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on Genetic Engineering

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SAGE CHRONICLE

SAGE SAMVADA, Mysore

An effort is on to file a writ of mandamus in the High Court of Karnataka, to compel the Karnataka Agriculture Department and Seed Corporation of Karnataka to supply quality cotton seeds in time to farmers in HD Kote taluk of Mysore District, which is a major cotton growing area.

At Saragur, SAGE SAMVADA had interactive session with Bt cotton farmers. The dangers of BT cotton were explained to them. It was noticed that most of them had very little idea about Bt crops, to help them understand the harms of Bt crops, copies of FAQ on GE in Kannada were distributed.

SAGE Tamilnadu

During the month of May 2011, GM opposition day was observed in 3 member organization areas of SAGE Tamil Nadu. Kudumbam organized it on 7th May 2011 at Thirumaiganam village of Nappattinam District. Create organized the event on 13th May 2011 at the Chambers of Commerce in Thiruvarur and Vanagam organized it on 26th of May 2011 at Salam district. Around 150 participants, consisting of farmers, consumers, NGOs and general public participated and observed the GM opposition day. All the farmers expressed the need for an alternative, community-managed agriculture and seed support system to challenge the threats of GM seeds and technologies. At Kudumbam, the participants decided to establish a Readers' Forum at their village level to create more awareness among farmers on GE issues. Hence, they asked SAGE to supply information on GM so that they raise this issue at their panchayats.

NATIONAL

The truth behind GM crops

May 31, 2011 11:31 IST

Indian plant biotechnologists feel demoralised and displeased at the recent developments concerning genetically modified (GM) crops.

Their dismay is chiefly because the indefinite moratorium on the release of genetically engineered Bt-brinjal has clouded the prospects for several other GM crops that are in the pipeline.

Intensive scientific effort and heavy investments have gone into the development of these crops. Their displeasure is largely because the present opposition to the GM technology is based chiefly on misconceived apprehensions and not on proven facts.

A good deal of disinformation has been doled out to the unwary public on GM crops by detractors of biotech products.

By thwarting the gainful application of biotechnology, these activists are curtailing the technology options available to farm scientists to ensure that agricultural growth keeps pace with increasing demand.

Failure on this front will result in widespread shortages of farm goods, high prices and public distress.

It is unfortunate that a section of politicians holding policy-making positions are disregarding peer-reviewed scientific opinion on GM crops and are, instead, falling for disputable dissenting viewpoints.

Moreover, the logic-based explanations offered by the scientific community on GM technology and its potential to empower agriculture to meet the future needs of food, fuel and fibre are invariably drowned by the anti-GM din raised by environment and health activists.

Realising this, some local and transnational agricultural research promotion bodies have come forward to disseminate accurate and unbiased information on GM technology.

As a first step, a "stakeholders interface on GM food crops" was organised in Delhi [Images] last week by the Asia-Pacific Consortium on Agricultural Biotechnology (APCoAB) and the Trust for Advancement of Agricultural Sciences (TAAS).

This meet was attended by several well-regarded agricultural scientists, biotechnologists, policy makers, biosafety experts, non-governmental organisations (NGOs), representatives of the seed sector and, most importantly, farmers who have already used transgenic Bt-cotton hybrids with spectacular results.

The consensus among the stakeholders was that clearing misconceptions on this count was necessary to safeguard farmers' interests and to prepare for the formidable challenge of ensuring sustainable food security.

The green revolution of the 1960s became possible because of unflinching public and political support and policy backing for the new technology.

Had that technology faced this kind of resistance from the activists, the green revolution would never have materialized.

Unless similar public, political and policy support is forthcoming again for the promotion of the contemporary state-of-the-art technology, the much-needed second green revolution may remain elusive.

It may be recalled that when approval to Bt-brinjal was withheld, an impression was created that the noted farm expert, M S Swaminathan, was opposed to GM technology.

This is far from true, as is clear from the message he sent for circulation at the stakeholders' conference.

He wrote, "Bt-brinjal need not be banned, but there should be caution that one or two hybrids do not replace hundreds of native varieties which all have distinct quality characters."

Besides, he suggested that studies should be carried out on the chronic effects of consuming Bt brinjal throughout one's life.

He also argued for putting in place a system of testing environmental and health aspects of the GM products of the kind that exists in the US.

That country has three different public agencies to examine transgenic crops against any adverse impact on human health, biodiversity and the environment.

Surprisingly, instead of revamping the GM crop-testing infrastructure and procedure, the government has chosen to thwart the very evolution of GM seeds.

The Biotechnology Regulatory Authority of India [Images] Bill, which seeks to set up a competent and autonomous regulator for safety assessment and approval of biotech products, has for long been awaiting Parliamentary approval, for lack of any initiative by the government to expedite it.

Worse, even the existing Genetic Engineering Approval Committee (GEAC) has been made redundant with the environment minister usurping the power for approval of such crops, overruling GEAC decisions. This is truly bizarre.

Experts favour limited release of Bt brinjal

Thursday, May 26, 2011
By K.V. Kurmanath

The Bt brinjal issue refuses to die. Several experts participating in a Genetic Engineering Approval Committee (GEAC) meeting have favoured "limited release of Bt (brinjal) seeds to identified farmers under strict supervision".

Though this is not the last word on the issue, non-governmental organisations opposing introduction of Bt technology in food crops, say this stand could lead to dangerous consequences.

In a recent special meeting convened as a follow-up to last year's stormy Public Hearing on Bt brinjal, experts discussed additional studies to assess the safety of Bt food crops. Most experts were of the view that studies prescribed under the current regulatory system and those conducted with Bt brinjal were adequate.

Dr P. M. Bhargava, noted scientist; Dr Ram Vishwakarma, Director of Indian Institute of Integrated Medicine (Jammu); and representatives of Ayush, however, opposed this view and called for additional studies.

"Cry1Ac protein has been used extensively in global agriculture and has gone through bio-safety clearances in so many countries. There should be no doubt about safety," minutes of the meeting said, quoting those who opposed additional studies.

Mr G. Ramanjaneyulu, Executive Director of Centre for Sustainable Agriculture, said Mr Jairam Ramesh, Union Minister of State for Environment, had asked GEAC to conduct the meeting to discuss additional studies on the subject.

"The idea is not to discount fears and turn down pleas for additional studies. The outcome of the meeting does not augur well and sounds dangerous. Any release, limited or otherwise, would contaminate," he said.

GEAC said it had asked the experts to send a half-page recommendation on the way forward. It would conduct another meeting in this regard.

Source: Business Line

AP raises Bt cotton prices

Hyderabad, May 21:

The Andhra Pradesh Government has affected a steep increase in the prices of Bt cotton hybrid seed for 2011-12.

The new price for a packet of 450 gm for Bt cotton-I will be Rs 830, up from Rs 650.

Similarly, in the case of Bt Cotton II, the price will be Rs 750/packet against the Rs 750 last year, according to a Government Order issued today.

Non-Bt hybrids will have a maximum sale price of Rs 500.

Andhra Pradesh has been at the forefront in determining a price consistently lower than that demanded by seed companies.

In the GO, the Government also considered the procurement cost payable to cottonseed growing farmers at Rs 290 for 450 gms, keeping in view the increase in labour and other input costs.

http://www.thehindubusinessline.com/industry-and-economy/agri-biz/article2038093.ece

GLOBAL

Dangerous Toxins From Genetically Modified Plants Found in Women and Fetuses***

by Jeffrey M. Smith

When U.S. regulators approved Monsanto's genetically modified "Bt" corn, they knew it would add a deadly poison into our food supply. That's what it was *designed* to do. The corn's DNA is equipped with a gene from soil bacteria called Bt (*Bacillus thuringiensis*) that produces the Bt-toxin. It's a pesticide; it breaks open the stomach of certain insects and kills them.

But Monsanto and the Environmental Protection Agency (EPA) swore up and down that it was only

insects that would be hurt. The Bt-toxin, they claimed, would be completely destroyed in the human digestive system and not have * any* impact on all of us trusting corn-eating consumers.

Oops. A study just proved them wrong.

Doctors at Sherbrooke University Hospital in Quebec found the corn's Bt-toxin in the blood of pregnant women and their babies, as well as in non-pregnant women. (Specifically, the toxin was identified in 93% of 30 pregnant women, 80% of umbilical blood in their babies, and 67% of 39 non-pregnant women.) The study has been accepted for publication in the peer reviewed journal *Reproductive Toxicology* <http://org2.democracyinaction.org/dia/track.jsp?v=2&c= t Z8 k MXR%2F%2Fp SmVS 0B4J965nbSYoLBXwhU>

According to the UK *Daily Mail*, this study, which "appears to blow a hole in" safety claims, "has triggered calls for a ban on imports and a total overhaul of the safety regime for genetically modified (GM) crops and food." Organizations from England to New Zealand are now calling for investigations and for GM crops to be halted due to the serious implications of this finding.

Links to allergies, auto-immune disease, and other disorders

There's already plenty of evidence that the Bt-toxin produced in GM corn and cotton plants is toxic to humans and mammals *and* triggers immune system responses. The fact that it flows through our blood supply, and that is passes through the placenta into fetuses, may help explain the rise in many disorders in the US since Bt crop varieties were first introduced in 1996.

In government-sponsored research in Italy, mice fed Monsanto's Bt corn showed a wide range of immune responses. Their elevated IgE and IgG antibodies, for example, are typically associated with allergies and infections. The mice had an increase in cytokines, which are associated with "allergic and inflammatory responses." The specific cytokines (interleukins) that were elevated are also higher in humans who suffer from a wide range of disorders, from arthritis and inflammatory bowel disease, to MS and cancer (see chart).

Elevated interleukins *Associations* IL-6 Rheumatoid arthritis, inflammatory bowel disease, osteoporosis, multiple sclerosis, various types of cancer (multiple myeloma and prostate cancer) IL-13 Allergy, allergic rhinitis, ALS (Lou Gehrig's disease) MIP-1b Autoimmune disease and colitis. IL-12p70 Inflammatory bowel disease, multiple sclerosis

The young mice in the study also had elevated T cells (gamma delta), which are increased in people with asthma, and in children with food allergies, juvenile arthritis, and connective tissue diseases. The Bt corn that was fed to these mice, MON 810, produced the same Bt-toxin that was found in the blood of women and fetuses.

When rats were fed another of Monsanto's Bt corn varieties called MON 863, their immune systems were also activated, showing higher numbers of basophils, lymphocytes, and white blood cells. These can indicate possible allergies, infections, toxins, and various disease states including cancer. There were also signs of toxicity in the liver and kidneys.

Natural Bt is dangerous

Farmers have used Bt-toxin from soil bacteria as a natural pesticide for years. But they *spray* it on plants, where it washes off and biodegrades in sunlight. The GM version is built-in; every plant cell has its own spray bottle. The toxin doesn't wash off; it's consumed. Furthermore, the plant-produced version of the poison is thousands of times more concentrated than the spray; is designed to be even more toxic; and has properties of known allergens—it actually *fails* the World Health Organization's allergen screening tests.

The biotech companies ignore the substantial difference between the GM toxin and the natural

bacteria version, and boldly claim that since the natural spray has a history of safe use in agriculture, it's therefore OK to put the poison directly into our food. But even this claim of safe use of Bt spray ignores peer-reviewed studies showing just the opposite.

When *natural* Bt-toxin was fed to mice, they had tissue damage, immune responses as powerful as cholera toxin, and even started reacting to other foods that were formerly harmless. Farm workers exposed to Bt also showed immune responses. The EPA's own expert Scientific Advisory Panel said that these mouse and farm worker studies "suggest that Bt proteins could act as antigenic and allergenic sources."But the EPA ignored the warnings. They also overlooked studies showing that about 500 people in Washington state and Vancouver showed allergic and flu-like symptoms when they were exposed to the spray when it was used to kill gypsy moths.

Bt cotton linked to human allergies, animal deaths

Indian farm workers are suffering from rashes and itching and other symptoms after coming into contact with Bt cotton.

Now thousands of Indian farm laborers are suffering from the same allergic and flu-like symptoms as those in the Pacific Northwest simply from handling genetically engineered cotton plants that produce Bt-toxin. According to reports and records from doctors, hospitals, and pharmacies, as well asnumerous investigative reports and case studies, workers are struggling with constant itching and rashes; some take antihistamines every day in order to go to work.

It gets worse.

All thirteen buffalo of a small Indian village died after grazing for a single day on Bt cotton plants.

When they allow livestock to graze on the Bt cotton plants after harvest, thousands of sheep, goats, and buffalo died. Numerous others got sick. I visited one village where for seven to eight years they allowed their buffalo to graze on natural cotton plants without incident. But on January 3rd, 2008, they allowed their 13 buffalo to graze on Bt cotton plants for the first time. After just one day's exposure, all died. The village also lost 26 goats and sheep.

One small study in Andhra Pradesh reported that all six sheep that grazed on Bt cotton plants died within a month, while the three controls fed atural cotton plants showed no adverse symptoms.

Living pesticide factories inside us?

Getting back to the Bt-toxin now circulating in the blood of North American adults and newborns—how did it get there? The study authors speculate that it was consumed in the normal diet of the Canadian middle class. They even suggest that the toxin may have come from eating meat from animals fed Bt corn—as most livestock are.

I'd like to speculate on another possible source. But I warn you, it's not pretty.

The only human feeding study every published on genetically modified organisms (GMOs) was conducted on Roundup Ready soybeans. Here's their back story: Scientists found bacteria growing in a chemical waste dump near their factory, surviving the presence of Monsanto's Roundup herbicide. The herbicide normally kills bacteria, but this organism had some special gene that allowed it to survive. So Monsanto scientists figured, "Let's put it into the food supply!"

By forcing that genes from that bacterium into soybean plants' DNA, the plants then survive an otherwise deadly dose of Roundup herbicide—hence the name Roundup Ready.

In the human study, some of the subjects were found to have Roundup Ready gut bacteria! This means that sometime in the past, from eating one or more meals of GM soybeans, the gene that had been discovered in the chemical waste dump and forced into the soy, had transferred into the DNA

of bacteria living inside their intestines—and continued to function. That means that long after we stop eating GMOs, we may still have dangerous GM proteins produced continuously inside of us.

When the results of the study emerged, the funding from the pro-GMO UK government mysteriously dried up, so they were not able to see if the same type of gene transfer happens with Bt genes from, say, corn chips. If it does, it means that eating Bt corn might turn our intestinal flora into living pesticide factories—continually manufacturing Bt-toxin from within our digestive systems.

I don't know of a test that can confirm that this is happening, but the Canada study may be showing the results—where Bt-toxins are found in the blood of a *very* high percentage of people.

If the "living pesticide factory" hypothesis is correct, we might speculate even further. Bt-toxin breaks open the stomach of insects. Could it similarly be damaging the integrity of our digestive tracts? The biotech companies insist that Bt-toxin doesn't bind or interact with the intestinal walls of mammals, and therefore humans. But here too they ignore peer-reviewed published evidence showing that Bt-toxin *does* bind with mouse small intestines *and* with intestinal tissue from rhesus monkeys. In the former study, they even found "changes in the electrophysiological properties" of the organ after the Bt-toxin came into contact.

If Bt-toxins were causing leaky gut syndrome in newborns, the passage of undigested foods and toxins into the blood from the intestines could be devastating. Scientists speculate that it may lead to autoimmune diseases and food allergies. Furthermore, since the blood-brain barrier is not developed in newborns, toxins may enter the brain causing serious cognitive problems. Some healthcare practitioners and scientists are convinced that this is the apparent mechanism for autism.

Thus, if Bt genes were colonizing the bacteria living in the digestive tract of North Americans, we might see an increase in gastrointestinal problems, autoimmune diseases, food allergies, and childhood learning disorders—since 1996 when Bt crops came on the market. Physicians have told me that they indeed are seeing such an increase.

The discovery of Bt-toxin in our blood does not confirm all this speculation, but it does provide food for thought. And hopefully, that food is non-GMO.

Our Institute for Responsible Technology joins other organizations worldwide calling for an immediate ban on GM food crops, and the commencement of rigorous independent scientific research on the safety of GMOs in general, and Bt-toxin in particular.

Jeffrey M. Smith is the Executive Director of the *Institute for Responsible Technology For references to this blog, go to:

http://www.responsibletechnology.org/blog/1412

GM Maize Contaminates non-GM crops in Uruguay

09 May 2011 16:52

Source: Content partner // SciDev.Net - Daniela Hirschfeld

[MONTEVIDEO] Contamination of traditional maize crops planted near genetically modified (GM) maize fields may be common in Uruguay, where the cultivation of GM maize has been permitted since 2003, scientists have said.

A study published in *Environmental Biosafety Research* (25 March) has found GM seedlings in three traditional maize fields. It is said to be the first report of cross-fertilisation between GM and non-GM maize in South America.

Studies on the unplanned presence of GM maize and the contamination of non-GM crops in Latin America have led to some controversial cases, such as a retracted 2001 *Nature* study from Mexico and a 2007 Peruvian study that led to a libel case against one of the scientists who challenged the findings and a subsequent campaign for freedom of speech for scientists.

And Monsanto's GM maize trial in Mexico has recently re-ignited the debate in the country that boasts the most diverse maize genetic resources.

But, unlike Mexico and Peru, Uruguay permits the cultivation of GM maize. The varieties MON810 and Bt11 were approved for commercial planting in 2003 and 2004, respectively.

Governmental regulations specify that GM and non-GM crop fields should be more than 250 metres apart to avoid cross-fertilisation and ensure their "regulated coexistence", and that 10 per cent of the field should be non-GM to provide a refuge area for biodiversity.

In the latest research, scientists from Uruguay's University of the Republic analysed five pairs of commercial maize ûelds where farmers planted GM maize at about the same time as a nearby non-GM crop.

Studying commercial fields is better than using experimental plots, which may not correspond to the real-life situation, the scientists argue.

In three cases they detected foreign genes from GM maize, the 'transgenes', in seedlings produced by seeds taken from the non-GM crops. The transgenes were presumably blown over in pollen from the GM fields.

The highest percentage of transgenic seedlings was 0.83 per cent in a field 100 metres from the GM maize field.

In one case, the cross-fertilisation occurred despite a *Eucalyptus* tree barrier (12 metres high, 30 metres wide) separating the fields, and another case involved cross-fertilisation between fields more than 250 metres apart.

Cross-fertilisation may therefore be "a common situation in Uruguay", the authors said, adding that the area planted with GM maize in the country is increasing.

"These results also show that the current regulation in Uruguay is insufficient and that the actual 'coexistence policy' is not well known among farmers," Pablo Galeano, the study's lead author, told *SciDev.Net*. "I think that to talk about 'regulated coexistence' without the necessary tools to make it viable is nothing more than rhetoric."

But Galeano cautioned that the findings may not necessarily apply to other crops or other countries.

"Cross-fertilisation depends on topography, size and orientation of fields, type of maize, wind direction during the flowering time, temperature and humidity, so it is hardly possible to generalise our results to other crops, areas or countries," he said.

Daniel Bayce, manager of Uruguay's National Seed Institute, told *SciDev.Net* that the findings were not representative because cross-fertilisation was detected mostly where the fields were too close, and even then "the frequency of GM contamination was very low".
http://www.trust.org/alertnet/news/gm-maize-contaminates-non-gm-crops-in-uruguay

GE FOOD

With no labeling, few realize they are eating genetically modified foods

By MONICA ENG
Chicago Tribune
Published: Sunday, May. 29, 2011 - 1:00 am
Last Modified: Monday, May. 30, 2011 - 12:13 am

CHICAGO — When a team of activists wearing white hazmat suits showed up at a Chicago grocery store to protest the sale of food containing genetically modified ingredients, they picked an unlikely target: Whole Foods Market.

Organic foods, by definition, can't contain genetically modified organisms, known as GMOs.

But genetically modified corn, soy and other crops have become such common ingredients in processed foods that even one of the nation's top organic food retailers says it's been unable to avoid stocking some products that contain them.

"No one would guess that there are genetically engineered foods right here in Whole Foods," said Alexis Baden-Mayer, political director of the Organic Consumers Association, which organized the protest. The activists dramatically trashed a battery of well-known health food brands outside the store, including Tofutti, Kashi and Boca Burgers.

Though people have been modifying foodstuffs through selective breeding and other methods for centuries, genetically modified crops differ in that the plants grow from seeds in which DNA splicing has been used to place genes from one species into another. In this way, the crop can be made to withstand a weed-killing pesticide, for example, or incorporate a bacterial toxin that can repel pests.

Some consumers are concerned that such changes may pose health risks and say manufacturers should be required to prove GMOs are safe for human consumption before putting them on the market. They also say products containing genetically modified ingredients should be identified for the consumer; the U.S. is one of the few industrialized nations that does not require such labeling.

Industry representatives say GMOs are safe and labeling them is unnecessary, citing a 1992 statement from the FDA saying the agency had no reason to believe GMOs "differ from other foods in any meaningful or uniform way." No mainstream regulatory organization in the U.S. has opposed the introduction of GMOs.

"FDA has the scientific and nutrition expertise to establish food labeling and to assess food safety," said Ab Basu, the Biotechnology Industry Organization's acting executive vice president for food and agriculture. "You can look at the FDA website and see that if the corn is substantially equivalent to corn produced conventionally, there is no reason to label it as being any different."

Critics of the technology say they are concerned not only about possible health risks but about soil and plant nutrient losses, contamination of non-GMO crops and increased pesticide use.

With an unprecedented number of genetically modified crops being greenlighted by the Obama administration in recent months amid public debate - including ethanol corn, alfalfa and sugar beets under certain conditions - some advocates say the issues may be reaching the awareness of consumers beyond the health-conscious shoppers who frequent Whole Foods.

They cite polls taken by the Pew Center, Consumers Union, Harris Interactive and ABC over the last decade that have consistently found the vast majority of Americans would like to see genetically modified foods better regulated and labeled.

"If companies say genetic engineering is fine, then OK, let's label it and let the consumers make their own decisions," said Michael Hansen, a senior scientist at the Consumers Union, which produces Consumer Reports. "That's what all the free market supporters say. So let's let the market work properly."

Michael Jacobsen, executive director for Center for Science in the Public Interest, which does not oppose GMOs, says many manufacturers see labeling as too risky. "No food company would use GMOs if they had to label them because there is no benefit to the companies," he said. "The term GMO has become a toxic term, and so if a company figures they will lose maybe 2 percent of their sales why should they? It's all loss for them."

In fact, a 2006 study for the Pew Initiative for Food and Biotechnology found that only 23 percent of women (the primary shopping decision makers) thought genetically modified foods were safe.

But knowledge on this topic also remains low. The same Pew study found that only 26 percent of American consumers believed they'd ever eaten

genetically modified food, while a 2010 survey by the International Food Information Council reported that only 28 percent of respondents knew such foods were sold in stores.

Currently 14 states have introduced legislation on GMO labeling but most of it has not moved out of committee, including an Illinois bill introduced in February by Rep. Deborah Mell, D-Chicago. She says she plans to reintroduce it next session. Only Alaska, with its huge wild salmon industry, has passed a biotech seafood labeling law.

On the issue of safety, both sides of the debate come armed with research. This year Spanish researchers published an overview of GMO food safety studies in Environment International finding that peer-reviewed studies had found health risks and no health risks in roughly equal numbers. The paper notes, however, that many studies finding no risks were sponsored by the biotech industry or associates.

Canadian researchers this year reported that the blood of 93 percent of pregnant women and 80 percent of their umbilical cord blood samples contained a pesticide implanted in GMO corn by the biotech company Monsanto, though digestion was supposed to remove it from the body. "Given the potential toxicity of these environmental pollutants and the fragility of the fetus, more studies are needed," they wrote in Reproductive Toxicology.

As the biggest producer of GMO seeds and the compatible pesticide Roundup, Missouri-based Monsanto is at the heart of the GMO debate. Monsanto would not make a representative available for an interview but did offer a statement on the lack of long-term animal or human safety studies on genetically modified crops.

"Experts in the field of food safety are satisfied that (the current) approach is sufficient and reliable to assure the genetically modified crops are as safe their conventional counterparts," the statement said. "This expert community does not see a need and thus does not recommend long term tests in humans or animals in order to establish food safety." While the Food and Drug Administration has allowed the sale and planting of genetically modified foods for 15 years, it has never required pre-market safety evaluations of the foods. The one exception was the 1994 GM Flavr Savr tomato, which was categorized as a food additive and thus more closely regulated.

"Ultimately, it is the food producer who is responsible for assuring safety," the FDA wrote in a statement to the Chicago Tribune, noting that manufacturers are encouraged to consult with the agency about their products.

Used in an estimated 70 percent of all American processed food, GM crops make up an estimated 93 percent of all soy, 86 percent of all corn and 93 percent of all canola seeds planted in the U.S., which makes stocking only non-GMO products difficult, said Joe Dickson, quality standards coordinator for Whole Foods Market.

"Until there's federal government mandated labeling of GMO ingredients, there's no way to tell if packaged products contain GMO ingredients," Dickson said. "Our approach is to work in the spirit of partnership with our suppliers ... to encourage them to take active steps to avoid GMO ingredients."

Basu notes that GMO crops have been embraced by farmers in many countries - although not in Japan, Europe or Britain - and cites a International Food Information Council study that found 68 percent of those surveyed believe that FDA's current labeling practices are sufficient.

"If you look at the adoption of biotech by over 24 countries and over 2 billion acres of biotech crops globally that have been grown in the last 15 years of commercialization, consumer are buying these products," he said.

Still, Nielsen announced last year that "non-GMO" was the fastest-growing health and wellness claim on store-brand foods in 2009, up by 67 percent from the previous year and representing $60.2 million in sales.

A new "Non GMO Project Verified" seal offers third-party testing and certification that less than 0.9 percent of the ingredients in the product came from genetically modified organisms. More than 2,000 products have been verified in the program and another 2,000 are in the process, according to executive director Megan Westgate.

Shoppers at Whole Foods were mixed on whether or not the store should be selling genetically modified foods. But the majority said they were surprised to find it did.

"It's disappointing and disheartening. I feel like Whole Foods has established itself as a community for people who believe in healthy food and I feel like they embody that. So I would think that they would uphold standards and prevent foods like this from being sold here," said Melissa Hayes of Chicago.

"But I don't think it's fair to just blame Whole Foods," she added. "I think it's equally important for the consumer to take an active role and find out information on GMOs and Monsanto. Every time you make a purchase it's a vote and people just need to be more conscious and aware."

Read more: http://www.sacbee.com/2011/05/29/3663627/with-no-labeling-few-realize-they.html#ixzz1NpKRuT4n

Toxin from GM crops found in human blood: Study

Dinesh C. Sharma
New Delhi, May 11, 2011
Updated **09:30 IST**

Fresh doubts have arisen about the safety of genetically modified crops, with a new study reporting presence of Bt toxin, used widely in GM crops, in human blood for the first time.

Genetically modified crops include genes extracted from bacteria to make them resistant to pest attacks.

These genes make crops toxic to pests but are claimed to pose no danger to the environment and human health. Genetically modified brinjal, whose commercial release was stopped a year ago, has a toxin derived from a soil bacterium called Bacillus thuringiensis (Bt).

Till now, scientists and multinational corporations promoting GM crops have maintained that Bt toxin poses no danger to human health as the protein breaks down in the human gut. But the presence of this toxin in human blood shows that this does not happen.

Scientists from the University of Sherbrooke, Canada, have detected the insecticidal protein, Cry1Ab, circulating in the blood of pregnant as well as non-pregnant women.

They have also detected the toxin in fetal blood, implying it could pass on to the next generation. The research paper has been peer-reviewed and accepted for publication in the journal Reproductive Toxicology. The study covered 30 pregnant women and 39 women who had come for tubectomy at the Centre Hospitalier Universitaire de Sherbrooke (CHUS) in Quebec. None of them had worked or lived with a spouse working in contact with pesticides.

They were all consuming typical Canadian diet that included GM foods such as soybeans, corn and potatoes. Blood samples were taken before delivery for pregnant women and at tubal ligation for non-pregnant women. Umbilical cord blood sampling was done after birth.

Cry1Ab toxin was detected in 93 per cent and 80 per cent of maternal and fetal blood samples, respectively and in 69 per cent of tested blood samples from non-pregnant women. Earlier studies had found trace amounts of the Cry1Ab toxin in gastrointestinal contents of livestock fed on GM corn. This gave rise to fears that the toxins may not be effectively eliminated in humans and there may be a high risk of exposure through consumption of contaminated meat.

"Generated data will help regulatory agencies responsible for the protection of human health to make better decisions", noted researchers Aziz Aris and Samuel Leblanc.

Given the potential toxicity of these environmental pollutants and the fragility of the foetus, more studies are needed, particularly those using the placental transfer approach, they added Experts have warned of serious implications for India. Cottonseed oil is made from seeds of genetically modified cotton and thus Bt toxin may have already entered the food chain in India.

"Indian regulators should be immediately called for detailed toxicological studies to know the extent of contamination of the human blood with Bt toxins coming from cottonseed oil, and also ascertain its long term health impacts," said Devinder Sharma, an anti-GM activist.

http://indiatoday.intoday.in/site/story/toxin-from-gm-crops-found-in-human-blood/1/137728.html

GE AGRICULTURE

Desi brinjal on the brink

Yalandur, May 23, DHNS

When the researchers and agriculturists across the country are having heated debates on introducing BT brinjal in the country, they have forgotten to protect the desi Brinjal variety 'Sunde Badane', which is grown only in few places.

The farmers too are in tight spot with no funds to try out new methods of farming to protect these types. Though India and China are said to be the origin of Brinjals, the desi variety of Brinjals like Boodi, Gumpali, Betta and Sunde that grow to a height of three metres, are vanishing fast. The plants are found with multiple stalks that yield flowers and fruits. These plants are capable of withstanding temperature of around 25 degrees and give good yield, three times a year. The vegetable which is bitter in taste, and its seeds are used for making curries.

Farmer M R Madegowda of Muthagada gadde village says that bitter Sunde has a lot of medicinal properties. This with a combination of pepper can be used as a remedy for common cold for children. Gumpatti Sunde variety is used as remedy for toothache, he adds.

Speaking to the paper, he said that Seer Nirmalananda had made an attempt to protect this variety of vegetable and had grown hundreds of them around his mutt. He even tried grafting method to achieve multiple varieties of brinjal in the same plant. Later, the interest towards protecting the same waned and only a very few of them are found in the forests, he says.

The variety of Brinjal is identified by the thorns. While bitter Sunde has thorns on the leaves, Sambar variety has thorns on the stalk. Each plant lives for more than four years and produces around a kg of vegetables per yield. Earlier, the tribals used to grow these plants along with chilli and vegetables, as they do not need any special care, said researcher Nagendra.

The Soligas say that the plants which do not need much water or care should be saved from going extinct.

http://www.deccanherald.com/content/163638/desi-brinjal-brink.html

USDA moves to let Monsanto perform its own environmental impact studies on GMOs

Last August, Federal Judge Jeffrey White issued a stinging rebuke to the USDA for its process on approving new genetically modified seeds. He ruled that the agency's practice of "deregulating" novel seed varieties without first performing an environmental impact study violated the National Environmental Policy Act.

The target of Judge White's ire was the USDA's 2005 approval of Monsanto's Roundup Ready sugar beets, engineered to withstand doses of the company's own herbicide. White's ruling effectively revoked the approval of Monsanto's novel beet seeds pending an environmental impact study, and cast doubt upon the USDA's notoriously industry-friendly way of regulating GM seeds. A rigorous environmental impact assessment would not likely be kind to Roundup Ready sugar beets. First, sugar-beet seeds are cultivated mainly in Oregon's Willamette Valley, also an important seed-production area for crops closely related to sugar beets, such as organic chard and table beets. The engineered beets could easily cross-pollinate with the other varieties, causing severe damage to a key resource for organic and other non-GMO farmers. Second, Monsanto's already-unregulated Roundup Ready crops — corn, soy, and cotton — have unleashed a plague of Roundup-resistant "superweeds," forcing farmers to apply ever-higher doses of Roundup and other weed-killing poisons. Finally, the Roundup herbicide itself is proving much less ecologically benign than advertised, as Tom Laskawy has shown. How has the Obama USDA responded to Judge White's rebuke? By repeatedly defying it, most recently in February, when the agency moved to allow farmers to plant the engineered seeds even though the impact study has yet to be completed. Its rationale for violating the court order will raise an eyebrow of anyone who read Gary Taubes' recent New York Times Magazine piece teasing out the health hazards of the American sweet tooth: the USDA feared that the GMO sugar beet ban would cause sweetener prices to rise. Thus the USDA places the food industry's right to cheap sweetener for its junk food over the dictates of a federal court.

In early April, the USDA made what I'm reading as a second response to Judge White, this one even more craven. To satisfy the legal system's pesky demand for environmental impact studies of novel GMO crops, the USDA has settled upon a brilliant solution: let the GMO industry conduct its own environmental impact studies, or pay other researchers to. The USDA announced the program in the Federal Register for April 7, 2011 [PDF]. The biotech/agrichemical industry has applauded the new plan. Karen Batra of the Biotechnology Industry Organization told the Oregon-based ag journal Capital Press that the program will likely speed up the registration process for GMO crops and make the USDA's approach less vulnerable to legal challenges like the rebuke from Judge White. Capital Press summed up Batra's assessment of the plan like this: "The pilot program will not only help move crops through the process more quickly, but the added resources will also help the documents hold up in court."

In other words, the industry plans to produce studies that find its novel products environmentally friendly, and fully expects the USDA to accept their assessments. Judge White had ruled that the USDA should be more rigorous in assessing the risks of new GMO crops, yet his decision seems to be having the opposite effect. No doubt the USDA's latest scheme reflects the administration's stated desire to not be too "burdensome" in regulating industry.

Source : Tom Philpott, Grist Magazine, 4 may 2011

http://www.combat-monsanto.co.uk/spip.php?article721

UK Supermarkets to label GM Soybean 'Sustainable'

Irresponsible labelling of GM soybean by British supermarkets aims to deceive the public over

the true hazards of GM crops Dr Eva Sirinathsinghji

A string of British supermarket giants have signed up to the Roundtable on Responsible Soy (RTRS) including Asda, Waitrose, Marks and Spencer, and most recently Sainsbury's. This scheme will result in GM soybean being labelled 'sustainable' despite mounting scientific evidence of health and environmental hazards, and threats to global food security.

The Roundtable on Responsible Soy (RTRS), first proposed by WWF in 2005 is a multi-stake holder forum on sustainable soybean production (see [1] Round Table on Responsible Soy a Green Wash, *SiS* 47). It consists of many members involved in the soybean industry including the huge multinational corporations Shell, BP, Cargill, Syngenta and Monsanto, the major GMO producer. The prime motivation for this initiative is the promotion of GM soybean food products and biofuels to the European market. The human rights and environmental violations of these companies are alarming, making their claim that GM soybean production is 'responsible' or 'sustainable' unconvincing to say the least. Consistently, Conservation International, a US-based charity was recently caught in a sting operation where it offered to green wash a huge military arms corporation, further disgracing another member of the RTRS [2].

The criteria for this label include wildlife protection, responsible pesticide use and respect for worker's rights. By definition, a broad spectrum weed killer – glyphosate (or Roundup) - that not only targets weeds, but other beneficial plants, animals and microorganisms is not sustainable, nor can it be used responsibly. It is therefore impossible to honour the first two criteria for the 'sustainable' labelling of GM produce.

In reality, the production of GM crops has led to the spread of pesticide-resistant super weeds (see [3] Roundup Ready Sudden Death, Superweeds, Allergens…*SiS* 28), and (ironically) increased the use of pesticides. It has also increased crop pests, reduced biodiversity, contaminated non-GM farms, and shown to be unsafe to eat by animals, and therefore most possibly, humans. Although there is worryingly little toxicology data performed on consumption of GM foods, successive animal feeding trials by independent scientists and evidence from farmworkers exposed to GM crops in the fields have been raising serious concerns as reviewed in [4, 5] (GM Food Nightmare Unfolding in the Regulatory Sham, ISIS scientific publication; GM is Dangerous and Futile, *SiS* 40). A recent Canadian medical study found Bt toxin as well as glyphosate (or its metabolites) circulating in the blood of women as well as unborn babies eating an average Canadian diet. The transgene product is not degraded in the gut as testified by GM manufacturers and safety regulators [6].

Recently, a senior US scientist warned of a novel pathogen associated glyphosate tolerant GM crops including GM soybean (see [7, 8] Emergency! Pathogen New to Science Found in Roundup Ready GM Crops? , Scientist Defends Claim of New Pathogen Linked to GM Crops, *SiS* 50). A leaked letter written by Dr. Don Huber, Professor Emeritus, Purdue University, to the USDA expressed deep concern for this pathogen that was highly enriched in transgenic crops, and apparently associated with devastating crops diseases and high rates of infertility and miscarriages in animals. The pathogen was discovered by an international community of researchers, and the work is due to be submitted for publication in a matter of weeks.

The herbicide kills beneficial bacteria such as nitrogen-fixing rhizobia, while increasing the presence of pathogenic microorganisms [9]. Well over 150 scientific papers have already been published on the toxic effects of glyphosate on soil and crops (see [10] Scientists Reveal Glyphosate Poisons Crops and Soil, *SiS* 47)

With regard to workers' rights and human rights, herbicides have been shown to have frightening impacts on human health, including birth defects in the children of herbicide users (see [11] Lab Study Establishes Glyphosate Link to Birth Defects *SiS* 48). More recently, a local Argentinean government

report documented tripling in numbers of childhood cancers from 2000 to 2009, and quadrupling of birth defects in agrochemical use zones (see news report [10]). The report also states "During the days when the spraying [of herbicides] occurs one can notice immediately health issues such as eye and skin irritation, allergies, dizziness, nausea, etc. On the days that follow the spraying, other issues that have to do with the digestive and hepatic (liver) systems occur". It is clear that GM soybean cannot meet the last requirement for the RTRS' 'sustainable' labelling – protection of workers' rights.

Furthermore, large-scale industrial GM monoculture is bankrupting small farmers, restricting access to non-GM seeds, destroying rainforests and monopolising the food industry, dramatically increasing poverty in farming communities. While the biotech/agribusiness industries promoted the 126 percent expansion of Argentinean GM soybean production in one decade, the number of farmers has dramatically declined. In just 4 years the number of farmers went down by a quarter, accompanied by reductions in staples such as dairy, maize, wheat and fruit (see [12] GM Soybean Disaster in Latin America, *SiS* 28).

The UK consumer will not be deceived by the 'responsible soy' label. Most GM soybean that is currently supplied to the UK is used as animal feed, and consumers are already opposed to that [13]. To adopt the 'responsible soy' label is to add insult on injury, and supermarkets may face a consumer backlash.

http://www.i-sis.org.uk/UK_Supermarkets_to_label_GM_soybean_sustainable.php

This monthly bulletin is brought out by Southern Action on 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 Orissa. 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 educational materials.