



•Fortnightly Bulletin on Genetic Engineering South Against Genetic Engineering (SAGE)

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Friends of Earth: GM CROPS FAIL TO DELIVER - NEW REPORT

Environmentally-friendly farming will create more jobs and make the EU more competitive than if it grows genetically modified (GM) crops, shows new research published today by Friends of the Earth. The research comes at a crucial time in the EU's review of its Biotechnology Strategy and coincides with the expected withdrawal later today of a European Parliament Resolution that promotes GM crops. MEPs are requesting that the report be rewritten because it attacks the precautionary principle and ignores research showing that GM food and farming has not lived up to expectations.

Today's report launched by Friends of the Earth [2] highlights:

- A lack of official data on how badly the agri-biotechnology sector is performing despite high levels of public funding and high political priority in key EU areas such as Enterprise and Research. After 25 years of public EU funding for research, only two GM traits have ever been commercialised on any significant scale.

- Evidence of increased social cohesion, rapid growth and job creation in the environmentally-friendly farming and food sector, for example in organics; compared with virtually no jobs, de-investment and lack of profits by companies developing GM crops and foods.

•logo courtesy- JIGMOD

- The sidelining of greener farming due to political support for GM crops and foods, despite its better economic performance and environmental credentials such as using less energy, less water and fewer pesticides.

- The threat of economic damage to green farming and food production from contamination by GM crops

Friends of the Earth's Food Campaigner Kirtana Chandrasekaran said:

"GM farming is failing despite the hype, public funding and political will. Greener food production, like organic, stimulates the economy, benefits the environment and is in huge public demand."

"Environmentally-friendly agriculture is not only being sidelined in the doomed quest for a biotechnology solution, it is under threat due to the risks of contamination from GM crops. If we want to develop a competitive and dynamic economy in the UK and Europe politicians should shelve the idea of GM foods and put tax-payers money behind green farming methods, which have been shown to deliver."

The report comes as the EU is preparing new targets for biotechnology as part of the mid-term review of its Biotech Strategy, which will be adopted by the EU Competitiveness Council in June. Friends of the Earth believes that it is economically unjustified to further promote GM crops and foods and that this must be recognised in the revised EU Biotech Strategy.

http://www.foe.co.uk/resource/press_releases/gm_crops_fail_to_deliver_n_14032007.html

Tamil Nadu: PMK opposes use of genetically modified seeds

Chennai, March 02: The PMK, an ally of the ruling DMK in Tamil Nadu, on Friday urged the government to ensure that Genetically Modified (GM) seeds were not used in the state and asked the farmers to resist moves to put them in use.

Inaugurating an awareness yatra against GM seeds, organised by 'Pasumai Thayagam', an environment protection organisation here, PMK founder Ramadoss said "Farmers should fight against moves to make use of genetically modified seeds sold by multinational companies".

He assured his full support to the campaign against the "artificial seeds" and said the nation's natural wealth should be protected. He alleged that "self-seeking" scientists, bureaucrats and politicians were promoting "such dangerous" farm inputs.

Ramadoss said his party was against take over of farmers' land for any purpose, including creation of Special Economic Zones, and urged farmers also to oppose such moves.

The lands of some farmers of Tamil Nadu who had used GM seeds, have been "affected", he said without giving further clarification. He appealed to the State government to provide compensation for them.

State Agriculture Minister S Arumugham, in a recent address to the Assembly, had said the decision on whether to use GM seeds or not depended upon the opinion of scientists.

<http://www.chennaionline.com/colnews/newsitem.asp?NEWSID=%7B99A291F5-C36F-4CC5-89F5-8143BC5FF82C%7D&CATEGORYNAME=CHN>

New Zeland: 1820 Sheep died grazing on the harvested GE cotton land. Even wearing GE Cotton could cause terrible skin reactions.

The latest studies on GE Cotton farming have raised grave concerns about the safety of GE cotton which is widely used in food as well as in clothing.

A preliminary report released in late April has found that thousands of sheep died after grazing on land where GE cotton had been grown. The sheep and goats started dying after seven days of continuously grazing on tender leaves and pods of Bt cotton that remained in the fields after picking.

The incident comes to light just as Food Standards Australia New Zealand (FSANZ) is considering submissions for approval of GE Cotton seed and oil for use in animal feed and the human food chain. But there is concern that the latest research findings may never be considered by the authorities as the data have been released after the closing date for submissions, and because late submissions are not accepted.

"New findings must be considered fully by the FSANZ as the dire effects reported in this research could go unheeded. After 10 years, we still have no diagnostic tools to assess possible reactions to GE food", says Claire Bleakley of GE Free (NZ) in food and Environment, "GE cotton should be properly tested on animals and humans for safety, but so far it has not."

In December a three month study was released which found that workers picking GE cotton suffered severe skin reactions with itching and blistery eruptions leaving a black skin discolouration which was still apparent after 5 months.

The health of workers must be protected, and also people who buy cotton garments and products made from cotton, like sanitary towels, must be made aware of the possible skin irritations that they may experience.

The British Medical Association has already signalled that GE products could present certain risks, including the creation of drug-resistance in venereal disease as a result of women being exposed to GE constructs in personal hygiene products.

"It is important that cotton products are properly labelled if it has been made from GE cotton fibre" says Ms Bleakley. "Until this happens buyers must seek assurances as to the source of the cotton, or seek to avoid buying products made with cotton from India."

Further, GE Cotton crops have failed in regions of India with many suicides resulting because of the debt accrued from the high cost of growing GE cotton. This has prompted the Indian Genetic Engineering Approval Committee (GEAC) to concede after three years of commercial cultivation

that Mahyco-Monsanto's Mech-184 Bt, Mech-162 Bt and Mech-12 Bt are a failure. These varieties were banned for commercial cultivation in Andhra Pradesh and Mech-12 Bt was banned for cultivation in the entire south of India.

"The dangers of GE organisms in the food chain and the environment are becoming apparent. All government agencies and commercial interests must take these warnings seriously before it is too late", says Ms Bleakley.

<http://www.gefree.org.nz/press/009052006.htm>

Threat: Vanishing bees threatens US crop

It is officially called Colony Collapse Disorder, but a more pithy way of describing it would be Vanishing Bee Syndrome.

All over America, beekeepers are opening up their hives in preparation for the spring pollination season, only to find that their bees are dead or have disappeared.

Nobody, so far, knows why.

The sad mystery surrounding the humble honeybee - which is a vital component in \$14bn-worth of US agriculture - is beginning to worry even the highest strata of the political class in Washington.

"Hillary Clinton's got interested in this in the last week or so," said David Hackenberg, the beekeeper leading the drive to publicise their plight.

"And she's not alone," he said. "There's a lot of Congressmen have called...wanting to know what's going on. It's serious.

"It's not just affecting the beekeepers, it's affecting the farmers that produce the food, and in the end it's going to affect the consumer," he added, sighing deeply.

What makes our interview slightly surreal is that we are standing next to an orange grove, in rural Florida, while about 70 hives of bees buzz angrily behind us, as if to emphasise their predicament.

Mr Hackenberg is suffering along with his bees. Like many in his rather neglected profession, he and his son spend the summer and autumn in the north of the country, driving their bees down south during the winter, to kick-start the early fruit and vegetable crops.

In a matter of weeks, he lost just over 2,000 of his 3,000 hives. The yard of his small honey farm near Tampa Bay, is littered with empty boxes, which normally would be full of worker bees, doing what they do best.

As we speak, his mobile phone chirps constantly, with yet more beekeepers across the US, reporting losses of up to 95%.

Pesticides?

Federal scientists, the National Beekeepers Association and state researchers have come together to form an emergency working group to try and halt the disastrous trend.

There are as many theories as there are members of the panel, but Mr Hackenberg strongly suspects that new breeds of nicotine-based pesticides are to blame.

"It may be that the honeybee has become the victim of these insecticides that are meant for other pests," he said. "If we don't figure this out real quick, it's going to wipe out our food supply."

Just a few miles down the sunlit road, it is easy to find farmers prepared to agree with his gloomy assessment.

In the old days, crops would be pollinated by bees living in the woods around the fertile fields, but housing developers have gobbled up much of the natural habitat, according to Carl Grooms, who runs Fancy Farms Inc.

"The squash crops that we grow have a male and female bloom, and the bee has to visit...to make it pollinate and produce," he said.

"We're going to have a hard time finding rental bees to aid in this pollination and if it's as critical as it looks like it will be, I probably won't even plant anything this spring."

Back at the Buffy Bee honey farm - the Hackenberg's Florida base - two members from the working group checked in to pay their respects, and take some bee samples on their way back to Washington.

Crazy theories

Dennis van Engelsdorp, a Pennsylvania-based beekeeper and leading researcher, walks over to an isolated group of hives, and pulls out two different wooden frames that would normally be covered in bees, busy making honey.

The difference is obvious. While one is teeming with insects, the other is virtually uninhabited. "The adult population totally disappears," he said. He shakes his head in frustration.

He runs through the long list of possible causes, ranging from new mite infestation to new chemicals, but he is adamant that it is too early to pin the blame on insecticides.

"We have no evidence to think that that theory is more right than any other...There's stronger evidence for some other things really," he said.

He points to the fact that the Colony Collapse Disorder is inconsistent even within localised regions. Some beekeepers have managed to retain completely healthy hives.

His caution is backed up by Nathan Rice, from the Department of Agriculture's bee research laboratory.

"While there is a lot of this crazy guessing going on, people get kind of concerned," he said. "We're here to try to figure out why it's happening."

Future fears

The sensitivity of the beekeepers themselves is easy to understand. For the Hackenbergs, their livelihood is at stake, not to mention the millions of bees that have died.

David Hackenberg's son, Davey, 35, is angry and frustrated that there are no answers yet. "We're working hard at it every day, and we're going to keep working hard until the bank comes and says, 'hey, we're taking the place,'" he says with a defiant edge.

As a father of four, he thinks that the time may have come to get out of the bee business.

Tales abound around the Hackenberg breakfast table of beekeepers who have already given up after a calamitous few months trying to pollinate the huge almond crop in California.

Some bankrupt beekeepers do not have the money to get themselves home, let alone their equipment.

A bumper-sticker on one of the family trucks shows support for the Bush-Cheney ticket in the 2004 election, but Davey is now wondering whether anywhere near enough has been done by governments - and everybody else - to keep his fragile industry and environment going.

<http://news.bbc.co.uk/go/pr/fr/-/1/hi/world/americas/6438373.stm>

Danger: Beans with human genes*

THE ongoing controversy over genetically modified food is set to explode again, with news that the first GM food crop containing human genes is likely to be approved for commercial production.

The laboratory-created rice produces some of the human proteins found in breast milk and saliva.

Its US developers say they could be used to treat children with diarrhoea, a major killer in the Third World.

The rice is a major step in so-called Frankenstein Foods, the first mingling of human-origin genes and those from plants. But the US Department of Agriculture has already signalled it plans to allow commercial cultivation.

The rice's producers, California-based Ventria Bioscience, have been given preliminary approval to grow it on more than 3,000 acres in Kansas. The company plans to harvest the proteins and use them in drinks, desserts, yoghurts and muesli bars.

The news provoked horror among GM critics and consumer groups on both sides of the Atlantic.

GeneWatch UK, which monitors new GM foods, described it as "very disturbing".

Researcher Becky Price warned: "There are huge, huge health risks and people should rightly be concerned about this."

Friends of the Earth campaigner Clare Oxborrow said: "Using food crops and fields as glorified drug factories is a very worrying development.

"If these pharmaceutical crops end up on consumers' plates, the consequences for our health could be devastating.

"The biotech industry has already failed to prevent experimental GM rice contaminating the food chain.

"The Government must urge the US to ban the production of drugs in food crops. It must also introduce tough measures to prevent illegal GM crops contaminating our food and ensure that biotech companies are liable for any damage their products cause."

In the US, the Union of Concerned Scientists, a policy advocacy group, warned: "It is unwise to produce drugs in plants outdoors.

"There would be little control over the doses people might get exposed to, and some might be allergic to the proteins."

The American Consumers Union and the Washingtonbased Centre for Food Safety also oppose Ventria's plans.

As well as the contamination fears there are serious ethical concerns about such a fundamental interference with the building blocks of life.

Yet there is no legal means for Britain and Europe to ban such products on ethical grounds.

Imports would have to be accepted once they had gone through a scientific safety assessment.

The development is what many people feared when, ten years ago, food scientists showed what was possible by inserting copies of fish genes from the flounder into tomatoes, to help them withstand frost.

Ventria has produced three varieties of the rice, each with a different human-origin gene that makes the plants produce one of three human proteins.

Two - lactoferrin and lysozyme - are bacteria-fighting compounds found in breast milk and saliva.

The genes, cultivated and copied in a laboratory to produce a synthetic version, are carried into embryonic rice plants inside bacteria.

Until now, plants with human-origin genes have been restricted to small test plots.

Ventria originally planned to grow the rice in southern Missouri but the brewer Anheuser-Busch, a huge buyer of rice, threatened to boycott the state amid concern over contamination and consumer reaction.

Now the USDA, saying the rice poses "virtually no risk". has given preliminary approval for it to be grown in Kansas, which has no commercial rice farms.

Ventria will also use dedicated equipment, storage and processing facilities supposed to prevent seeds from mixing with other crops.

The company says food products using the rice proteins could help save many of the two million children a year who die from diarrhoea and the resulting dehydration and complications.

A recent study in Peru, sponsored by Ventria, showed that children with severe diarrhoea recovered a day and a half faster if the salty fluids they were prescribed included the proteins.

The rice could also be a huge money-spinner in the Western world, with parents being told it will help their children get over unpleasant stomach bugs more quickly.

Ventria chief executive Scott Deeter said last night: "We have a product here that can help children get better faster."

He said any concerns about safety and contamination were "based on perception, not reality" given all the precautions the company was taking.

Mr Deeter said production in plants was far cheaper than other methods, which should help make the therapy affordable in the developing world.

He said: "Plants are phenomenal factories. Our raw materials are the sun, soil and water."

<http://www.news.com.au/dailytelegraph/story/0,22049,21334620-5006007,00.html#>

****Please read the enclosed press release by Friends of Earth.****

Study: GMO corn causes liver, kidney problems in rats

PARIS -Environmental group Greenpeace launched a fresh attack on genetically modified maize developed by U.S. biotech giant Monsanto, saying on Tuesday that rats fed on one version developed liver and kidney problems.

Greenpeace said a study it had commissioned that was published in the journal Archives of Environmental Contamination and Technology showed rats fed for 90 days on Monsanto's MON863 maize showed "signs of toxicity" in the liver and kidneys.

"It is the first time that independent research, published in a peer-reviewed journal, has proved that a GMO authorized for human consumption presents signs of toxicity," Arnaud Apoteker, a spokesman for Greenpeace France said in a statement.

Campaigners against Genetically Modified Organisms (GMO) say that genetic modification technology is unproven and potentially dangerous and that GMO crops can contaminate other crops.

The industry says the technology offers vast potential benefits, poses no health risk and has never been shown to contaminate other crops.

"All the experts agree that the maize in question is as safe as traditional maize," Yann Fichet, director external relations for Monsanto France told France's TF1 television.

He said the maize had been authorized in more than 10 countries and in the European Union but he declined to comment specifically on the allegations raised by Greenpeace.

MON863 is a form of maize genetically modified to make it resistant to corn rootworm. It has been authorized by the European Union for use in animal feed since 2005 and for human consumption since January 2006.

http://today.reuters.com/news/articlenews.aspx?type=healthNews&storyID=2007-03-13T225121Z_01_L13468400_RTRUKOC_0_US-MONSANTO-GREENPEACE.xml&WTmodLoc=NewsHome-C3-healthNews-3

Press Release: Warning over GM drug crops - as US prepares to allow GM rice with human DNA

Friends of the Earth is calling for the production of drugs in food crops grown outside to be banned after the US Department of Agriculture (USDA) gave preliminary approval to the commercial production of GM pharmaceutical rice containing human genes. The environmental campaign group warned of the potentially devastating consequences if pharmaceutical crops end up on consumers' plates.

The warning comes as US authorities have confirmed that a third GM rice contamination incident in less than a year has hit the United States. In the latest incident a type of non-GM long grain rice (known as Clearfield CL131, produced by BASF) was found to contain unknown GM

contamination. The USDA has stepped in to stop rice farmers planting the variety because of the likelihood that the GM trait is unapproved.

Last week, US authorities confirmed that Clearfield CL131 had also been contaminated by GM LL62 rice - produced by biotech company Bayer CropScience. Because this rice is legal in the US, farmers had decided to plant the variety this spring because of a shortage of seed. This follows the initial contamination incident with Bayer's LL601 rice which affected long grain rice exported around the world, including the UK.

Friends of the Earth's GM campaigner, Clare Oxborrow, said:

"This latest GM contamination incident should set alarm bells ringing about the dangers of allowing GM pharmaceutical crops to be grown. Using food crops and fields as glorified drug factories is deeply worrying. The biotech industry has repeatedly failed to prevent experimental GM rice contaminating food crops. If pharmaceutical crops end up on consumers' plates, the consequences for our health could be devastating."

"The UK Government must urge the US to ban the production of drugs in food crops grown outside. It must also introduce tough measures to prevent illegal GM crops contaminating our food and ensure that biotech companies are liable for any damage their products cause."

http://www.foe.co.uk/resource/press_releases/warning_over_gm_drug_crops_06032007.html

Food for thought, **Russia joins the battle over GM products**

MOSCOW (RIA Novosti) -- On July 1, the city of Moscow will introduce a voluntary system of food labels indicating that a product does not contain genetically modified (GM) ingredients.

Europe has recently been engaged in a battle with the World Trade Organization (WTO), which, taking its cue from the United States, Canada and Argentina, considers the European Union's moratorium on GM products illegal.

Meanwhile, Europeans have been collecting signatures and protesting against GM foods.

In the United States, a lawsuit was filed against the Department of Agriculture after it legalized the commercial production of genetically modified alfalfa sprouts. The court found the agency's actions illegal.

All these events, which involve environmental, agricultural, social and political issues, unfolded during the month of February, highlighting the high profile taken on by the GM controversy.

Nevertheless, it would be naive to expect the world to adopt a unified stance on the issue.

In 2000, 828 scientists from 84 countries signed an open letter to the world's governments warning them of the hazards of GM foods. Environmental organizations demanded that the UN declare a moratorium on GM products.

Arguments in favor of GM foods, high crop yields, resistance to diseases, insects and harsh weather, and their low price (they tend to cost 20-30% less than traditional foods), have also been widely challenged, though without hard evidence.

Environmentalists say that GM foods will not solve the problem of world hunger, but they will bankrupt small farmers.

Some biologists believe that GM foods can have a negative effect on the gene pool and reduce biological diversity.

Vladimir Kuznetsov, head of the Institute of Plant Physiology at the Russian Academy of Sciences, said that GM foods are dangerous because they are unpredictable.

"Scientists do not know what effect they will have on the human body in the long term," he said. Research is being conducted on GM foods' effects on human health, particularly those that may trigger allergic reactions, but not all of the results have been made public. There is much debate but few facts. One thing is certain; the GM industry will continue to grow. But by how much?

In January, at the Council on Human Rights Policy in the Kremlin, Natalya Olefirenko, a Greenpeace Russia representative, said that in most Russian regions GM products account for 10-20% of the market. In some cities without sufficient controls in place, the figure is 50%.

In recent years, imports of GM foods have increased by more than 100 times.

The main GM crops are soybeans, potatoes, corn, sugar beets and oilseed rape.

By law, products that contain more than 0.9% GM ingredients must be labeled, but in practice this rule is often ignored.

Meanwhile, according to an All-Russia Public Opinion Research Center poll, 95% of Russians who have heard of GM foods would not buy them if the products were labeled as such. Consumers, however, are still not able to exercise their right to choose.

Russian bioengineers, among them Konstantin Skryabin, director of the Bioengineering Center at the Russian Academy of Sciences, believe that GM foods "won't get out of the laboratory until they are thoroughly tested.

Meanwhile, Russia, with its noncompetitive agricultural market, has to move faster to grow and popularize GM crops." He added that the GM issue has more to do with business than with science.

Russia's President Vladimir Putin holds a different view. "With our entry into the WTO, certain issues have to be addressed," he said in January. "American and Canadian products, which are, as a rule, genetically modified, are competing on the world agricultural market." He added, "...we can use Europe's experience" and "...we must inform people about the hazards of GM products."

Putin proposed to set up a council to regulate GM food.

Europe uses diverse methods to combat GM products, including the destruction of genetically modified crop fields in France, passing laws that limit the possibilities of growing GM crops in Germany, banning GM versions of local and protected crops in Bulgaria, or banning all GM products in Poland. The end result of all this is the creation of GM-free zones.

Russia is following Europe's example.

The city of Moscow and the Belgorod Region are leaders in this process. The idea of creating GM-free zones is being discussed in the Volgograd, Kostroma, Murmansk, Ryazan, Sverdlovsk and Ulyanovsk regions.

Moscow's law stipulates that all agricultural raw materials or food that is brought to the city through an organized supply system must contain information about their GM ingredients.

It is illegal to use budgetary funds to buy GM children's food.

Following an inspection of their food, producers will have the right, valid for one year, to put the label "This product does not contain genetically modified ingredients" on any kind of product. As much as 50 million rubles (\$1.9 million) will be set aside to purchase special equipment. The media will inform the public about producers that sell GM products but do not tell consumers.

So while bioengineers complain about a campaign to discredit GM foods, their opponents are demanding a moratorium to give researchers time to study their medical and biological effects. In the meantime, consumers are trying to make sense of all that is being said about GM foods.

<http://www.tehrantimes.com/Description.asp?Da=3/6/2007&Cat=9&Num=12>

This fortnightly bulletin is brought out by South Against Genetic Engineering (SAGE), a coalition of civil society activists, farmers, scientists, academicians, and consumer groups of four Southern States of India, viz., Andhra Pradesh, Karnataka, Tamil Nadu and Maharashtra. SAGE has been waging a concerted battle against genetic engineering through a series of activities that involve public protests, media actions, seminars, consultations and publication of a series of education.

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