

Government gets its way with first step towards GMO free-for-all



Late in the evening of 14 March, the first step in the UK Government's controversial plan to dismantle our GMO safeguards passed its final Parliamentary hurdle.

The changes will come into legal effect around the time that this issue of *Thin Ice* is published. They will create a new class of GMO plants that "could have occurred naturally" or through

a list of techniques that are legally classified as traditional breeding methods.

These GMOs (called "Qualifying Higher Plants") can be released for any purpose other than "marketing" without proper safety checks or any measures to prevent escape and contamination.

New rules suggest that these

releases should be notified to the Department for Environment Food and Rural Affairs (Defra), but details will not be made public so any of us could be living, growing food or farming crops right next door and we will be none the wiser. The legal changes will only apply to England, but GMO seed and pollen don't respect national

... continued on page 3

Your chance to say NO to more GM potatoes

GM developers at The Sainsbury Laboratory have been growing experimental potatoes in open fields since 2016 and now they have asked permission to plant even more. So many "stacked" GM traits have been man-handled into the potatoes' DNA that it seems the developers are throwing the kitchen sink at [the nation's favourite vegetable](#), all in the service of industrial food processing.

Legal changes (*Government gets its way – above*) will now allow some experimental GMOs to be released on the developer's say so, but others remain subject to scrutiny through the field trial consent process. That

process includes a short public consultation for each new release and the consultation on these "kitchen sink"



Stock photograph of non-GM potatoes

potatoes is open until Bank Holiday Monday 2 May.

GM Freeze is putting together a detailed, fully referenced response to the trial plans and civil society organisations are invited to join that formal objection. Email us on info@gmfreeze.org if you are part of an organisation that shares your concerns about GM in food and farming and would like to be represented on the objection.

Individual responses are just as important. Public submissions to field trial consultations have been increasing in recent years as

... continued on page 3

First stages of an invasion

Glofish, genetically engineered fluorescent fish

From Glofish to cattle and hens, GM animals are on the rise around the world, prompting serious questions about containment, control and public protections.

In February, [a paper in the research journal *Studies on Neotropical Fauna and Environment*](#) revealed that “glow in the dark” GM fish created for use in aquariums are living and breeding in natural waters in Brazil. Jellyfish genes were forced into the DNA of zebrafish to create the fluorescent “Glofish” which are sold as exotic pets in Canada, the USA and, despite a national ban, Brazil. Now, they have escaped and appear to be thriving in the wild, prompting the researchers to note that “transgenics are not the ‘magic solution’ for developing ornamental aquaculture”.

The impact of escaped GM Glofish was also highlighted in a [paper published last year in the journal *Neotropical Ichthyology*](#) which stressed that “escapes from aquaculture facilities are common, and could bring severe consequences to local fish populations including endemic, rare, and threatened species.” [Commenting in *Science*](#) André Magalhães, a biologist at the Federal University of São João del-Rei said, “*They are in the first stages of invasion with potential to keep going*”. The GM zebrafish appear to mature and reproduce earlier than their natural relatives so that invasion could gather pace very quickly.

Unexpected impacts of meddling with the DNA of living organisms are a key concern for all GMOs and the (non-glowing) zebrafish is also central to new research demonstrating for the first time just how true that is for the high-profile new GM technique known as CRISPR/Cas.

Zebrafish is an important model organism for medical research and previous experiments have shown that CRISPR/Cas can cause large, unintended changes to DNA far removed from the target mutation site. [Now, a study published in *Nature Communications*](#) in February shows that these unplanned (and unwanted) genetic changes are passed on when the GM fish breed, with unpredictable results. The study focused on what this means for medical applications of new GM techniques, but its findings



are equally important for the potential development of GM farm animals.

The United States regulator, however, has other ideas. In March, the Food and Drug Administration (FDA) reviewed beef cattle whose genes have been manipulated using the CRISPR/Cas technique and decided that they do not raise any safety concerns. Indeed, the FDA is reported as having said that the cattle were exempt from most approval checks because their genetic makeup is similar to other existing cattle and because the trait introduced (short, slick coats) can be found naturally in other breeds. Such statements ignore the growing evidence that all GM techniques can cause a wide range of unpredictable

impacts. Nonetheless, beef from the GM animals could be on sale in the US within two years.

Closer to home, the European Commission has sparked controversy by advising the German Federal Office of Consumer Protection and Food Safety (BVL) that laying hens and the eggs they produce could be considered non-GM despite being bred from GM chickens. The advice was given in a letter sent to BVL in July 2021 and made public this March thanks to a request by the German Union of Peasant Farmers (AbL). It followed a query from BVL about hens that have been genetically manipulated to stop male chicks from hatching. The claim

Continued on page 4

Nature protects key parts of the genome

A [study published in the peer-reviewed journal *Nature*](#) in January added to the growing evidence that new approaches to genetic engineering risk molecular havoc because they override natural defences.

The new research found that naturally occurring mutations (genetic injuries that can lead to beneficial or damaging effects) are far less random than has previously been assumed. Genes that are involved in essential functions showed very low rates of natural mutation and seem to be protected by particularly effective DNA repair mechanisms.

Evolution is thought to rely largely on the existence of wide-ranging natural mutations, with natural selection choosing those which offer an advantage under different circumstances. As new “gene editing” GM techniques deliberately injure

a target organism’s DNA to cause new types of mutation, it is often claimed that they are mimicking the evolutionary process. However, these techniques override natural protections and attempt to control DNA repairs, disrupting complex and little-understood biochemical processes.

The importance of this study, and many others, is discussed in a new report just published by the independent German institute Testbiotech and the Canadian Biotechnology Action Network. [Unintended effects caused by techniques of new genetic engineering create a new quality of hazards and risks](#) details many of the things that can go wrong with new GM techniques and makes a compelling case for precautionary regulation.

Government gets its way ... *continued from page 1*

borders any more than they turn left at a roundabout so everyone in the UK could be adversely affected by this loss of key protections.

The Westminster Government's plans for a GMO free-for-all fly in the face of public opinion, as strongly expressed in their own consultation last year and described in more detail in [Thin Ice 60](#). A key consensus in responses to the consultation was that it is simply not practical to regulate GMOs on the basis of whether they could, theoretically, have been produced in other ways. This hypothetical class of GMOs has now been given legal status but is still undefined. The Advisory Committee on Releases to the Environment (ACRE) is said to be working on guidance but it was not made available to MPs or peers tasked with deciding whether or not to accept the Government's plans. Indeed, speeches by those supporting the change suggested a

variety of interpretations, even within the Government.

Whatever ACRE comes up with, questions will remain. The promised guidance has been described as non-statutory, meaning that there will be no legal requirement for GM developers to follow it. At the same time, ACRE's own suitability for the job has been queried in Parliament. Following a [GM Watch investigation](#), Labour, Lib Dem and Green politicians all raised concerns about conflicts of interest and the narrow range of skills held by the committee.

A House of Lords committee also [issued a highly critical report](#) on the Government's approach, quoting from [GM Freeze](#), Beyond GM and certification body Organic Farmers and Growers. One of the complaints highlighted was that this significant change in environmental law was made through a mechanism called a Statutory Instrument (SI), which limits the level of Parliamentary scrutiny and, in effect, makes it almost impossible to stop the Government getting their way.

GM Freeze worked closely with colleagues across civil society to reach out to MPs, peers and others, even though we knew that we were very unlikely to stop this SI. Although the final result was as expected, there was far more debate about this change than about most SIs. Green peer Natalie Bennett [proposed a motion against it](#) and Labour MP Daniel Zeichner (part of the Shadow Defra team) raised a large number of concerns in a [House of Commons committee meeting](#). That all matters because we know that this is only the beginning.

Government Ministers recently suggested that we could see wholesale change in both the legal definition of a GMO and the public protections around them, within the year. We know that their plans will prioritise the biotechnology industry over the safety of our food, our farms and the natural environment. Thanks to the communications we have had over this SI, a growing number of MPs and peers know it too.

Your chance ... *continued from page 1*

more and more people decide to put their misgivings on the record. This sends a clear message to politicians, Government officials and GM developers that their plans for a high-tech takeover of the food chain do NOT have public support. You can use our simple guide to taking part in the consultation, at www.gmfreeze.org/potato. We don't offer a "click and go" option as duplicate communications are generally ignored by those analysing consultation responses. What we do encourage you to do, though, is to send a copy of your response to your MP – full details of how to do this, and why it helps, are included on the website action page.

Many of our supporters have already been busy objecting to field trials this year as this is actually the third to be unveiled since we published [Thin Ice 60](#).

In January we were joined by 26 civil society organisations to [object to the planting of experimental GM wheat](#) designed to marginally improve nutrition in white flour, rather than focusing on the many benefits of eating whole grains. That trial has now been [approved](#) and the wheat is most

likely in the ground, but our concerns have been noted. The influential Advisory Committee on Releases to the Environment stated that many of the points raised "would be of relevance if the application had been for commercial-scale cultivation or food and feed use". As that is surely the eventual plan, we trust that the developers – and those who fund them – are paying attention.

At the time of writing, we are still awaiting the outcome of an application for consent to plant GM barley in brand new open field trials. In February, [GM Freeze and nineteen other organisations objected](#) to the plans, which use highly disruptive genetic engineering techniques to explore the relationship between crops and helpful soil fungi. As we said at the time, GMOs are no substitute for a holistic focus on good soil health.

Consultations on GM field trial plans are only open for a few weeks, so it is rare that we are able to share details in an issue of *Thin Ice*. If you would like to take part in these consultations do make sure you [sign up to receive GM Freeze's email action alerts](#), or follow us on [facebook \(/GMFreezeUK\)](#) or [twitter \(@GMFreeze\)](#).

Help us to say NO

GM Freeze has been leading the response to UK GM field trials for many years. We are skilled and experienced at examining the fine detail, setting out the case against the release of these untested GMOs, and supporting others to do the same. However, each trial response costs us around £2,000 and GM Freeze is run on a shoestring. We receive grants for some work but that has to be planned well in advance, whereas consultations about specific GMO releases crop up without notice and need a swift response. Many of our supporters are not able to help financially and others have given generously already. If you are able to help with a donation, please do so today at www.gmfreeze.org/stop or by sending a cheque payable to GM Freeze to: GM Freeze, 80 Cyprus Street, Stretford, Manchester, M32 8BE.

Thank you.

INTERNATIONAL NEWS



Argentina

Celebrated as a home-grown success, weedkiller-linked Argentine GM wheat was approved for import into Brazil in December 2021.

However, as [reported by GM Watch](#) in February, yields of the GMO have been very poor. The crop, which has been criticised by leading scientists and rural organisations, is producing an average 2,400 kilos per hectare, compared with the national average yield of traditional wheat, which the Buenos Aires Cereal Exchange estimate at 3,440 kilos per hectare.

Cecilia Gargano, a researcher and specialist in the history of public policy in science summed it up well when she said that *“After 26 years of GMO agriculture, with visible health damage and countless complaints, it is incredible that the model as a whole is not being questioned.”*



Brazil

UK based genetic engineers Oxitec have released GM Fall armyworms in corn fields in São Paulo state. The release is said to be a trial but the Brazilian authorities have already approved the approach

so it may be very quickly rolled out across the country.

Fall armyworms are moth caterpillars that can devastate crops. The GM version is supposed to reduce local populations by carrying – and spreading – a gene that kills female offspring. The company behind the caterpillars also developed the GM mosquitoes that have been released in the Florida Keys area of the United States amidst concerns about unexpected effects in the wild and serious conflicts of interest amongst decision makers.



Nigeria

A coalition of African NGOs, farmers and researchers is calling on the Nigerian government to revoke permits for the commercial release of insect-killing GM cowpeas. The cowpea is an indigenous African crop and a staple, high protein food for humans and animals. The GM version is engineered to produce Bt toxins and was first approved in Nigeria in 2019. In March, the coalition position was promoted through an international press conference organised by the Health of Mother Earth Foundation and

the African Center for Biodiversity (ACB). An ACB spokesperson said: *“We demand that distribution to farmers be stopped immediately, as this is bound to have severe long-term negative implications on the environment and farmers’ seed and populations, and production practices.”*



Philippines

“Massive production” of GM Golden Rice is said to be on the cards this year, as the Filipino Department of Agriculture moves forward with plans to mass produce the seed for what is perhaps the most controversial crop in the world. As reported in [Thin Ice 59](#) Golden Rice received a biosafety permit last July, despite being beset by problems of low yield and diminishing beta-carotene levels. Regularly portrayed as an example of “GMO for good”, Golden Rice is – at best – a risky and incredibly expensive distraction from the need to address the reasons why so many people around the world are unable to access a balanced, nutritious and culturally appropriate diet.

First stages ...

continued from page 2

is that, because the intended (fatal) genetic change is only inherited by the male chicks, their laying-hen sisters and the eggs those hens go on to produce, don't count as GM. Disagreeing, Astrid Österreicher from German NGO Testbiotech said in the press that *“We have process-based regulation in Europe and that's black*

and white in the law...The offspring of transgenic animals are also transgenic.” Annemarie Volling of AbL described the Commission's position as a paradigm shift warning that *“Poultry breeders, but also fatteners and egg producers would no longer be able to ensure that their products are GMO-free, although this is what the majority of consumers in the EU want: GMO-free food”.*

The UK Government is treading carefully around the potential release of GM livestock, no doubt influenced by a strong response to its *Consultation on the Regulation of Genetic Technologies* from animal-welfare focused charities and their supporters. We should not, however, be in any doubt that the future release of GM animals here is very much on the cards.

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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