

GM is the wrong answer to the wrong questions

New research sheds light on key NGO concerns about agricultural biotechnology

In June 2016, a group of Nobel Laureates (most of whom have no specialist expertise in genetics, agriculture or biotechnology) published an open letter condemning NGO opposition to GM crops as “a crime against humanity”. Their assertion that such opposition is “based on emotion and dogma contradicted by data” was widely reported, usually without challenge even though this decidedly unscientific claim was not backed up with any evidence.

Now, a [new report](#) by academics from the Universities of Nottingham, Exeter and Sheffield asserts that, in fact, NGO opposition to agricultural biotechnologies is based on a fundamental disagreement with the framing of both the problems that GM

proposes to solve and the solutions it can offer. The researchers found that NGO opposition to the use of genetic engineering in food and farming is rooted in three key issues.

Firstly, NGOs argue that genetic engineering is not the answer to world poverty because food shortage is not the problem. There is already more than enough food grown to feed the predicted world population for generations to come, yet millions suffer from hunger and malnutrition^[1]. People are not starving because we don't grow enough food, they are starving because they are poor and do not have access to nutritious food. Meanwhile, huge quantities of food are wasted across the developed world.

NGO participants in the study

highlighted the way that a sense of crisis and urgency is frequently created around the issue of a growing population. This “crisis narrative” is used to close down debate and may be actively preventing research and investment into alternative, more holistic, responses to underlying problems.

The second key finding of the study was that NGOs question the value of the solutions that agricultural biotechnologies are said to offer. GM crops are associated with some of the most intensive forms of agriculture around the world and participants in the study were sceptical about the ability of technology to address the political and social inequalities that

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AGM attracts surprise guests taking a stand against GM animal feed

The GM Freeze AGM 2017 was well attended by member organisations, supporters and, unusually, a few farm animals!

The meeting, which elected the management committee and discussed our financial situation as well as plans for the future, took place at the London offices of GM Freeze member Friends of the Earth. We planned to close events with an action to support our [Feed me the Truth campaign](#) but thanks to the sterling work of two GM Freeze volunteers, achieved much more. Throughout the day, staff, volunteers and visitors to the Friends of the Earth office donned blindfolds and animal costumes

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lie at the heart of the problems GM is claimed to solve.

Thirdly, NGO participants questioned the motivations for moves to remove genome editing from GM regulations.

[Why are NGOs sceptical of genome editing?](#) is published in the Science and Society section of the December issue of EMBO reports, a peer-reviewed scientific journal focused on research related to molecular biology. Its authors are [Richard Helliwell](#) (University of Nottingham), [Sarah Hartley](#) (University of Exeter), [Warren Pearce](#) (University of Sheffield) and Liz O'Neill (GM Freeze).

^[1] Holt-Giménez, E., Shattuck, A., Altieri, M., Herren, H., & Gliessman, S. 2012. *We already grow enough food for 10 billion people ... and still can't end hunger*. Journal of Sustainable Agriculture, 36: 595-598.

Goodbye to Golden Rice?

Golden Rice, the near-mythical GM crop proposed to address Vitamin A deficiency, has been the poster child of "GM for Good" for many years. NGOs often question the value of improving the nutritional content of rice without addressing the reasons why the poorest people in the world can't access a nutritionally balanced diet in the first place (see *GM is the wrong answer to the wrong questions*, page 1). However, even if you put political issues to one side, the developers still haven't produced a version of Golden Rice that actually works. Now, new research has raised doubts over the possibility that they ever will.

An Indian research team crossed GM Golden Rice with conventional Swarna rice and the resulting plants were stunted with low yields. [The researchers found](#) that this was because the inserted genes did not behave in the way that the GM developers had expected. Rather than only being active in the rice kernels, where they were supposed to produce beta-carotene (which our bodies convert into Vitamin A), the new genes were also active in the plants' leaves. As a result, the new hybrid plants produced less chlorophyll, the vital green pigment responsible for photosynthesis.

GM research leader throwing in the towel?

Achim Dobermann, Chief Executive of Rothamsted Research, [raised a few eyebrows recently](#) when he said that "I don't think GM is the major solution for agriculture". However, the head of one of the UK's leading GM research centres wasn't demonstrating quite the about-face his headline-grabbing words might suggest.

Professor Dobermann, speaking at the Bayer-sponsored Youth Ag-Summit in Brussels (9-13 October 2017) proposed, instead, the use of "more advanced breeding techniques... gene editing", which he

described as "a very different thing to GM".

That statement is controversial because the legal status of gene editing, and a range of other newer genetic engineering techniques, is still under debate in the European Union and around the world. GM Freeze joined civil society organisations from across Europe in February 2017 [to back a renewed call](#) for the so-called "new plant breeding techniques" to be fully regulated as GMOs. You can read more about why at www.gmfreeze.org/nbt.

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to support the campaign and urge supermarkets to come clean about GM in the food chain.

Brexit issues and glyphosate are grabbing the headlines at the moment, but we still need to show supermarkets that their shoppers care about the use of GM animal feed so please join us in giving the **Feed me the Truth** Campaign a big push over the next few weeks.



TAKE ACTION

Supporters across the UK are [taking action](#) to let people know that the animals that produce the meat, eggs and dairy products they are eating have been fed with GM crops, and to show the supermarkets that they want change. Could you set up a campaign stall in your workplace, school, college or community group?

We have some great resources available (including animal costumes for those who like dressing up!) and, depending on your location, may be able to pop by and help you get things set up. You don't need to run it for a whole day – a lunchbreak session works very well.

Please call us on 0845 217 8992 or email liz@gmfreeze.org to chat about what you can do to help make the *Feed me the Truth* campaign really count.

Glyphosate – the saga ends badly (for now)

The convoluted tale of the European legal status of glyphosate, the active ingredient in Monsanto's Roundup and the most widely used herbicide on the planet, is a surely a modern-day saga worthy of Charles Dickens himself. Its conclusion, for now, came on Monday 27 November when a crucial vote cleared the way for a five-year renewal of glyphosate's European Union (EU) licence. However, that vote has sparked a political row that means the story is far from over.

Glyphosate's licence for use in the EU was due for renewal in June 2016. At that time, we reported on MEPs' support for a seven-year renewal ([Thin Ice 40](#)) – something the European Commission rejected in favour of its own plans for a fifteen-year licence. Opposition led the Commission to reduce its target to a ten-year deal but it took a huge fight to secure five, amidst threats of legal action from Monsanto.

This latest round of twists and turns began on 19 October when MEPs sitting on the Environment and Public Health Committee (ENVI) voted to support a resolution calling for an outright ban on glyphosate from 2020 and immediate restrictions on its use by the general public and in playgrounds and parks. The resolution had no authority but ruffled feathers because it was critical of the European Food Safety Authority (EFSA) and the European Chemicals Agency (ECHA)

On 24 October, a plenary session of all MEPs voted to support an amended resolution to ban the use of glyphosate in five years' time and restrict its use in the meantime. Although this vote also had no formal role in the decision-making process, just two days later the European Commission announced that it would propose a five-year extension of the EU authorisation for glyphosate at a vote of the member states' Standing Committee (Plants, Animals, Food and Feed) in Brussels on 9 November.



That vote ended without a decision as the result (14 countries in favour, nine against and five abstentions) did not reach the required qualified majority. A second vote, by the Member States Appeal Committee then took place on 27 November. Usually the Appeal Committee votes mirror those of the Standing Committee but in a shock move, Germany voted in favour. This instrumental shift resulted in the yes vote reaching a qualified majority by a whisker. Germany had previously abstained, reflecting a split on the issue between the country's environment minister Barbara Hendricks from the SPD and agriculture minister Christian Schmidt from the CSU party. SPD parliamentary group leader Andrea Nahls described the vote in favour as "a serious breach of trust" just as the country struggles to form a viable coalition

The future of glyphosate in the EU is closely linked to the future of GM in our fields as the majority of GM crops have been engineered to withstand repeated spraying with glyphosate.

Global use of glyphosate has increased approximately [15-fold](#) since 1994, when the first GM "Roundup Ready" crops were introduced. A recent study by the University of California San Diego School of Medicine found that human exposure to glyphosate (measured via its presence in

urine) has increased by approximately 500% since the introduction of these crops. According to Dr Paul J. Mills who led the study, "prior to the introduction of genetically modified foods, very few people had detectable levels of glyphosate. As of 2016, 70 percent of the study cohort had detectable levels."

The World Health Organisation's specialist cancer group classified glyphosate as a probable carcinogen back in 2015 ([Thin Ice 36](#)), so, why have efforts to ban glyphosate failed again?

The release of the explosive "Monsanto papers" in a series of cancer-related court cases in the United States suggests that corporate influence is at least partly to blame. Nature blogger Miles King spoke for many observers [when he commented](#) that "The more one reads of what Monsanto has been up to, the more parallels appear with the Tobacco Industry tactics in the 60s and 70s."

The European Parliament held a public hearing on the Monsanto Papers on 11 October, but Monsanto refused to attend. Lobbyists from the firm were banned from the Parliament in response and now a group of over twenty NGOs has written to MEPs to call for lobbyists from other organisations linked to Monsanto, including the European Crop Protection Association and Europabio, to receive similar treatment.

Meanwhile, citizens across Europe are expressing their views through petitions, representations to their elected representatives and direct action. The petition 'Ban Glyphosate and Protect People and the Environment from Toxic Pesticides' received over a million signatures triggering a Citizens Initiative hearing in the European Parliament on 20 November. Although all these efforts failed to prevent the re-authorisation of glyphosate, they have undoubtedly changed the political weather on the topic and could yet lead to restrictions at a national level. Follow GM Freeze on [twitter](#) or [facebook](#) to get the latest news as soon as we do.

INTERNATIONAL NEWS

Bulgaria

Advertisers in Bulgaria have been banned from promoting GM food to children. In a move that formally identifies GMOs as junk food, the Bulgarian parliament passed an amendment to the Food Act prohibiting the promotion of unhealthy foods, including GMOs, to children. The ban covers promotions on television and in print. It also prohibits the involvement of children in promotions for unhealthy foods.

India

National authorities have frozen requests to grow a locally-developed GM mustard on a commercial scale. The mustard would have been the first GM food crop in India, but GM cotton is widely grown and the cause of much controversy. In October, the state government of Maharashtra wrote to the central government asking it to de-notify a particular GM Bt cotton variety because it no longer provides protection from the pink bollworm pest it was designed to overcome.

De-notification would formally acknowledge that this GM crop does not live up to its manufacturer's claims. Meanwhile, three leading Indian cotton seed makers recently settled an intellectual property dispute with Monsanto after demanding a reduction in royalties paid to Monsanto for the use of its patented GM cotton seed.

United States

The great pesticide fiasco (*Thin Ice 45*) continues with the Environmental Protection Agency calling in late October for an urgent federal response to reports that an estimated 3.6 million acres of soya had been damaged by dicamba drift. Dicamba is a particularly volatile herbicide and its use on GM dicamba resistant crops has caused an unprecedented level of damage to neighbouring farms. Monsanto's latest response is to blame farmers for apparently failing to follow application instructions which run to some 4,500 words (nearly double the number of words in an average issue of *Thin Ice*).



New Admin Assistant

After saying a fond farewell to Co-ordinator Raoul Bhambra in September, we welcomed a new Admin Assistant to the GM Freeze team last month. Vicky Hart, working alongside Liz in Manchester, will be the first point of contact for supporters as well as sorting out all our behind-the-scenes paperwork. Vicky works two days a week, usually Thursday and Friday and can be contacted on vicky@gmfreeze.org.

Vicky has lots of experience working for charities and in education and has volunteered on organic farms both in Asia and the UK. Talking about her motivation to work for GM Freeze, she says 'I want to see a future where equality, biodiversity and visibility are at the heart of our food and farming industry'.

Thin Ice allows us to give you GM Freeze's analysis of key GM issues but for as-it-happens news updates, follow us on twitter [@gmfreeze](https://twitter.com/gmfreeze) and facebook [/GMFreezeUK](https://facebook.com/GMFreezeUK).

Brexit: Trade in Food inquiry

The House of Commons Environment, Food and Rural Affairs Select Committee is holding an inquiry into how a potential post-Brexit trade deal could affect farmers, food processors and consumers.

GM Freeze has submitted written evidence to the inquiry highlighting the importance of GM labelling. We stressed the value of GM labels in protecting consumer choice and highlighted the fact that UK producers could be put at a competitive disadvantage if unlabelled GM products were to

arrive on our shelves on the back of a US trade deal. Days later US Commerce Secretary Wilbur Ross rather proved our point by naming EU restrictions on GM crops (and chlorine washed chicken) as "concerns" that "could potentially create problems" with a post-Brexit UK:US trade deal.

Our full inquiry submission can be found in the new Brexit section of our website, www.gmfreeze.org/brexit, or please call us on 0845 217 8992 if you would like to receive a paper copy in the post.

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

GM Freeze, Open Space Co-operative, Unit 1, 41 Old Birley Street, Hulme, Manchester, M15 5RF.
info@gmfreeze.org 0845 217 8992

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.



www.gmfreeze.org