Thin Ice

GM FREEZE
for a responsible, fair and sustainable food system

the GM Freeze Campaign newsletter *Issue 64 February 2023*

Genetic Technology Bill progresses despite deep and detailed concerns

As regular readers of *Thin Ice* will know, the UK Government in Westminster is pushing through plans to impose untested – and unlabelled – genetically modified organisms (GMOs) across the food chain.

MPs debated the Genetic Technology Bill, which invents a new class of GMO that "could have resulted from traditional processes or natural transformation", in the House of Commons Report Stage on 31 October 2022. Amendments were proposed to try and ensure that these so-called "precision bred organisms" would be traced throughout the food chain and that products made with them would be labelled at the point of sale. Other positive proposals would have established better safety checks and a range of measures to improve animal welfare safeguards, including the option to remove animals from the scope of the bill entirely. Our detailed briefing was widely shared in advance of the debate and many GM Freeze supporters wrote to ask their MP to do the right thing. The final result, though,

© Alamy

Lord Robert Winston

was a Hallowe'en horror show with all amendments voted down by the Government, allowing the bill to be passed in the Commons unchanged.

The bill is now working its way through the House of Lords. The Government doesn't have a majority in the Lords and peers with a wide range of political affiliations (and none) voiced serious concerns during the Second Reading (the confusingly titled first debate in the Lords) and Committee Stage. We worked behind

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Voices raised against "sloppy" GM field trial plans

In early January, 24 different organisations including large national charities, grassroots campaign groups, farmers and more all joined GM Freeze in objecting to plans to grow experimental GM wheat in open fields near St Albans.

We are well used to such field trials in the UK and our objection to this latest application included many familiar concerns about the potential for escape and contamination and the inclusion of antibiotic resistance genes. We also highlighted missing information in the application and

some bizarre errors that suggest the application was not produced with due care and attention.

Sloppy field trial applications are not new in themselves but this time the application was not made by an academic research institution but by a newly formed commercial company – Wild Bioscience Limited. The company has already registered patents for the GM wheat they want to grow and for one of the key genes included in it. They have not, however, published any research on their work to allow others to verify what they are doing. The release of any GMO without the benefit

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the scenes to share our concerns with individual peers before preparing and distributing a shared briefing with the Soil Association and Friends of the Earth. As in the House of Commons, debate in the Lords has focused on the importance of giving consumers choice through clear labelling; the need to protect organic and other non-GM farmers from contamination; and the potential for new GM techniques to support poor practice by creating abuse-tolerant animals. What has been new with the Lords, though, is the level of technical understanding in the room. Labour peer Lord Robert Winston is a leading expert on human fertility and embryology. Unsettling Government Minister Lord Benyon, who has farming interests but no training whatsoever in genetics, Lord Winston applied his extensive understanding of the science to raise deep and detailed concerns about the content of the bill.

Criticism of a more constitutional nature has come from two House of Lords Committees. The Delegated Powers and Regulatory Reform Committee (DPRRC) report on the Genetic Technology Bill notes with concern that the bill includes 28 delegated powers, ie there are 28 different parts of the bill that give Ministers the power to decide key details later. Government Ministers plan to address these vital technical points, which cover issues as fundamental as what kind of information will be required to prove that a particular GMO qualifies as "precision bred", through the creation of statutory instruments which are not subjected to proper scrutiny or parliamentary debate. A report by the House of Lords Select Committee on the Constitution raised similar concerns, noting its agreement with many recommendations in the DPRRC report and adding its own that key regulations should be published in draft form by the Government while the Bill is still being considered by peers.

Government amendments accepted during the House of Lords Report Stage on 25 January fall far short of those recommendations but will marginally improve the level of scrutiny applied to the new regulations. Another positive change ensures that "precision bred organisms" cannot contain "foreign" DNA that regulates the way that other genes work. However, these changes are very small and, despite close votes, many helpful proposals were rejected.

GM Freeze worked with the Soil Association, Organic Research Centre, Organic Farmers & Growers, Landworkers' Alliance, Friends of the Earth and CLEAR (the Consortium for Labelling for the Environment, Animal welfare, and Regenerative farming) to develop and distribute a targeted briefing that was referenced during the Lords Report Stage debate. At the time of writing we are considering what might still be done to fight this dreadful bill but the final opportunity for amendments comes in the House of Lords Third Reading on Wednesday 1 February.

Changes made in the House of Lords will only become law if they are also accepted by the House of Commons. If we get any further improvements on 1 February, we will need to persuade MPs of all parties to vote for them so we may ask supporters to write to their own MP at very short notice. We know this is frustrating, especially for supporters who aren't online, but if you can, please ensure you have signed up at www.gmfreeze.org/emails to receive news of how you can help.

OUTSIDE OF ENGLAND

The Genetic Technology Bill only applies directly to England but, as we explained in *Thin Ice 62* and *Thin Ice 57*, the post-Brexit Internal Market Act will make it very difficult for Scotland or Wales to actually decide what is allowed in their food. Both the Scottish and Welsh Parliaments have now voted to deny their consent for the bill but it is not yet clear what difference this will make.

Meanwhile, Northern Ireland continues to follow European Union (EU) rules. The EU is itself reviewing the way that it regulates the use of newer GM techniques with proposed new rules for gene edited GM plants due to be revealed in June. The complex process of achieving agreement across EU nations will follow so we don't anticipate any changes coming into force soon and there are no plans to follow the UK's rush to remove vital safeguards on GM animals.

Respect for natural diversity yields new drought-resistant wheat

Demonstrating once again that nature gets there quicker, more effectively and more sustainably, a new drought-resistant durum wheat has been developed by planting a wide range of wheat varieties and monitoring their performance in drought-affected areas. Developed by the Crop Trust, an international non-profit organisation focused on the conservation and use of crop diversity, the Jabal wheat is a cross between commercial wheat and wild relatives from Syria. Crop scientists worked with farmers to identify the new variety that flourished and produced plump grains in hot, dry conditions under which existing commercial varieties failed. Farmers in Morocco are expected to grow the new crop in around three years time. Wheat is the most widely consumed grain around the world and durum wheat in particular is used to make pasta and many other staple foods. Addressing the challenges of adapting to the global climate emergency by respecting and embracing natural diversity could not contrast more starkly with the invasive approach taken by GM developers in the UK (*Voices raised against "sloppy" GM field trial plans*, *page 1*).

A field technician for the durum wheat breeding project shows a durum wheat spike.
© Michael Major/ Crop Trust.

GM Freeze says NO to yet more GMOs in the food chain

One of the changes brought about by the UK's departure from the European Union (EU) is that our own Ministers now decide which GMOs are allowed into the food chain. Food and feed consent authorisations are made separately for England, Wales and Scotland while Northern Ireland still follows EU decisions under the Northern Ireland Protocol. In sharp contrast to the approach taken with the Genetic Technology Bill (*Genetic Technology Bill progresses despite deep and detailed concerns*, *page 1*) UK ministers and civil servants have worked closely with their counterparts in Scotland and Wales to minimise any divergence between the different nations of the UK.

This was the context in which GM Freeze submitted evidence to a joint consultation from the Food Standards Agency and Food Standards Scotland in December. The consultation concerned proposals to authorise an additional eight GMOs for use in food and animal feed across Great Britain, regardless of where in the world they are grown. Contrasting with the wild claims made about the next generation of genetic engineering, these soya, maize, cotton and oil seed rape plants feature the all too familiar GM traits that are driving an agrochemical arms race. All eight have had their DNA manipulated to poison insects, to withstand spraying with weed killers, or both. None are authorised for planting in the UK and we argued in our response that allowing GMOs into our food that we wouldn't grow in our own fields amounts to unethically exporting environmental harm. We also encouraged citizens to have their say, with an action page on our website and alerts sent to those who have signed up to receive our emails.

Our work responding to consultations like this one, and proposals for yet another experimental wheat field trial (*Voices raised against "sloppy" GM field trial plans, page 1)*, is only possible thanks to generous donations from those who share our desire to stand up and be counted. We are so grateful to all who donated to this "fighting fund", especially as we know that many of our supporters have been hit hard by rising energy costs and other challenges. Thank you!

Biothreats research could help detect new GMOs in the food chain

The announcement, in October, that a group of researchers in the United States have developed a new method for identifying genetically engineered organisms reignited debate about the importance of detectability in the governance of new GMOs.

Those promoting a free-rein for GM techniques that focus on changing a target organism's own genome rather than deliberately adding genes from another species, are fond of claiming that the organisms created with these techniques cannot be labelled or traced through the food system because there isn't any way to test for their presence in a particular food item. That is, of course, beside the point. There is no chemical test for free range eggs but these are still labelled in the supermarket because shoppers want to choose what they are buying. The demand for clear, reliable information about the way in which eggs are produced led to the stamp markings that now allow UK consumers to trace the source of their eggs, from chicken to checkout. Nonetheless, the argument about detectability is still commonly made, including during Parliamentary debates on the Genetic Technology Bill (*Genetic Technology Bill progresses despite deep and detailed concerns*, *page 1*).

IARPA, Ginkgo Bioworks and Draper announce new technologies to detect engineered DNA

The FELIX (Finding Engineering-Linked Indicators) programme held a press conference at which they discussed the "scars" and "signatures" left behind by the genetic engineering process and their potential role in detection and identification. The team includes researchers from industry and the US Government's intelligence community and the focus of their work is largely on "bio threats" such as GM viruses or bacteria. Their work could, however, be developed to support molecular testing for GMOs in the food chain. That would require the cooperation of the agritech companies seeking to bring genetically manipulated organisms to market, something they may be willing to consider as a means of protecting the patent rights they regularly file for both altered organisms and the techniques, processes and molecular elements used to create them.

Our colleagues at Beyond GM produced a briefing on *Detection of gene edited organisms in the food chain* to support debate in the House of Lords.

INTERNATIONAL NEWS

India

Controversy has been raging for months over the release of herbicide-tolerant GM mustard in India. A positive verdict from the national government's Genetic Engineering Appraisal Committee (GEAC) in October means that the genetically engineered plants can be grown for trials, demonstrations and to develop seed, but commercial cultivation is still subject to a bitter court battle.

Mustard is an important crop in the sub-continent, used largely for cooking oil. The GM version was developed by a team at Delhi University and appeared set to become only the second GM crop approved for commercial cultivation in India, some 20 years on from the first, which is an insect-killing Bt cotton. However, in December, over 100 medical doctors asked Prime Minister Narendra Modi to stop the approval process. Contrasting agricultural uses of genetic engineering techniques with their much more careful application in medicine, the doctors' letter said that "GM in farming and food is both uncontrollable and irreversible" and that, rather than subjecting these crops to "proper long term safety testing … [the]… crop developers and regulators circumvent the need for comprehensive testing".

Meanwhile, a report published by the Coalition for a GM-Free India ahead of a crucial Supreme Court hearing in January urged the Court to ban weed killer linked crops. Identifying 15 serious regulatory lapses in the approval process, the report accuses the Indian Government of misleading the court and details failings in environmental safety testing.

China

GM alfalfa, engineered to withstand spraying with the cancer-linked weed killer glyphosate, will be fed to farmed animals in China some ten years after an application for import approval was first lodged. The decision came in January and is being seen by some as a turning point in China's cautious approach to genetic engineering in the food chain. An oil seed rape with similar herbicide tolerance traits was also approved and it has been suggested that the decisions are something of a goodwill gesture towards the United States.

Canada

A biotech company is hoping to release fruit flies that it has genetically engineered to produce growth factors for use in the lab-grown meat industry. Future Fields prefers the term "cellular agriculture" and its EntoEngine flies are presented as a more sustainable option than creating the necessary growth factors in bioreactors, especially as the flies can be fed on organic waste. However, further analysis of the process suggest that the flies will be exposed to heat stress raising questions about the ethics of the project. Insects don't tend to attract the same interest as more cuddly animals but new research shows that fruit flies are capable of attention, working memory and conscious awareness. They are also, of course, highly mobile – as anyone who has left a fruit bowl unguarded in warm weather can testify. There is a serous risk that they could escape and breed with the natural population, causing unpredictable and potentially devastating impacts on the many species that eat the flies. A public consultation on the plans ran until 28 January.

Voices raised ...

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of peer reviewed science is deeply troubling but it is so much worse when those making the application are clearly getting ready to step up to commercial production.

Another core concern with this particular trial is the faulty logic behind the project of which it is part. Wild Bioscience claim to be "improving" photosynthesis (the most important biochemical process in the plant kingdom, possibly the planet) as part of a mission to "radically enhance crops to feed the world sustainably". But world food production already far exceeds the needs of generations to come, with estimates suggesting that we already produce enough to feed the world's 2050 predicted human population peak. Nobody is hungry because of some imagined flaw with the process of photosynthesis – they are hungry because they are poor. Around a third of food is wasted and that which remains is not equitably distributed. Allowing private companies to patent genes for profit will hinder, rather than help, efforts to change that.

Many supporters raised their own voices by taking part in the public consultation which closed on 17 January. We await news of what Ministers will decide but regardless of the outcome we have made it clear that people are paying attention and this is NOT the future we want for our food or our farms.

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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Design: www.lathwellcreative.com Printed on recycled paper (100% post consumer waste)