

Thin Ice



the GM Freeze Campaign newsletter

Issue 25, April 2012

UK next lab for Oxitec's private GM bug experiment

As news reaches the UK that the mooted Florida Keys trial of Oxitec's GM mosquito may be delayed until next year, news is also emerging that the UK biotech startup company hopes to release GM agricultural pests in the UK, with trials potentially as early as this year. The company's record in other countries in which it has tested GM mosquitoes suggests it may try to push the regulatory system to the limits to reduce costs and market its products as quickly as possible.

Ostensibly a means to control Dengue fever, Oxitec hopes its GM mosquito will be a lucrative new source of cash. The insects are modified to carry a gene that prevents offspring from surviving, so they don't breed. Dengue is a serious mosquito-borne tropical disease and causes real harm, so controlling it is important, but Oxitec's GM mosquitoes are an unproven approach. (See TI 20)

Oxitec proposed trials in Florida aiming to release 5,000-10,000 GM mosquitoes in January this year. Public

outray and critical questioning about regulatory control and compliance delayed any trial significantly, and if it doesn't begin soon, it may well have to

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be postponed until the 2013 breeding season at the earliest. However overcoming regulatory difficulties may take considerably longer. It is still unclear which, if any, regulatory body has jurisdiction and oversight for any trial. Demands are growing for Federal authorities to take control. Any trial under the auspices of a body like the FDA could take months, if not years, to organise.

There is growing evidence the GM mosquito has not performed as planned in contained trials (survival rates were

reported to be as high as 15%, a fact the company attempted to obscure from the public). There is no evidence that Oxitec's patented method of GM mosquito control will have any effect on Dengue.

The company's methods are under scrutiny. Florida residents and NGOs want to know which authorities are taking responsibility for regulation, who is legally liable if something goes wrong and how informed consent is being obtained from the local community.

Oxitec's basic science is also being questioned. The Max Planck Institute for Evolutionary Biology published a study of Oxitec's Malaysia and Cayman Islands work in *Asia Pacific Journal of Molecular Biology & Biotechnology* finding environmental impact assessments "scientifically deficient" and regulatory authorisation for trials based on unpublished reports using "questionable pivotal scientific assertions". The company has defended questions about its failure to publish

continued on back page

GET ACTIVE

Tell Morrisons you're off

If Morrisons' decision to end non-GM feed requirements for its poultry suppliers aims to test the water, we need to turn up the heat. Tell Morrisons what you think: add to the great comments already condemning GM feed on the company's FaceBook page (www.facebook.com/MorrisonsWeLoveFood).

Or you can write to Head of Policy David Scott (David.FJ.Scott@morrisonspc.co.uk) telling him you are very unhappy about this move, you will not shop at Morrisons until the company reinstates a non-GM feed policy and that sourcing from the highly controversial RTRS soya is not "sustainable".

INTERNATIONAL ROUNDUP

Africa

South Africa

In March the African Centre for Biosafety said it is considering its legal options after revelations that several common foods containing GMOs are not labelled in accordance with the law. The Consumer Goods Council of South Africa is seeking “clarification” from the National Consumer Commission as to whether only the GMOs themselves must be labelled or if all products containing them must also be labelled. Environment lawyers are clear all foods containing over 5% GM must be labelled, and ACB said if labelling laws are not enforced immediately it will instruct attorneys to lodge a formal complaint.

Americas

Canada

In January Kochia resistant to glyphosate, previously found in the US, was found in three fallow fields in Alberta. Monsanto said the resistant weeds were unusual in that they were found on land that was not regularly planted with Roundup Ready crops, adding the new superweeds “could present new challenges” on Alberta farms growing RR canola and sugarbeet.

US

More than 1 million people have signed up to the “Just Label It” initiative by a coalition of NGOs demanding labels on all GM foods, and a poll showed 91%

of shoppers want labels, completely contradicting industry and political insistence that US consumers are unconcerned about GM in their food.

In February the USDA said regulatory reviews toward authorisation of GM crops will be accelerated, perhaps cutting the current three years by half. An American Soybean Association spokesperson said US farmers worry they will be disadvantaged by swifter approvals in competitor countries like Brazil. Critics say the move is designed to prevent them raising concerns after legal challenges were mounted against the legislative procedures leading to the approval GM sugar beet and alfalfa authorisations.

Meanwhile biotech companies reported a three-fold increase in farmers found violating EPA planting requirements on GM Bt crops in 2011. Farmers growing Bt crops are obliged to sow 20% non-GM seed as a refuge to help ensure insect pests do not develop resistance to Bt toxin. However 41% of farmers inspected were not complying. This means refuges will not effectively slow insect resistance developing. (see TI 23) Farmers failing to comply are revisited more frequently for inspections and further violations would result in loss of permission to grow further GM crops.

The White House is reported to be withholding documents named in a Freedom of Information request about alleged links between the Obama administration and lobbyists pressing for

GM crops to be permitted in US wildlife refuges. (see TI 24) The documents in question relate to a strategy discussion between a White House policy analyst and the Biotechnology Industry Organization, an umbrella lobby group for GM companies. The White House claims partial documents were mistakenly sent as emails and cannot be fully released as the information they contain would competitively harm both the lobby group and the companies involved. Additional FOI requests are seeking information about the little-known White House Agricultural Biotechnology Working Group believed to include officials from almost every Obama agency dealing with agriculture and trade.

Asia

India

In March the Ministry of Agriculture, the once champion of GM Bt cotton, sent an advisory note to cotton growing States acknowledging for the first time the link between Bt cotton and farmer suicides. GM Bt cotton has grown to 90% of the country’s crop in 10 years. The advisory, based on information from the Indian Council of Agricultural Sciences and the Central Cotton Research Institute, said, “Cotton farmers are in a deep crisis since shifting to Bt cotton. The spate of farmer suicides in 2011-12 has been particularly severe among Bt cotton farmers.”

Previously in January the Advertising Standards Council of India (ASCI)

“We do understand why farmers would use the glyphosate and glyphosate-resistant crop package. It is simple and relatively cheap, but we have to think about the long term consequences.”

David Mortensen, Professor of weed ecology at Penn State on a new study showing 21 different weed species have evolved resistance to several glyphosate herbicides, and that 75 percent of which have been documented since 2005.

“Several species have developed amazing biochemical ways to resist the effects of the herbicide [glyphosate]. If weed problems are addressed just with herbicides, evolution will win. To the horseweed, this controlled translocation process [the slow sub-lethal absorption of glyphosate over time] means the difference between taking many shots of whiskey on an empty stomach versus sipping wine with a meal. Integrated weed management is really the path forward.”

J. Franklin Egan, Doctoral student in ecology at Penn State

upheld a complaint about an August 2011 advertisement by Mahyco-Monsanto Biotech Ltd. The ad, which was part of a series in Indian newspapers, claimed Bt cotton generated financial gains for cotton farmers citing the controversial industry-funded ISAAA (see TI 21). ASCI found the ad was based on unsubstantiated claims, violating the part of its code requiring advertising to be truthful.

Also in January the Kerala Government banned GM trials. The move is linked to the ongoing battle over the Bio-Technology Regulatory Authority of India Bill (see TI 17), which some have called “draconian” in its power to restrict discussions about GM introductions.

In February the Maharashtra Government ordered Bayer CropScience’s India division to compensate Bt cotton farmers for losses incurred due to poor yield, the first time a GM company has been held to account for its yield claims. The Agriculture Minister said the farmers had been “cheated” because the seed did not meet minimum standards, adding, “The company had claimed on its label that its seed was less susceptible to pest and disease. But we found that to be not true.” Contesting the ruling a company spokesperson said, “As per our investigations, the yields below expectations in a few pockets are due to combination of inadequate crop management and adverse environmental conditions.”

In March the Rajasthan government halted all GM trials saying, “[No] trials of GM crops should be conducted in the state,” until national level discussions about GM cultivation are held and decisions taken. The move followed the withdrawal of the certificate permitting GM mustard trials in three locations. Trials had already begun and were ordered to be destroyed.

Pakistan

In January the Seed Association of Pakistan President welcomed the Government’s move to scrap a deal with Monsanto on Bt cotton saying it would have created a monopoly and endangered the existence of the national seed sector. The deal is reported to have fallen through after demands from Monsanto for guaranteed high royalty fees paid per acre planted that some believed in fact covered the company against any losses and

chilled competition. In the absence of evidence or assurances the technology would actually increase yields, the Government declined to agree.

Australasia

Australia

In March GM canola (oilseed rape) prices dropped to Aus\$25-50/ton below non-GM. The founder of GRAINassist, a grain marketing and brokerage company, said that in addition to having to compete with US and Canadian growers, “GM canola has not the value of non-GM canola ... non-GM and organics is still bringing the highest price.” He pointed out that if US public demands for GM labels are successful non-GM and organic producers will benefit. A spokesperson for Riverine Plains, a group representing over 300 family farms, said, “At the moment we are getting discounted on price – it needs to pay for itself. Unfortunately the market isn’t directing farmers to the technology.”

Europe

In March the Commission authorised four new GM soybeans for import after the new comitology procedure failed to achieve a qualified majority. This brings the number of GMOs authorised by the Commission in this way to eight this year (three maize and a cotton were authorised in January).

Also in March the Danish Presidency failed to progress its proposal on GM cultivation bans in the Council. In March 10 Member States, including the UK, Germany, Spain and France, declined support for the proposal intended to allow countries the final decision on whether to approve GM crops for cultivation in their territories. The Danes had previously said they wanted the proposal to go through at first reading or they would not pursue it further in their six-month Presidency. The next Presidency will be held by Cyprus, which bans GM cultivation and did not support the Danish text.

With no clarity in sight for beekeepers affected by the EU Court of Justice ruling that honey containing GM pollen must be labelled (see TI 23), Brazilian beekeepers fearing loss of exports announced in February they will now require mapping of all GM use in the country to try to protect their livelihoods. In March some 1,500 Polish beekeepers

dumped thousands of dead bees on the steps of the Ministry of Agriculture demanding a complete ban on MON810 maize. The Ministry announced plans to enact a ban.

France

In February the Minister of Agriculture reinstated a ban on cultivation MON810 maize due to “significant risks for the environment” based on the latest scientific studies. Germany, Greece, Austria, Luxemburg and Hungary maintain their bans.

A study by CRIIGEN at the University of Caen published in February showed for the first time Bt toxins in high concentrations can significantly impact the viability of human cells. The effects were observed with relatively high concentrations of the toxins, but nevertheless there is cause for concern. GM companies claim the toxins are only active against particular insects with no effect on mammals and humans. EU authorisation for Bt crops does not require any investigation into the impacts of Bt toxins on human cells. Research supervisor Gilles-Eric Séralini, who has also exposed some of the health problems associated with Monsanto’s Roundup weedkiller, said, “These experiments show that the risks of Bt toxins and of Roundup have been underestimated.”

In March researchers at the country’s Ministry of Agriculture announced findings of a modelling study showing pesticide use can be reduced by 30% per cent on arable crops without impacting on either yields or farm income. France is the world’s third largest user of pesticides, so this could be significant if farmers’ reluctance can be overcome. One argument is that any reduction in yields is more than offset by savings on expensive chemicals. Reduced environmental and health impacts are key goals, with one Ministry spokesperson adding, “Although their effects are diffuse and difficult to quantify, pesticides contaminate water and air and can cause illness, particularly among the farmers who apply them.”

Lativa

By January 101 of the country’s 110 municipalities had declared they would be entirely GM-free by the end of 2012, fuelling speculation there will be a complete national ban shortly.

INTERNATIONAL ROUNDUP

continued from previous page

Turkey

In February the Council of State halted imports of GM food while more stringent regulations are enacted. No GM foods can be produced legally in Turkey, but regulations do not cover animal feed. The Council of State called for new draft legislation to set more rigorous standards for GM imports citing the need for better testing to determine potential health risks.

UK

In January Agriculture Minister Jim Paice told the Oxford Farming Conference GM cannot be ignored, saying, "GM is not the answer to everything, but in the foreseeable future we'll have nitrogen-fixing wheat – if that isn't going to be a major development I don't know what is." Perhaps forgetting there are already ongoing GM trials and products in the UK, and that Wales and Scotland ban GM cultivation, Paice said the EU should lift restrictions on trials and sales of GM products so the UK can "do it's own thing", urging supermarkets to take a lead. In March Morrisons abandoned its non-GM feed policy for poultry in a move widely regarded by both pro- and anti-GM onlookers as a test of the market.

In February a study by the University of Bristol published in *Science* showed agricultural weeds play a key role in protecting food webs on UK farms. The study showed the most resilient systems work with nature and interact within the system, rather than seeking to dominate or eliminate certain species. A statement said, "This research highlights the importance of ensuring an agri-ecosystem approach is taken in land management practice to enhance biodiversity on UK farmland."

In March an international conference on diversity, organised by the Scottish Crofting Federation, rejected GM outright in a statement titled "GMOs Won't Feed Us – diverse seeds will". A spokesperson for the Crofters said, "We will defend our seeds and breeds and our local food system. The gathering of these people in Strathpeffer was a gathering of hearts and of a strong spirit that will defend our rights and traditions and strengthen our opposition to GMOs."

UK next lab for Oxitec ...

continued from front page

its results in peer reviewed journals by saying the work has been rejected several times. If the research is not sufficiently robust to publish then Oxitec has serious questions to answer before any further releases can be permitted.

This has clear relevance for the UK (see below).

Meanwhile several Dengue vaccines are nearing authorisation after

trials showing considerable promise, suggesting that GM mosquitoes could prove pointless. The Malaysian Ministry of Health has announced the launch of the Phase III of clinical trials for a new Dengue vaccine it hopes will be available for all by 2014/5. In Brazil French pharmaceutical executives met with health authorities to discuss expediting the authorisation of a Dengue vaccine currently undergoing Phase III clinical studies after having demonstrated good results in Phase II. Oxitec may be feeling the pressure to get their GM insects to market.

Oxitec has set its sights on Europe. In January the company announced intentions to release a GM leaf miner. First detected in Spain in 2006, this pest of tomatoes, potatoes and aubergines is now a problem in some dozen countries in Europe and North Africa – including the UK.

Of more immediate concern, Oxitec wants to release GM Diamondback

Moths in the UK, maybe as early as this year, using the same technology as its GM mosquitoes. A pest of the cabbage family, the moth lays eggs on crops like broccoli and Brussels sprouts,

and when the caterpillars hatch out they eat the leaves. No food safety tests appear to have been conducted into the health impacts of consuming GM moth eggs or

caterpillars left on the crop at harvest.

It is also unclear if Oxitec's approach is worth the risk, as the pest is not a major problem in the UK in all years. Furthermore it is not even clear if Oxitec's GM moths will prevent chemical spraying, as other pests will still be present in crops and require management.

UK regulatory agencies have refused Oxitec permission for an open air release of GM Diamondback Moths under GMO Contained Release Regulations. The company argued its GM technology acted as "containment" preventing the GM males breeding with non-GM wild females. However both the Health and Safety Executive and Defra said any release under the Contained Use Regulations should take place in either a greenhouse or polytunnel. The only other option for Oxitec is a release under Deliberate Release Regulations, but this would require a full environmental risk assessment.

Of more immediate concern, Oxitec wants to release GM Diamondback Moths in the UK

The GM Freeze Campaign is calling on the Government for a Freeze on:

- The growing of genetically modified plants and the production of genetically modified farm animals for any commercial purpose.
- Imports of genetically modified foods, plants, farm crops and farm animals, and produce from genetically modified plants and animals.
- The patenting of genetic resources for food and farm crops.

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