palmer amaranth*) which no longer responds to many other herbicides. This new but not-yet-completely approved crop system has been compared to giving your children an ice-cream and telling them they can't eat it.

2. Dicamba has a 'drift' problem

Dicamba is extremely prone to drift which means it can be picked up by the wind and carried to other areas. If it lands on crops that are non-resistant to dicamba it severely damages them

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Ready, Get set... Feed!

Back in the days when GM was constantly in the media and public awareness was at an all-time high, the major supermarkets were very keen to establish their GM-free credentials. Supporters may remember when supermarkets had such information in-store, with leaflets or posters stating they were GM-free and that their animal products were not GM-fed either.

Once consumer confidence was established, the posters gradually came down. But many people still don't know that although most supermarkets don't use GM ingredients in their own-brand foods, since about 2013 they have stopped demanding, or indeed placing orders for GM-free animal feed.

GM Freeze thinks this is misleading and that the major supermarket chains



are cheating the public, whose own demand for GM-free remains high. This is why we are launching a campaign to target supermarkets with a demand for

more in-store information and a closer inspection of what their animals are eating. UK supermarkets tell us that GM-free feed is too difficult to find but we don't accept that. As reported in the previous issue (*Thin Ice 40*), some US and German stores will be returning to GM-free feed and expanding their organic product ranges. GM-free feed is available and more will be grown if orders are placed.

Will you play a part?

We want to know what, if any, information about GM-fed meat, eggs and dairy products is available to people when they are shopping. Particularly if you shop at Tesco, Sainsbury's, Asda, Lidl, Aldi or Waitrose as well as M&S and Co-

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Glyphosate update

On 29 June the European Commission **extended the licence for glyphosate** by 18 months. This followed further failure by Member States at the Appeal Committee to achieve a qualified majority in favour or against proposals for longer term re-approval. The limited extension period will allow time for the European Chemicals Agency to give its opinion on the substance, which is expected no later than 31 December 2017.

Both NGOs and the industry criticised the Commission's final decision on glyphosate, an active ingredient used in Monsanto's RoundUp, the world's most widely sold herbicide.



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but these effects may not become apparent until about three weeks later. Officials estimate that 200,000 acres in three US states have already been affected. Whilst damage from drifting pesticides isn't unfamiliar to farmers, this year's plague of dicamba damage is unprecedented. "I've never seen anything like this before," says Bob Scott, a weed specialist from the University of Arkansas. "This is a unique situation that Monsanto created."

Agronomist Tom Barber of the same University **wrote** in AgFax that he's seen several thousand acres of soya fields in Missouri, Tennessee and Arkansas this season already affected by either drift, volatility, temperature inversions or tank contamination from dicamba herbicide applications.

"Based on the number of acres affected, it appears that many fields of soy containing this technology have been sprayed with an off-labelled application of dicamba". This is creating a great deal of tension between neighbours in previously tight-knit farming communities.

Farmers lose right to choose?

Even worse, he explains, farmers who do not want to buy Monsanto's new dicamba-resistant beans now might be forced to get them just to protect their crops. "They're afraid that they're not

Building alliances post-Brexit

After the Brexit referendum on 23 June, Sustain: the alliance for better food and farming was inundated with calls from its members and other friends in the food and farming world concerned about the implications for the sector.

Sustain decided to coordinate a letter to the '**Brexit**' unit which will be advising the Government and the Prime Minister on the post EU Referendum Strategy. Following Theresa May's new Cabinet announcement, David Davis MP will be heading that unit.

Over 80 organisations, including GM Freeze, have signed the letter to

David Davis and Theresa May to stress the important implications of Brexit on food and farming. The letter argues that good food, farming and fishing policies must be central to any post-EU Referendum strategy for the UK.

The 80 organisations, representing the health and long-term interests of millions of British citizens include food, farming, fair trade, poverty, animal welfare, wildlife, health and environmental organisations.



going to be able to grow what they want to grow. They're afraid that they're going to be forced to go with that technology," he said. Monsanto's response is to pass the buck on to state regulators.

3. Super super-weeds?

As Monsanto has already acknowledged with glyphosate, superweeds are evolving to withstand the herbicide they are repeatedly exposed to. Dicamba is no different. The University of Arkansas has found in greenhouse experiments that pigweed can evolve resistance to the weedkiller in just three generations. The Centre for Biological Diversity has already found dicamba-resistant weeds in two US states.

Dr. Nathan Donley, a scientist at the Centre for Biological Diversity, pointed out that Monsanto's own analysis has indicated that dicamba use on cotton and soya will rise from less than 1 million pounds to more than 25 million pounds used per year. This will only create superweeds that are resistant both to glyphosate – already the world's most widely applied herbicide – and dicamba.

"The indiscriminate use of glyphosate created these resistant superweeds in the first place and now these companies want farmers to indiscriminately use dicamba," Donley said about Monsanto and DuPont's new dicamba-glyphosate herbicide. "You don't have to be a genius to know how this will end."

GM Freeze is very concerned that these soya beans will end up in the UK's food chain, particularly when used as animal feed.

Director **Liz O'Neill** said in a press statement, "This is the real face of GM 2.0 – more monocultures, sprayed with more herbicides. The recent US National Academy of Sciences report on GM highlighted the "major agricultural problems" caused by GM herbicide-tolerant crops and EU approval for three more will only make those problems worse.

European nations refused to approve these three crops and EU consumers have been voting with their wallets for years. Sales of GM foods are minimal across Europe because they have to be declared on the label. However, that's not the case with meat, eggs and dairy products from animals fed on GM.

Today's move will bring yet more GM into the UK and the rest of Europe and consumers will find it very difficult to avoid buying GM-fed. This is a big step backwards for anyone who wants their food to be produced responsibly, fairly and sustainably."

In October we will be launching our campaign on the hidden GM in animal feed, with a call to supermarkets for more and better information to be provided to British consumers about whether or not their non-organic eggs, meat, and dairy products are GM-fed.

Crispr scientists have their heads in the sand

GM Freeze and many others **have raised concerns** about the new so-called plant breeding technologies (NBTs) that the GM industry is desperate for the European Commission to classify as non-GM. Our Coordinator Raoul Bhambral attended the All-Party Parliamentary Group for Science and Technology in Agriculture meeting on 19 July where the Group saw presentations on gene-editing and other NBTs. He reports, *"I was astounded by the industry's supreme confidence that they knew exactly what they were doing and were doing so with extreme precision"*.

We were told that GM was precise but now know otherwise and the same appears to be true with new technologies. The mostly widely publicised method, Crispr, is often described as offering precision at a molecular level. However, there is growing evidence of off-target effects where regions of DNA other than the intended ones **are being altered**.

Off-target effects occur because of how Crispr works. It has two parts. RNA makes a beeline for the site in a genome specified by the RNA's string of nucleotides, and an enzyme cuts the genome there. The problem is that more than one site in a genome can have the same string of nucleotides.

Scientists might address Crispr to the genome version of 123 High Street, aiming for 123 High Street on chromosome 9, only to find Crispr has instead gone to 123 High Street on chromosome 14.

"In the early days of this field, algorithms were generated to predict off-target effects and [made] available on the web," said Dr. J. Keith Joung of Massachusetts General Hospital. Further research has shown, however, that such algorithms, *"miss a fair number"* of off-target effects. *"These tools are used in a lot of papers, but they really aren't very good at predicting where there will be off-target effects,"* Joung said.

Many researchers, including those planning clinical trials, are using web-based algorithms to predict which regions of the genome might get accidentally "Crispr'd". When scientists assure regulators that they looked for off-target effects in Crispr'd cells growing in lab dishes, what they usually mean is that they looked for Crispr'ing of genes that the algorithms flagged.

As a result, off-target effects might be occurring but, because scientists are doing the equivalent of a drunk only looking for their lost keys under the lamppost, they're not being found.

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operative Food Stores. We are interested to see how they will react to people asking questions.

■ TAKE ACTION

Help us by telling us what information you can get hold of, whether it is from shop-floor staff or store managers.

- 1 Go shopping** – choose a non-organic, own-brand food item like eggs, meat or dairy
- 2 Ask around** – take it to a staff member and ask whether the animals that produced it were fed GM or not
- 3 Get back to us** – tell us your findings via our social media, email info@gmfreeze.org or call Raoul on 0845 217 8992 if you are not online.

We will be calling for more and better information to be provided at all levels so we need your help. We will 'score' the supermarkets against each other to start a race to be the best (again). Ultimately we want them to return to their previously GM-free status, effectively removing GM animal feed from the UK food chain.

■ THANK YOU

GM Freeze would like to thank you all for the very generous response to our donation appeal sent out with *Thin Ice 40*. We are delighted to report that we raised £780 and some donations are still coming in. Your donations will allow us to reprint a good supply of our introductory leaflet *What is GM and why does it matter?* which has proved very popular. We're thrilled that people want to know more about GM and understand why it stops our food being produced responsibly, fairly and sustainably

If you had intended to donate but didn't get round to it, you can send your donation to Raoul (see details on covering letter) or online at: www.gmfreeze.org/donate. Please also call Raoul on 0845 217 8992 or email raoul@gmfreeze.org if you would like him to send you a supply of any of our leaflets.

GM Freeze in the public eye

Friends of the Earth, GM Freeze, Soil Association and War on Want co-signed a letter which was published in *The Observer* on 19 June. The letter criticised an editorial which had claimed there was a 'consensus over the safety' of GM crops and that the arguments 'were over'. In fact, hundreds of scientists worldwide have co-signed a document refuting this 'consensus', while the US National Academy of Sciences said there was a lot we still

didn't know and that GM crops don't increase yield.

Director Liz O'Neill gave an **interview on labelling** in the US for French radio station RFI English on 9 July and was quoted in *Food Navigator* on 25 July in response to the European Commission's import approval for 3 new GM soya beans. On 7 August our Coordinator, Raoul Bhambral, talked about GM issues on a discussion panel at the Green Gathering in Chepstow.

International news

 29 July was a dark day for many **USA** citizens as President Obama signed the nicknamed DARK (**Deny Americans the Right to Know**) Act into force. This scratches out the laws of Vermont, Connecticut and Maine that required the labelling of genetically engineered foods. He also nullified the GM seed labelling laws in Vermont and Virginia that allowed farmers to choose what seeds they wanted to buy and plant. And for good measure he pre-empted Alaska's law requiring the labelling of any GM fish or fish product, passed to protect the state's vital fisheries from contamination by recently approved GM salmon.

Supporters of the Act claimed that it would create national standards for labelling GM food. But in effect it wouldn't. According to the Food and Drug Administration the Act will exempt most current GM foods from being labelled at all, it 'may be difficult' for any GM food to qualify for labelling and that for any foods that would be covered, the Act allows food to be 'labelled' through a system of QR (Quick Response) codes that can only be accessed by a smartphone connected to the internet.



A minimum of 100 million Americans will not have access to food information via this labelling system, particularly the elderly, and poor and rural populations – a disproportionate number of which are minority communities. It is also unreasonable to expect shoppers to spend hours in supermarkets scanning codes, ringing 0800 numbers or looking at websites to find out information about the food

they want to buy.

GM Freeze hopes that those food companies like Mars, Dannon and Campbell's who have already declared intentions to label their branded products will uphold their pledge to customers and clearly label their products.



 Monsanto has been **dealt a blow** by its most important cotton market outside the Americas as thousands of farmers in northern **India** have switched back to growing the indigenous (*desi*) variety of cotton. This is instead of Monsanto's Bt cotton (modified to produce the Bt insecticide that is supposed to kill bollworms). This follows another setback for Monsanto, which has also been hit by a roughly 10 percent decline in cotton acreage this year as farmers switch to crops like pulses and lentils. The Indian government is actively promoting the *desi* homegrown seeds, having already capped prices and royalties that the world's largest seed company is able to charge. Keshav Raj Kranthi, head of the Central Institute for Cotton Research said planting a hectare with the Indian variety costs less than half the 80,000 rupees (approx. £930) farmers paid

to sow Bt cotton over the same area and the crop yield was almost as high. He added that unlike GM seeds, farmers could also store and replant the local seeds the following year. Furthermore he notes that bollworms were slowly becoming resistant to Monsanto's Bollgard II technology, leading to an increase in the use of other insecticides.

 Africa's **largest producer of GM cotton, Burkina**

Faso, has also turned its back on Monsanto's Bt cotton. Long trumpeted as a GM success story with higher yields, the way these yields were calculated is now being called into question. Earlier this year Burkina cotton officials claimed that the Bt cotton varieties produced an inferior quality lint. This is clearly an unexpected effect of the technology and resulted in tens of millions of dollars in lost revenues. The Bt cotton lint fetched lower prices on the global market and undermined the global reputation of high quality Burkina lint.

Since then, the country's cotton sector has moved swiftly to reduce Bt cotton sowings. For the current 2016/2017 growing season approximately 10% of total production is from Bt cotton. A complete phase out is planned for next season.



GM Freeze is working to help create a world in which our food is produced responsibly, fairly and sustainably. We consider and raise the profile of concerns about the impact of genetic modification. We inform, inspire, represent and support those who share our concerns. We campaign for a moratorium on GM food and farming in the UK. We oppose the patenting of genetic resources.



A referenced version of this newsletter is available online – www.gmfreeze.org/thinice

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We use an 0845 phone number to protect the privacy of our staff, who work from home. Calls to this number will cost 3p per minute plus your telephone company's Access Charge.

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