Shocking new Field Trial plans include plants with human genes

Genetic engineers shocked even seasoned campaigners in March when news broke of their plan to grow GM plants featuring human genes. The team at Rothamsted Research have been growing experimental GM camelina plants in open field trials for almost a decade. They started by forcing the camelina plants (which are a close relative of oil seed rape) to produce omega 3 “fish oils” but some of the plants in the proposed new trials will also produce what they describe as “milk fats” as well as ultra-long fatty acids for use in medical treatments.

Rather than describing exactly what will be planted, the field trial consent application lists an extraordinary mixture of genes that will be crowbarred into the camelina plants on a “pick and mix” basis. Different genes, and the traits that they give rise to, can interact with each other in unpredictable ways so this approach makes it impossible to carry out a proper risk assessment. The proposed new trials are also on a much larger scale than most open-air experiments, and measures to prevent escape and contamination are far from adequate. This is a problem for the growing number of farmers growing both organic and conventional camelina crops in the UK, as any escape could contaminate their crop. It also presents an unacceptable risk to the natural environment, especially as two separate research studies have shown that exposure to omega 3 oils that are not naturally present in the land-based ecosystem is likely to harm wildlife.

Genetic Technology Act passes into law but still much to fight for

On Thursday 23 March, the deeply flawed Genetic Technology (Precision Breeding) Act was signed into law. Despite tireless campaigning from GM Freeze, our member organisations, individual supporters and many others, this damaging new legislation was accepted by both Houses of Parliament with only very minor improvements. This means that:

- English law now includes a new class of “precision bred” genetically modified organisms (GMOs) which have had their DNA altered in the laboratory but which “could [in theory] have resulted from traditional processes”.
- GMOs judged to meet the new “precision bred” criteria will escape the safety net of independent risk assessments. This amounts to leaving the genetic engineers to mark their own homework.
- We may lose our right to choose, as food containing “precision bred organisms” is no longer covered by GMO labelling or contamination rules.

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The most startling aspect of the proposed new trial, however, is the inclusion of synthetic copies of human, mouse, goat and cattle genes in the list of “genetic elements” being deployed. Many faiths have strict rules on the interaction between humans and other animals and the consumption of humans is taboo in all modern cultures. As we said in a detailed objection to the trial, submitted on behalf of 21 different organisations:

“The proposed trial does not include actual flesh from humans or other animals but the application clearly identifies the genes as being derived (via synthetic copies) from the named species. This implies that the genes are unique to the respective species and raises fundamental questions about the essential nature of species boundaries. The proteins that will be synthesized by these genes are animal proteins – in one instance a human protein – and as such they have no place in plants.”

We are calling for the trials to be stopped until an ethical review of the use of human, and other mammal, genes has been conducted by a suitably qualified independent body.

This proposed trial, like others involving “foreign” genes, was subject to a short statutory consultation period. We have to move fast when these things happen but supporters who receive our email alerts or follow GM Freeze on Twitter (@GMFreeze) or Facebook (@GMFreezeUK) were able to use our action guide to make their voices heard. Many also donated to our special Trials and Authorisations fund that specifically supports this important, but hard to plan, work. Thank you to all who played their part – we really couldn’t do it without you.

In February (Thin Ice 64) we highlighted concerns about “sloppy” GM field trial plans submitted by a commercial company (Wild Bioscience Ltd) and it seems that the Government’s advisors also found the application somewhat lacking. We have heard informally that the trial has now received consent, but, at the time of writing, the details have not been published on the Department for Environment Food and Rural Affairs (Defra) website. What we do know is that the application was paused twice because the Advisory Committee on Releases to the Environment (ACRE), which assesses proposals to release GMOs in field trials and other circumstances, demanded more information. We will read their official advice with interest when it is eventually published.

What we can’t study in any meaningful detail, though, are the seven GM open air experiments notified to date under the “Qualifying Higher Plant” regulations introduced in March 2022. As we explained when the new rules became law (Thin Ice 61), genetic engineers can self-declare that their experimental GMOs meet the “QHP” requirements, then release them without independent safety checks and with only the briefest of information being made public. The definition of a “QHP” is very similar to that used in the Genetic Technology Act to create the new “precision bred organism” class of GMO (see Genetic Technology Act passes into law… page 1). Both categories have been created to encourage the use of highly invasive “gene editing” techniques that focus on altering an organism’s own genes, rather than adding in “foreign” DNA. However, as we explain in our plain-English briefing Gene Editing is GM with Better PR, and it should be subjected to proper safety measures.

Civil Society Fights Back as GM safety net comes under attack in Brussels

The UK Government regularly cites its dismantling of GM safeguards (Genetic Technology Act passes into law, page 1) as a “Brexit Benefit”. However, the European Union (EU) remains central to international debate about the most appropriate way to regulate the use of new genetic engineering techniques.

A 2018 ruling by the European Court of Justice (ECJ) (Thin Ice 49) established that organisms altered by genetic engineering techniques are included in the EU definition of a GMO regardless of whether or not genes from another species are permanently inserted. Having failed in their attempts to persuade the ECJ of their preferred interpretation of the law, biotechnology interest groups began almost immediately to campaign for that law to be changed.

That campaigning is coming to a head as the European Commission prepares to present a package of proposals for changing the regulation of what it refers to as “new genomic techniques” in plants. The Commission is expected to follow a similar model to that taken up by the UK Government, proposing that a genetically engineered plant should escape GMO regulations if it could (hypothetically) have been produced by another method that is not classed as GM. However, their progress has been hit by a number of delays and obstacles.

In March, seven member state Environment Ministers used an Environment Council meeting to voice concerns about the plan to remove safety check requirements and also about the Commission’s approach to preparing their proposals. Separately, the Regulatory Scrutiny Board, which exerts a level of quality control over European Commission impact assessments, rejected a draft Commission proposal and its accompanying impact assessment. Concerns cited included the Commission’s failure to consider likely impacts on the organic sector, consumer trust, the environment and health.

The Commission is now expected to present its proposals on 5 July but has been hit by a further hurdle thanks to two Brussels-based environmental NGOs. Friends of the Earth Europe and Corporate Europe Observatory have complained to the European Ombudsman about the Commission’s failure to reply to their concerns. The Ombudsman has opened an inquiry and asked the President of the European Commission to respond on a number of issues, including the conduct of “targeted stakeholder consultations” which were heavily criticized by the NGOs.

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The creation of the new Act of Parliament is a terrible development but it’s not the end. The vast majority of the provisions in the new law won’t come into effect until further details are set by statutory instruments which have to be passed by Parliament, but which need not be properly debated. From what we can tell, the Westminster Government doesn’t have the detail ready yet and they won’t be getting any help from Scotland, Wales or Northern Ireland which are each set to keep regulating all uses of genetic engineering in food and farming under existing GMO rules.

Ministers have suggested that it will take at least another year, possibly longer, for the key provisions in the new Act to come into force. That gives us time to keep pushing for meaningful measures to protect our food and our farms. GM Freeze will continue doing what we can to influence the current Government, but we also plan to focus on making GM safeguards an issue for, at the time of writing, the key provision to label food made with GMOs that are re-classified as “precision bred organisms” or “PBOs”. Labelling is vital for citizens who want to avoid buying and eating food produced with patented GM technologies, especially those that haven’t been subjected to proper safety tests. A requirement to label end products containing “precision bred” GMOs would also support organic and other GM-free supply chains by ensuring that measures are put in place to avoid contamination.

Ministers are strongly opposed to mandatory labelling of “precision bred” GMOs but they may yet be thwarted by the Food Standards Agency (FSA) whose independent board recently discussed the possibility of using existing powers to impose a labelling requirement. The board was split on the subject and there is no guarantee of success but the FSA’s own consumer research has shown strong public support for clear labelling at the point of sale, so there is a chance. See ‘TAKE ACTION’ for how you can help.

The legal changes established by the Genetic Technology Act apply to GMOs created with lab techniques that focus on disrupting an organism’s own genes (often referred to as gene editing), rather than adding new ones from another species (transgenesis). However, controls on the use of first-generation GM techniques are far from secure. Ministers have repeatedly spoken of their “stepwise” plan to sweep away public protections and there is also a risk that detailed GM rules and regulations will be impacted by the political rush to remove laws that came into force in the UK via our previous membership of the European Union (EU).

The Retained EU Law (Revocation and Reform) Bill was set to trash thousands of pieces of legislation without proper review, but a late change of heart led to a Government amendment listing around 600 specific measures to be scrapped. These include 12 rulings relating to GM food and/or farming so, at the time of writing, we are checking the details and plan to keep a close eye on developments. Whatever we find, it’s clear that there is a pressing need to stand up for the responsible, fair and sustainable food system that we all need and want.

TAKE ACTION
GM Freeze will be working hard to influence the Food Standards Agency (FSA) as this key body develops its plans for regulating the use of “precision bred” GMOs in our food. Public demand is absolutely key so please help us demonstrate that UK citizens want clear labelling of ALL genetically modified organisms in the food chain, by:

- signing our Don’t Hide What’s Inside petition at: donthide.gmfreeze.org
- sharing the petition with friends, family and on any social media that you use
- getting in touch on liz@gmfreeze.org (or by calling 0845 217 8922) if you are part of a group or organisation that supports the call for labelling of all GMOs and might be willing to join us in a shared approach to the FSA.
INTERNATIONAL NEWS

Canada
Going even further than the UK’s drive to remove GM safeguards, the Canadian Minister of Agriculture and Agri-Food recently approved changes that, alongside similar moves by the Minister of Health last year, give genetic engineers the right to assess the safety of their own GM seeds and the foods produced with them as long as they don’t contain any DNA from other species. Lucy Sharratt, coordinator of the Canadian Biotechnology Action Network (CBAN) described the move as “a shocking abdication of responsibility” warning that “Canadians should be aware that the government will no longer be assessing the safety of many new genetically modified foods and seeds. This decision asks Canadian farmers and consumers to trust unseen corporate science. We need independent science, not corporate self-regulation.”

Philippines
The Supreme Court of the Philippines has issued a Writ of Kalikasan seeking to stop the commercial cultivation of two GM crops: golden rice and insect-killing aubergine. This legal remedy, which was filed by a group of farmers organisations, scientist and civil society organisations, is a means of asserting the constitutional right to a balanced and healthful ecology. The group hopes to overturn the issuing of biosafety permits and prevent propagation of the two controversial GMOs until independent risk and impact assessments have been conducted and both farmers and indigenous peoples have given their informed consent. Alfie Pulumbat, national coordinator of MASIPAG (Farmer-Scientist Partnership for Agricultural Development), who spearheaded the application, said “We hope that the Supreme Court shall grant our prayer to issue the Temporary Environmental Protection Order (TEPO). It is most urgent that the propagation of Golden Rice and Bt Eggplant [aubergine] shall be stopped as our local rice diversity and associated biodiversity are at stake with the threat of gene contamination coming from these genetically modified crops.”

Mexico
An international row blew up in April, after the US used a clause in the United States-Mexico-Canada trade agreement (USMCA) to challenge Mexico’s rejection of GM maize for human consumption. US-grown GM maize can be imported into Mexico for animal feed and industrial uses but the US wants more, claiming that the ban on GM flour, dough and tortillas breaches the USMCA requirement for “a science-based approach to domestic regulations”. In reply, Deputy Agriculture Minister Victor Suarez said that his country’s decision “does not affect US corn producers in any way” and the US response is an “unacceptable violation” of Mexican law.

FSC halts GM tree plans
Campanighers around the world celebrated in April, after the board of the Forest Stewardship Council (FSC) halted plans for field tests of genetically engineered trees.

The FSC is the world’s leading certifier of forests and products (like paper and wood) sourced from them. Their standards don’t allow the use of GM trees but this commitment came under threat when, in February 2022, they announced what was described as a “GE Learning Process”. This was widely viewed as a significant threat that could lead to field testing and release of GM trees in ways that would threaten forests, wildlife and the communities that live near them.

GM Freeze was one of 131 environmental and social justice groups – and over 1,000 individuals – who signed a Campaign to Stop GE Trees statement in November 2022, urging the FSC to refrain from overseeing or endorsing field tests of GM Trees. Anne Petermann, who coordinates the campaign, said that the FSC’s decision “reflects the serious questions of ecology and science raised by this technology that have been glossed over in recent years by corporate interests.”

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GM Freeze joined a few other UK-based campaign groups in supporting a letter signed by over 300 civil society organisations, asking European Commission Vice President Frans Timmermans to meet representatives of the group and shift to evidence-based decision making for sustainable food systems and nature. The letter calls on Timmermans to “intervene and prevent the far-reaching deregulation of new genomic techniques at the expense of nature and the climate, and of farmers’ and consumers’ rights.”