

Thin Ice



the GM Freeze Campaign newsletter

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GM Bt crop failures hit Brazil and US

Once again this year farmers face hardship due to serious problems in GM Bt crops.

In July Brazil's Bahia State Agency of Agricultural Protection said that the country lost 10 billion real (£2.8 billion) last agricultural season alone to *Helicoverpa armigera* (cotton bollworm or corn earworm, a pest of many different crops). This triggered the official declaration of a phytosanitary emergency in cotton and soybean crops.

In August the Ministry of Agricultural Development said GM Bt crops, pesticides, and monocultures are responsible for the problem, advising farmers across the country to "take preventive measures" and seek advice if they are near GM crops or if crops are attacked.

Bt toxin only offers partial control of *Helicoverpa*, but it is very effective

Illinois farmers are reporting severe root damage from Western corn rootworm in GM Bt corn crops

against an important predator *Spodoptera* (armyworm), and its population can expand if unchecked. Pest damage caused serious economic losses for cotton farmers in Western Bahia last year, with monocultures hardest hit. A Ministry spokesperson said that monocultures and pesticides contributed to the problem by preventing the development of natural predators,

which permits the pest to thrive.

Ironically Bayer recommends "careful tilling and removing harvest residues" to control this pest, which undermines the use of zero tillage in GM crops upon which many producers rely, including to keep down fuel costs.

Meanwhile in the US Illinois farmers are reporting severe root damage from Western corn rootworm in GM Bt corn crops again this year. [TI 26] The problem is widespread, including in first-year fields, indicating that rotation is no longer an effective option for controlling the pest, which is moving into adjacent soyabean fields.

Farmers are urged to examine fields for damage and consider using "stacked" GM Bt varieties or to use soil insecticides at sowing if using single-event GM Bt crops. Monsanto claims to be working with farmers to address the problem.

GET ACTIVE

Last push for GM wheat objections



The end of 2013 will close the 2-year field trial of GM wheat in Hertfordshire. While we await publication of the results, GM Freeze will present Defra with the pledges we've been gathering against the trials. If you have not pledged yet, please help us ensure all objections are heard by pledging before the end of November at www.gmfreeze.org/actions/24/. You can also order free leaflets or pledge by contacting info@gmfreeze.org.

INTERNATIONAL ROUNDUP

Africa

Kenya

In August a USDA international trade specialist urged the Government to “promote open exchange of information” on GM crops saying, “[T]he decision as to whether GMOs are safe should be left to regulators not activists.” She argued that without official communications on GM crops, farmers only hear the skeptic position. Recalling the three-year-old ban on imports of GM material, the CEO of Kenya’s National Biosafety Authority said, “The ban remains on import of GMOs, but we are licensing increasing numbers of studies.”

Americas

Chile

In August thousands of protestors demonstrated in at least nine cities against a new bill being considered by the Senate after it was approved by the House of Representatives. Protestors say the so-called “Monsanto Law” would undermine food sovereignty by giving too much control of seeds and seed prices to multinational corporations. A spokesperson for Chile Sin Transgenicos (Chile Without GMOs) said, “This measure does not contribute to the innovation and well-being of independent farmers at all. What it does is put food sovereignty at risk by making it dependent on big corporations.” Sixty-two of the country’s 81 cantons ban GM cultivation.

El Salvador

In September the Ministry of Environment and Natural Resources announced a new law banning the use of 53 chemicals for agricultural use, including glyphosate and paraquat, despite right-wing opposition to their inclusion in the ban.

US

In June the USDA approved a new labelling scheme for meat and liquid eggs that uses the Non-GMO Project’s certification scheme to show the animals involved never ate feed containing GM ingredients.

In August the Governor of Oregon signed a law banning all commercial oilseed rape (canola) production on 3 million acres of the Willamette Valley until 2019 to protect

this key region for organic and conventional vegetable seed production. The initiative followed a Center for Food Safety lawsuit over contamination by the crop, which cross-pollinates easily with many vegetable relatives like broccoli, kale and cabbage. The majority of oilseed rape production in the area is GM, but cross-pollination from conventional crops is also problematic for seed producers.

In September Tufts University announced a two-year ban for the researcher at the head of the scandal over a controversial study of GM “Golden” rice in China. A year-long review revealed that the researcher breached ethical rules and Federal regulations by failing to inform parents of children used in feeding trials and regulatory authorities that the rice was GM. The Chinese Government sacked the China-based researchers involved, and the Tufts researcher will only be permitted to conduct research under direct supervision for a further two years after the ban expires.

In September the Washington State Department of Agriculture confirmed the widely-predicted contamination of alfalfa seed and plants with Monsanto’s GM Roundup Ready variety. The problem was reported by a farmer, who did not want to grow GM crops, when his crop was rejected for export after his broker found the GM trait. With the source of the ongoing GM wheat contamination in the State still unknown, this is yet another case in which an honest farmer is left to raise an alarm and contact officials about GM contamination that leaves the value of his own crop degraded. Senator Maralyn Chase said, “Our state’s farmers are becoming collateral damage to the reckless practices of the agriculture industry in this country.” A strict scheme holding GM companies fully liable for the economic and environmental damage caused by their products is long overdue. The results of the Washington State vote on GM labelling are expected in early November.

Australasia

China

In August a new study by Fudan University showed that a weedy form of the common rice crop (*Oryza sativa*) gains significantly from glyphosate tolerance genes, even when

glyphosate is not applied. This suggests that gene transfer from GM crops could affect wild habitats, including where the herbicide is not used, because GM hybrids are more robust and better adapted than the wild equivalent. The researchers crossed a GM glyphosate resistant rice with a weedy relative and permitted the offspring to interbreed. The GM hybrids in that second generation had, among other things, higher rates of photosynthesis, more shoots and flowers and 48-125% more seeds per plant, including when glyphosate is not sprayed. The study also has implications for the assessment, authorisation and regulation of GM crops.

India

In July the Technical Expert Committee appointed by the Supreme Court (the TEC) recommended an indefinite moratorium on GM field trials until the Government enacts a regulatory and safety regime and a ban on introducing GM varieties into regions of origin for the parent plants involved. The committee also rejected the introduction of herbicide tolerant crops on the grounds they would have “highly adverse impacts” over time on sustainable agriculture, rural livelihoods and the environment saying, “The TEC finds them completely unsuitable in the Indian context.” The report will go to the Court itself for consideration and possible acceptance. Influential activist Aruna Rodrigues wrote, “The TEC Final Report is the fourth official report which exposes the lack of integrity, independence and scientific expertise in assessing GMO risk. It is the third official report barring GM crops or their field trials singularly or collectively,” adding that conflicts of interest in regulatory bodies “makes sound and rigorous regulation of GMOs all but impossible”.

Japan

In July the Health Ministry announced it found unauthorised GM papayas from Thailand on sale in Hiroshima Prefecture in violation of food sanitation law. The municipal Government ordered a recall of the papayas and the Ministry is monitoring Thai papaya imports.

New Zealand

In July a new study lead by Professor Jack Heinemann of the University of Canterbury fundamentally undermined the theory that

“This is one of the most clear examples of extremely plausible damaging effects [of GM crops] on the environment.” *University of Birmingham plant geneticist on rice study findings*

“We found that the combination of non-GM seed and management practices used by Western Europe is increasing corn yields faster than the use of the GM-led package chosen by the US.”

Professor Jack Heinemann on the findings of his recent study

“Why did we impose the moratorium on GMOs? Not because we do not want progress, but in the name of progress.”

President Hollande extending the French ban on cultivating MON810

GM crops improve agricultural production. Researchers compared 50 years of crop production in the North America and the EU and found that the GM strategy adopted in North America has widened the yield gaps favouring the EU as well as increasing US pesticide use compared to non-GM farming in Western Europe. Prof Heinemann said, “Europe has learned to grow more food per hectare and use fewer chemicals in the process. The American choices in biotechnology are causing it to fall behind Europe in productivity and sustainability.” Prof Heinemann, who was also a lead author of the landmark 2009 International Assessment of Agriculture Knowledge Science and Technology, added that the study showed a decrease in annual variation in yield, which he said, “[S]uggests that Europe has a superior combination of seed and crop management technology and is better suited to withstand weather variations. This is important because annual variations cause price speculations that can drive hundreds of millions of people into food poverty.”

Europe

France

In July the Department of Ecology called for the creation of a consortium “to investigate the health effects of long-term consumption of GMOs”. The Ministry will fund the consortium with €2.5 million and cited CRIIGEN’s work on the health effects of GM maize NK603. (TI 30) The EC is also planning a two-year study on similar lines, and a comparison of the results will be interesting.

Also in July the National Institute of Agronomic Research halted the last remaining GM field trial in the country and destroyed 1,000 GM poplars growing since 1995 after the required authorisation for the trial elapsed and was not renewed by the Government.

In August the country’s top administrative court lifted the ban on cultivating Monsanto’s GM MON810 maize, in place since 2012, saying the ban had “little legal basis”.

Agriculture Minister Stephane Le Foll said that nevertheless the Government “is not in favour of GM, especially MON810”, suggesting other measures would be enacted to secure the ban. President Hollande said France would seek to “legally secure this decision at the national level and especially at the European level”.

Germany

In September TestBiotech reported that the spread of GM oilseed rape is now out of control in Canada, the US, Japan, Australia and parts of the EU. The report said that in some cases the transgenes have moved into wild plant populations making their removal next to impossible. It also said it found GM DNA in the environment that has never been authorised for release. TestBiotech’s Christoph Then said, “What we are observing is a lack of accepting responsibility, especially on the part of industry.”

Hungary

In September a study published by PLoS ONE disproved the working assumption that large molecules in food are degraded during

digestion so cannot pass directly to the circulatory system. The study analysed over 1,000 human samples from four independent studies and found, “[M]eal-derived DNA fragments which are large enough to carry complete genes can avoid degradation and through an unknown mechanism enter the human circulation system. In one of the blood samples the relative concentration of plant DNA is higher than the human DNA.” How this will affect GM safety assessments, existing authorisations and labelling of GM-fed animal products remains to be seen.

Italy

In June the Agriculture Minister said she will move to ban GM cultivation, and the Health Minister gave her “full support” to finding a legal means to enact a ban. Italy is the EU’s second largest organic producer, and fourth largest globally, so there is considerable concern about GM contamination.

Agricultural organization Coldiretti reported that 76% of Italians opposed GMOs – a 14% rise on last year’s figure – and 16 of the country’s 20 regions have declared themselves GM-free.

Netherlands

In June Rotterdam, one of the EU’s largest ports for GM imports, banned Monsanto’s best-selling but controversial herbicide Roundup (active ingredient glyphosate) under pressure from a public campaign called “Non-toxic Sidewalks for Our Children”. The move is welcome, but the EU reliance on imported GM to fuel factory farmed meat and eggs must be tackled to end the effective export of the damage caused by our production of cheap meat.

EU AUTHORISATION NEWS

- In June Pioneer withdrew its import application for its DuPont collaboration GM herbicide tolerant maize 98140. The move followed the EFSA statement in April that it “could not conclude” its work to assess the safety of the crop because “the application did not meet all the minimum standards set out by the Authority’s guidance document”.
- In August, following Monsanto’s announced plan to withdraw from the authorisation process in the EU (TI 30), the company formally withdrew at least four GM maize applications (MON89034, NK603 x MON810, MON89034 x NK603, MON89034 x MON88017). Pending applications for other GM maize products appear to still be valid, as do applications for GM soy and sugar beet products.
- In June EFSA said it was unable to complete a safety assessment of Syngenta’s GM maize 3272 designed to enhance ethanol production because the application “did not meet a number of minimum standards set out in EFSA’s guidance documents [and] the comparative assessment of GM maize 3272 performed by the applicant was inadequate due to a lack of data”.
- In July the vote on Monsanto’s application for import authorisation of its GM SmartStax maize did not achieve the qualified majority required to authorise the crop. SmartStax produces six different toxins to repel pests and is also resistant to glyphosate and glufosinate. The UK voted in favour of authorisation. The appeal committee also failed to approve the dossier, so the Commission will decide.

GM tug of war in Ghana

In July the Director of the Ministry of Environment, Science and Technology announced four GM field trials during a presentation at a meeting organised by the US Embassy.

Proponents of GM crop cultivation are making many familiar promises and presentations of GM as an agricultural *fait accompli*. The Council for Scientific and Industrial Research (CSIR) is among the pro-GM forces. Dr Margaret Ottah Atikpo of CSIR claims that if the GM rice trials are successful Ghana will be able to grow rice that is nitrogen and water efficient and salt tolerant, saying, "So that where the soils are poor, it doesn't matter, it is supposed to thrive. You can grow it where you don't have swamps and even where there is salt in the soil you can grow it." It is unclear what GM variety is being tested, but this is a big claim for one trial.

Dr Emmanuel Chamba, Plant Breeder and Principal Investigator for Bt Cotton research at CSIR, explained to a "media training and sensitisation workshop" that cotton is a key cash crop constrained by pests that Bt cotton would control. He told an interviewer, "We are able to eliminate this group of insect pests, and as a result of that we no longer do about six to eight times spraying during the growing season but only two." How long this will remain the case is unknown given the rise of Bt resistance in pests in other parts of the world.

CSIR researcher Dr Stephen Amoah said that agricultural production is held back by a variety of hindrances saying, "Increased agricultural production cannot come from area expansion since land is a limited resource. Neither can it come from any significant expansion in irrigated area due to competition for water with urban demand and rising environmental problems. There is therefore the need to embrace new technology that will enable us to increase production on limited land area with limited water supply... This can be achieved largely through genetic improvement and adoption of improved agronomic practices." It worth remembering that a growing number of non-GM "genetically improved" crops already deliver while GM makes promises for the future.

Ghanaian civil society remains unconvinced. Food Sovereignty Ghana says, "GMOs have not contributed to major yield increases, nor drought resistance, and have generated superweeds and superbugs that require increased use of even more dangerous herbicides and pesticides." The group

There is huge potential to increase yields using low-cost and existing technologies.

also says, "Our call for a moratorium on GM foods was met with an invitation to a closed-door discussion... We are deeply worried about what seems like an imposition of genetically modified foods on the good people of Ghana without any meaningful public discourse, compounded by attempts to stifle any opposition."

Campaigners say GM trials are illegal and that the US is pressing Ghana to adopt a technology its regulatory system is not prepared to manage. Leaked US Government cables revealed both technical assistance and funding from USAID, and that biotech products are on sale in Ghana while GM seed is likely to be coming into the country uncontrolled across borders (as happened in Brazil before GM was legal there). US companies are applying to conduct trials, but campaigners point out that the

law requires trials to be authorised by the National Biosafety Authority, which does not yet exist. MP Maxwell Kofi Jumah recently admitted that Ministers don't understand the issues involved.

Others do understand. The President of the International Fund for Agricultural Development said, "There is huge potential to increase yields using low-cost and existing technologies... Post-harvest grain losses in sub-Saharan Africa average US\$4bn every year. This is food that could meet the nutritional needs of around 48 million people."

Food Sovereignty Ghana challenges the basis for Ghana's biosafety legislation saying, "There is clear evidence that it is a creation based on aggressive guidance from the US Government and the US Embassy... With the influence of the powerful biotechnology lobbies, the US embassies across the world have taken up the key economic task to open markets for the giant corporations who also are major funders of the US political class." The group adds, "Agribusiness has created an agro-export economy for commodities and primary goods to satisfy the needs of global markets... This may generate export earnings for politicians, and profits for the companies, but this is an extractive model of production, which has destroyed the livelihoods, peace and well-being of rural communities... Is this our vision of a "modern" Ghana? Is this the future for agriculture that we want?"

These seem like entirely reasonable, and familiar, questions.

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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