



Dr. Krishan Bir Chaudhary

## Bt Brinjal Fraud Exposed

The year 2010 began with a new note in India which may be remembered in the history as a turning point where the people for the first time came out in the open questioning the scientific fraud of the first approved genetically modified food crop, Bt brinjal

After the Genetic Engineering Approval Committee (GEAC) approved the Bt brinjal developed by Mahyco in collaboration with the US seed multinational Monsanto on October 14, 2009, the Union minister of state for environment and forests, Jairam Ramesh took the wise decision to withheld its release and go for public consultations.

The advocates of the GM technology thought they would win the race by tackling a handful of NGOs. But this did not happen. People on their own came out in the open opposing the introduction of Bt brinjal -- be it in Kolkata, Bhubaneswar, Nagpur, Ahamedabad, Hyderabad, Chandigarh, Bangalore. The protest turned violent in Kolkata. Farmers too joined in the protests.

The people have come to know the fraud committed by a handful of scientists in pushing the approval of Bt brinjal. A noted molecular biologist and a special invitee to the GEAC at the instance of the Supreme Court, Dr Pushpa M Bhargava has pointed out the flaws in the approval process and accused the regulator for skipping adequate biosafety tests.

Admittedly Bt is a toxin. Sheep and goats grazing over Bt cotton died and GEAC did not take any cognizance. Independent scientists across the globe have conducted several studies exposing the health and ecological hazards of GM crops. Now the Indian people have come to know that there are two classes of agriculture scientists -- one class who on the payrolls of seed multinationals like Monsanto and the others who are pursuing science in public interest

The objective of the seed multinationals is clear. They want to control the entire food chain. The Monsanto charges heavy technology fees. The entire gameplan is backed by the US which is engaged in the geopolitics of capturing global food market through the introduction of GM crops.

Public protest against Bt Brinjal has drawn the attention of the political parties ranging from the right wing parties to the left wing parties.

  
**KRISHAN BIR CHAUDHARY**



Editor :

**Dr. Krishan Bir Chaudhary,**  
President,  
Bharatiya Krishak Samaj,  
F-1/A, Pandav Nagar,  
Delhi-110091

**Advisory Board :**

Ashok B. Sharma  
S. P. Gulati, Sect. G.O.I., Retd.  
Lingraj B. Patil  
Dr. Mangesh Deshmukh  
Dr. R.B. Thakare  
D. Guruswamy, Adv.  
Rajesh Sharma "Bittoo"  
Pratap Singh, DIG Retd.  
Hatam Singh Nagar, Adv.  
K. Sareen  
Sharad Agnihotri

**Printed & Published by :**

*Dr. Krishan Bir Chaudhary on behalf of  
Bharatiya Krishak Samaj.*

**Printed at Everest Press, E-49/8, Okhla  
Industrial Area, Phase-II, New Delhi-20.**

**Published at :**

F-1/A, Pandav Nagar, Delhi-110091  
**Mob.:**9810331366, **Telefax:**011-  
22751281,  
**E-mail:**bharatiyakrishaksamaj@gmail.com  
**Website :** www.kisankiawaaz.org

*The views expressed by the  
authors are their own. The  
editor does not accept  
responsibility for returning  
unsolicited publication material.  
Disputes arising if any will be  
under Jurisdiction of Delhi  
Courts.*

Single copy Rs. 25/-, Annual Rs. 300/-

Vol. 1 No. 2

February, 2010

# **KISAN KI AWAAZ**

*National Magazine of Farmers' Voice*

## **CONTENTS**

Health Scandal of the decade - Monsanto's GMOs... — <i>Byron Richards</i>	2
Monsanto : Decades of a dark history — <i>Aruna Rodrigues</i>	6
Doctors warn : avoid genetically..... — <i>Jeffrey M. Smith</i>	10
Supreme Court nominee Dr. Pushpa M. Bhargava's points out bio- safety tests on GMOs not done	14
Letter by Prof. Jack Heinemann to Sh. Jairam Ramesh	19
Agricultural practices and carbon sequestration	22
Mounting pressure on Farmers' — <i>Prof. J. George</i>	24
GMOs are going to create famine and hunger — <i>John L. Allen Jr.</i>	27
Bharatiya Krishak Samaj letter to Sh. Jairam Ramesh	32

## **New Subscription**

*Annual subscription charge of Rs 300/- for our monthly journal  
'KISAN KI AWAAZ' may please be sent by cheque/Draft, drawn  
in favour of Kisan Ki Awaaz, F-1/A, Pandav Nagar, Delhi-  
110091.*

**Complimentary Copy**

***Suggestions for improvement are invited***

---

# Health Scandal of the Decade – Monsanto's GMO Perversion of Food

**\*Byron Richards**

**January 19, 2010 :** In the 2010 growing season Monsanto plans to unleash its latest Frankenfood experiment on the American and Canadian public, a new version of genetically mutated corn with eight abnormal gene traits called Genuity SmartStax corn. It is the culmination of an astonishing scandal that has been steadily building over the past decade.

During this time, Monsanto's mutated seeds have grown to 90% of the U.S. soy crop and 85% of the corn crop – and wheat is next on their agenda. Their efforts have been marked by corporate bullying and have drawn the attention of the Justice Department who is conducting an antitrust investigation.

All the while they have been spending millions on lobbying to fast track their agenda before the American public even realizes what hit them. Europeans are livid about the lack of safety testing for this newest Monsanto experiment.

Monsanto is making an ominous power play to corner the worldwide market on food and seeds. In the process they are adversely altering the very nature of food itself.

Few people would eat Monsanto's "food" if they understood what it was or knew that they were eating it. President Obama and his family won't eat it. Neither did the Bush family. Even a Monsanto employee cafeteria rejects it. This is no laughing matter.

Your health and the health of your children and grandchildren are at stake. It seems more like a scene from a horror flick than something happening in modern day America. Imagine your digestive tract turned into a Roundup herbicide factory and other warped genetic signals slowly

and progressively rotting away your health. Unlike acute food poisoning from infectious *E.coli*, it is a slow and insidious poisoning.

## **Why GMO Food is Dangerous**

Monsanto's GMO (genetically modified organism) technology inserts non-food genes, genes from other species, into the DNA of food, altering the very nature of food itself.

In some cases these genes make the crops more tolerant to the Roundup herbicide made by Monsanto and in other cases the genes abnormally cause the DNA of food cells to produce toxic proteins that act as pesticides.

Most people are not comfortable with the concept of altering the nature of food in a grand genetic experiment with unknown consequences. The idea of food producing its own internal toxin is equally abhorrent.

After all, who wants to eat toxic food? Even fewer trust this technology in the hands of Monsanto, a company with a history of blatant disregard for human health. It was Monsanto that knowingly poisoned the planet with toxic PCBs.

The process of making GMO seeds also poses health risks. Viral promoter genes are used during this production process and become part of the DNA mix, posing a risk for new types of viral disease.

An unintended side-effect of this production technology is chronic activation or suppression of normal genes in the modified plants. This alters the actual nutrient structure of food and the function of the proteins within that food – a very serious matter.

---

The entire process of producing GMO seeds is also unpredictable. It creates multiple random genetic events in every food cell invaded by the mutant genes. Because each gene doesn't just do one thing and is highly interactive with other genes, the production of GMO food is not consistent and therefore safety cannot be guaranteed – especially when you understand that our scientific knowledge of gene interdependencies is in its infancy.

Eating food that is mutated by other non-food species is a grand experiment to say the least. GMO mutants can transfer to the living bacteria in your digestive tract, as has been shown in animal experiments. This can adversely change the way your gut bacteria behave so that they create pesticides and become more resistant to your immune system and medical treatments. If the GMO mutants were to transfer to an existing infection in your digestive tract then it could create your own superbug.

Because the proteins in GMO food are structurally different than normal food they significantly increase the risk for allergy. Allergy is one form of inflammation that is likely to result from GMO food, but there are many other potential sources. These include the mis-metabolism of the food, the inherent toxicity of the food, and the pesticide residues on the food.

These inflammatory problems of GMO food will additively contribute to other forms of inflammation such as pollution and stress and add to the total inflammation burden sets the stage for many diseases. It is likely that GMO food will have a significant impact on pregnancy problems and developmental problems in children.

At this time nobody can rule out GMO as a possible causative factor in Autism, as the rates of both have risen together. A recent re-evaluation of data provided by Monsanto showed that various types of GMO corn caused significant

inflammatory organ damage to rats.

It has now been shown that the health consequence of eating high amounts of Roundup residue that is being sprayed in ever-higher amounts on GMO crops is the disruption of your endocrine system. A recent study shows that these residues of Roundup are highly interactive with sex hormones and significantly disrupt their function. A 2008 Austrian government study showed that feeding GMO corn to mice for multiple generations resulted in fertility issues and weakened kidneys, as well as changes in metabolic pathways involved with inflammation, cholesterol, and protein.

GMO crops are also drastically and adversely altering soil quality. In fact, soil animals such as earthworms are now found to have incorporated GMO mutant corn genes into their cells. This finding is of extreme importance to potential human health problems. There is certainly nothing preventing this from happening to humans.

For more information on the devastating health consequences of consuming GMO foods read Jeffrey Smith's books, *Seeds of Deception* and *Genetic Roulette*."

You may be wondering the obvious; if GMOs are so dangerous to eat then why are they allowed in the food supply?

### **Corporate Cronyism - A Corrupt FDA Places the Public in Danger**

We now know that FDA scientists originally working on the issue of the safety of GMO food had considerable concerns that included allergies, toxins, adverse nutritional effects, and new diseases. They urged long-term studies but were ignored by FDA management who instead decided that GMO food was "substantially equivalent" to normal food. In 1992 these managers issued the following policy statement in the Federal Register, "The agency is not aware

---

of any information showing that foods derived by these new methods differ from other foods in any meaningful or uniform way.” In retrospect, that policy, which stands to this day, was a flat out lie and a treasonous betrayal of the public trust.

Court cases have forced into public view the documents expressing the concerns of the FDA scientists. You can read them all at this link to the BioIntegrity.Org website. In fact, rushing GMO foods to market also represents a serious breach of scientific integrity by the overall research community.

Today, the FDA is a world leader in proteomic technology, the advanced analysis of protein structure and function. Italian researchers using proteomics have already proven beyond any question that GMO food is so genetically different from normal food that it cannot possibly be considered substantially equivalent. Certainly the FDA could discover this fact for themselves in a matter of hours. Why are FDA scientists in handcuffs and not taking action?

Part of the FDA management team’s culture of corruption is a revolving door with the various companies they are supposed to be regulating, the very definition of corporate cronyism. These shenanigans have had the net effect of the FDA acting primarily as a police force bully representing various powerful lobbies that buy protection and marketing favors, while stomping on the rights of the little guys like organic family farms and consumers.

In the case of food, Monsanto wins the gold medal for influence pedaling at the expense of the human health.

One of the more egregious examples of cronyism is Michael Taylor. He was an FDA staff lawyer and Executive Assistant to the FDA Commissioner from 1976 to 1981. From 1981 to 1991 he worked at the law firm of King and Spaulding, acting as

Monsanto’s lawyer and lobbyist.

He was a major proponent for overturning the Delaney Clause, a 1958 law prohibiting the introduction of known carcinogens to processed foods, a law Monsanto hated and which was eventually overturned by Clinton in 1996. His main responsibility during this time was gaining regulatory approval of Monsanto’s genetically modified cancer-causing bovine growth hormone (rBGH).

To complete his efforts on the bovine growth hormone issue Taylor went back to work for the FDA in 1991 with the title Deputy Commissioner for Policy at the Food and Drug Administration. He was directly responsible for writing the FDA policy on “substantial equivalence” which initially ushered in the rBGH era and to this day enables Monsanto to market its GMO mutated food with no appropriate oversight by the FDA as to safety. He also formulated policy that prevented milk producers from informing consumers that their milk was free of bovine growth hormone – intentionally preventing consumers from being able to tell what was in the milk product they were consuming.

After accomplishing his dirty work, he left the FDA in 1994 and went to work for Monsanto as Vice President for Public Policy, working on Monsanto’s long range plans. More recently, he became a Senior Fellow at Resources for the Future (RFF) and Director of the Risk, Resources and Environmental Management division.

In this role, he strategized how to get Monsanto’s GMO crops into Africa, working closely with the Bill and Melinda Gates Foundation and the Rockefeller Foundation. He also worked closely with the Bush Administration, and is the point man in helping an elite agenda to spread GMO seeds and biotech dependence around the world.

You guessed it – now he is back at the FDA in a new position the Obama Administration created

---

- Senior Advisor to the Commissioner, working primarily on issues of food safety! "I am pleased to welcome Mike Taylor back to the FDA," Commissioner of Food and Drugs Margaret A. Hamburg, M.D., said in announcing Taylor's appointment. "His expertise and leadership on food safety issues will help the agency to develop and implement the prevention based strategy we need to ensure the safety of the food we eat."

As Monsanto, in anti-competitive collusion with Dow, takes their new GMO toxic and mutated corn to market, stacked with eight genes, it should come as no surprise that absolutely no safety testing is being required by the FDA.

Never before have there been eight genes altered simultaneously within the cells of food. One gene is bad enough. Three is horrendous. But eight? The fact that the FDA is not requiring extensive safety testing by independent sources of this highly unpredictable and dangerous technology is unthinkable. It is a grim day when the fox is in charge of the henhouse.

### **There Is No Good Reason for Monsanto's GMOs**

If you listen to Monsanto and their business cohorts such as Cargill, they state they are trying to feed the world. In reality, the world could eliminate Monsanto's mutated food tomorrow and it would be a better place.

It could also do without Cargill acting as an unregulated food banker, profiting on the manipulation of food sales at the expense of farmers in a way that is every bit as bad as the worst of Wall Street.

There is no need for Monsanto's GMO mutated seeds. They offer no advantages. It is an industry being propped up by unelected bureaucrats and elected officials on the receiving end of Monsanto's multi-million dollar lobbying operation. Michael Taylor is one example of corporate crony influence, there are many

others. The USDA is profiting from Monsanto's seeds that cannot be used the next growing season (the Terminator aspect of the problem).

The EPA's failure to regulate the amounts of Roundup used on food is yet another scandal. It's all about profits and control - while undermining the world's farmers and the biodiversity and sustainability of crops.

Contrary to the Monsanto and Cargill propaganda, GMO technology does not increase crop yields, as has been fully documented in the Union of Concerned Scientists report titled Failure to Yield. And GMO crops are very bad for the carbon footprint.

The fact that the Obama administration is actively forwarding Monsanto's efforts should be a grave concern to every American. Of course, the last 16 years of Clinton and Bush also did everything in their power to help Monsanto.

No wonder Americans are fed up. Politicians in both parties are beholden to the golden idol, not the best health interests of its citizens.

### **Take Back Our Food - Join the Fight**

We the people can have a huge impact and we can change this serious threat to human health. Don't buy GMOs food. GMOs permeate corn and soy products, beet sugar is now mutated, and wheat is next in line.

If you aren't sure how to avoid GMO foods and brands then follow the advice given on Jeffrey Smith's Non-GMO shopping guide. Demand from your political representatives that all GMO food be labeled as containing GMOs. This isn't just a political issue - this is about your personal health and the future of food.

---

**\*Source: CCN**

---

---

# MONSANTO: DECADES OF A DARK HISTORY

\*Aruna Rodrigues

## Monsanto and our Government

*The Bt brinjal safety dossier is the work and analyses of Monsanto with no oversight. This invalidates it. Yet, the Government Regulator feels empowered to brush aside the serious objections to the dossier on safety grounds by four internationally renowned scientists. It approved Bt brinjal for commercial release on the 14<sup>th</sup> Oct. hurriedly, despite requests by 3 dissenting members including Dr Bhargava to provide due time to read the Expert Committee Report, especially given the flawed data, gaps and omissions and outstanding evidence of environmental and health hazards. The GEAC were in a great hurry; they dismissed these legitimate requests. The question is why? And what is the hurry?*

*We know that there is a massive conflict of interest within the Regulators, to the point that the line between Regulator and regulated is conspicuously blurred. Thus, Monsanto has a direct line and lobbying ability with our Regulators and is able to bring unprecedented pressure to bear. At a time when we have evidence of graft and corruption of US companies like Dow Chemicals bribing Indian bureaucrats within crop insecticide departments and in other key Ministries, it will be wise to remember that Monsanto has been indicted by US law enforcement agencies many times over in its corporate history. They stand accused of some of the greatest crimes against humanity.*

*The fact is that the Government of India has entrusted the bio-safety of India, its food security, environment and farming into the hands of Monsanto. This is like handing over the keys of ones house to a known felon and proceeding on a holiday. An investigation is urgent and imperative to probe Monsanto in India and its HOLD over our Government.*

**THIS IS THE RECORD OF MONSANTO, OF HOW IT SERVES SOCIETY AND MAKES ITS PROFIT**

- **1969:** Produces Lasso herbicide, better known as Agent Orange, which was used as a defoliant by the U.S. Government during the Vietnam War. “[Lasso’s] success turns around the struggling Agriculture Division,” Monsanto’s web page reads.

**1976:** RoundUp is commercialized, becoming the world’s top-selling herbicide.

**1976:** Monsanto produces Cycle-Safe, the world’s first plastic soft-drink bottle. The bottle, suspected of posing a cancer risk, is banned the following year by the Food and Drug Administration.

- **1981:** G.D. Searle gets FDA approval for NutraSweet (Monsanto completes its acquisition of Searle in 1985, manufacturers of Aspartame).
- **1986:** Monsanto found guilty of negligently exposing a worker to benzene at its Chocolate Bayou Plant in Texas. It is forced to pay \$100 million to the family of Wilbur Jack Skeen, a worker who died of leukaemia after repeated exposures.

**1986:** At a 1986 congressional hearing, medical specialists denounce a National Cancer Institute study disputing that formaldehyde causes cancer. Monsanto and DuPont scientists helped with the study, whose author provided results to the Formaldehyde Institute industry representatives *nearly six months* before releasing the study to the EPA, labor unions and the public.

**1986:** Monsanto spends \$50,000 against California’s anti-toxics initiative, Proposition 65. The initiative prohibits the discharge of chemicals known to cause cancer or birth



---

defects into drinking water supplies.

- **1987:** —Monsanto is one of the companies named in an \$180 million settlement for Vietnam War veterans exposed to Agent Orange.
  - **1988:** A federal jury finds Monsanto Co.'s subsidiary, G.D. Searle & Co., negligent in testing and marketing of its Copper 7 intrauterine birth control device (IUD). The verdict followed the unsealing of internal documents regarding safety concerns about the IUD, which was used by nearly 10 million women between 1974 and 1986.
  - **1990:** EPA chemists allege fraud in Monsanto's 1979 dioxin study, which found exposure to the chemical doesn't increase cancer risks.
  - **1990:** Monsanto spends more than \$405,000 to defeat California's pesticide regulation Proposition 128, known as the "Big Green" initiative. The initiative is aimed at phasing out the use of pesticides, including Monsanto's product alachlor, linked to cancer and global warming.
  - **1991:** Monsanto is fined \$1.2 million for trying to conceal discharge of contaminated waste water into the Mystic River in Connecticut.
  - **1993:** The Food and Drug Administration approves controversial Posilac bovine somatotropin (BST) which was subsequently banned outside the US
  - **1995:** Monsanto is sued after allegedly supplying radioactive material for a controversial study which involved feeding radioactive iron to 829 pregnant women.
- 1995:** Monsanto ordered to pay \$41.1 million to a waste management company in Texas

due to concerns over hazardous waste dumping.

- **1995:** The Safe Shoppers Bible says that Monsanto's Ortho Weed-B-Gon Lawn Weed Killer contains a **known** carcinogen, 2,4 D. Company officials argue that numerous studies have found no link to cancer.
- **1997:** The Seattle Times reports that Monsanto sold 6,000 tons of contaminated waste to Idaho fertilizer companies, which contained the carcinogenic heavy metal cadmium, believed to cause cancer, kidney disease, neurological dysfunction and birth defects.

Monsanto said Agent Orange and PCB's were safe, that Aspartame was safe. Aspartame causes cancers and formaldehyde poisoning listed amongst 92 acknowledged health hazards on FDA files (produced in a court of law) and which is now the subject of a multi-million dollar law suit in the US. Monsanto is now the agri-business giant, (Roundup Ready -RR) and brand leader in GM Crops (Bt and RR — herbicide tolerant crops). It owns Terminator technology in partnership with the US government, fudges, bribes and falsifies data to show its GMOs are safe.

- According to the U.S. Securities & Exchange Commission, Monsanto bribed at least 140 Indonesian officials or their families to get Bt cotton approved without an environmental impact assessment (EIA). In 2005, Monsanto paid \$1.5 million in fines to the US Justice Department for these bribes.
- Six Government scientists including Dr. Margaret Haydon told the Canadian Senate Committee of Monsanto's 'offer' of a bribe of between \$1-2 million to the scientists from Health Canada if they approved the company's GM bovine growth hormone (rbGH) (banned in many countries outside the US), without further study and how notes



and files critical of scientific data provided by Monsanto were stolen from a locked filing cabinet in her office. One FDA scientist arbitrarily increased the allowable levels of antibiotics in milk 100-fold in order to facilitate the approval of rbGH. She had just arrived at the FDA from Monsanto.

- The US Patent and Trademark Office rejected four key Monsanto patents related to GM crops that the Public Patent Foundation (PUBPAT) challenged because the *agricultural giant is using them to harass, intimidate, sue - and in some cases bankrupt - American farmers*. Monsanto devotes more than \$10 million per year to such anti-farmer activities, over alleged improper use of its patented seeds.
- The Alabama Court Judgement in February 2002 best describes the sort of business that Monsanto is in. In 1966, court documents in a case concerning Anniston residents in the US showed that Monsanto managers discovered that fish dunked in a local creek turned belly-up within 10 seconds, spurting blood and shedding skin as dropped into boiling water. In 1969, they found fish in another creek with 7,500 times the legal PCB level. But they never told their neighbours and concluded that *"there is little object in going to expensive extremes in limiting discharges - We can't afford to lose one dollar of business"*. In fact court documents revealed that the company withheld evidence about the safety of their PCBs to the residents of the town that were being poisoned by their factory to keep their profitable dollars. On February 22<sup>nd</sup> 2002, a court found Monsanto guilty on six counts of NEGLIGENCE, WANTONNESS AND SUPPRESSION OF THE TRUTH, NUISANCE, TRESPASS AND OUTRAGE. *Outrage* according to Alabama law is conduct *"so outrageous in character and extreme in degree as to go beyond all possible bounds of decency so as to be regarded as atrocious and utterly intolerable in civilized society."*
- Monsanto omitted incriminating data altogether from its 1996 published study on GM soybeans. When the data was recovered later by an investigator, it showed that GM soy contained significantly lower levels of protein and other nutrients and toasted GM soy meal contained nearly twice the amount of a lectin (protein) that may block the body's ability to assimilate other nutrients. Furthermore, the toasted GM soy contained as much as seven times the amount of trypsin inhibitor, a major soy allergen. Monsanto named their study: *"The composition of glyphosate-tolerant soybean seeds is equivalent to that of conventional soybeans"*
- Monsanto hides evidence of the toxic effects of its GM products. In Europe it refused to reveal the results of its own secret animal feeding studies, which revealed serious abnormalities to rats fed GM corn, citing CBI (Confidential Business Information) until forced to do so by a German Court. One of its Bt corn products (the only GM crop grown in the EU) was subsequently banned for planting in France and other EU countries based on the appraisal by Seralini of Monsanto's own dossier.
- The India Story of Bt brinjal is virtually identical. It has taken two years for these safety studies to be put in the public domain. The Regulator is complicit in having supported Monsanto in its attempts to keep the studies secret by claiming them as *"confidential business information,"* until forced to change their stance by the Supreme Court Order. They complied in Aug 08. Its Safety Dossier was appraised by 4 independent and internationally acclaimed scientists (including Seralini). Their appraisals provide evidence of toxicity, badly designed studies, fuzzy data

---

masked by too many controls; no 'p' values, a most serious omission; paucity of raw data; no peer review; gaps, major omissions and sample sizes which make sheer mockery of good biosafety testing. In short, the studies are a smokescreen. The study defects are long and would fill a dossier on their own demerits. It is difficult to avoid the serious conclusion of intent to mislead, even cover-up and fraud.

**NOTE:**

Monsanto is the company that the Government of India has accepted as being on the Board representing the US side in the KIA (India-US Knowledge Initiative in Agriculture), which allows Monsanto access to our premier agricultural institutions across India. The GEAC is on record as wanting to "trust" Monsanto because it would be wrong not to do so without reason, despite

Monsanto's history of corporate criminality. The safety assessment of Bt brinjal was undertaken by Monsanto, with no independent testing or oversight.

Legitimate criticism of the dossier by as many as four scientists of impeccable international standing have been rejected by the Regulators and the thoroughly unscientific assessment by the Expert Committee whose members were drawn essentially from the Regulators, and who are manifestly not independent, and some of whom demonstrate a serious conflict of interest, have been astonishingly upheld. Is India as a nation prepared to allow the Government to mortgage the Nation's future for all time: the contamination of our biodiversity by GM, our food security, right to safe food & health, our farmers & farming environment, because of an inappropriate investment of "trust" by our Government and its Regulator, in Mahyco-Monsanto?

---

### **Transgene from GM Corn Detected in Soil Animals**

Scientists in Canada have found evidence of the transgene present in genetically modified Roundup Ready corn in various soil-dwelling animals, pointing to "serious implications for environmental health and human safety."

The transgene, which makes the corn resistant to the herbicide glyphosate, has presented in four different animal types: macroarthropods and nematodes, and microarthropods and earthworms living in a field of Roundup Ready corn. About 81% of nematodes tested positive for the transgene, and more than a third of microarthropods.

"Whether the presence of transgenes in the soil food web presents a risk for soil animals is not known," wrote the scientists. This statement suggests that despite the widespread use of GMOs for years, the environmental effects remain unknown. The bad news?

This evidence of concentrations of transgenic DNA in animals indicates that the transgene does not significantly degrade within the food web. The guts of these animals could allow genetic transformation into native soil bacteria, which could ultimately move into plants and pose risks to human health.

**\*Source: Ecological Farming Association**

---

# Doctors Warn: Avoid Genetically Modified Food

**\*Jeffrey M. Smith**

On May 19th, the American Academy of Environmental Medicine (AAEM) called on “Physicians to educate their patients, the medical community, and the public to avoid GM (genetically modified) foods when possible and provide educational materials concerning GM foods and health risks.”

They called for a moratorium on GM foods, long-term independent studies, and labeling. AAEM’s position paper stated, “Several animal studies indicate serious health risks associated with GM food,” including infertility, immune problems, accelerated aging, insulin regulation, and changes in major organs and the gastrointestinal system. They conclude, “There is more than a casual association between GM foods and adverse health effects. There is causation,” as defined by recognized scientific criteria. “The strength of association and consistency between GM foods and disease is confirmed in several animal studies”.

More and more doctors are already prescribing GM-free diets. Dr. Amy Dean, a Michigan internal medicine specialist, and board member of AAEM says, “I strongly recommend at strictly non-genetically modified foods.” Ohio allergist Dr. John Boyles says “I used to test for soy allergies all the time, but now that soy is genetically engineered, it is so dangerous that I tell people never to eat it.”

Dr. Jennifer Armstrong, President of AAEM, says, “Physicians are probably seeing the effects in their patients, but need to know how to ask the right questions.” World renowned biologist Pushpa M. Bhargava goes one step further.

After reviewing more than 600 scientific journals, he concludes that genetically modified organisms (GMOs) are a major contributor to the sharply deteriorating health of Americans.

## **Pregnant women and babies at great risk**

Among the population, biologist David Schubert of the Salk Institute warns that “children are the most likely to be adversely effected by toxins and other dietary problems” related to GM foods. He says without adequate studies, the children become “the experimental animals.”

The experience of actual GM-fed experimental animals is scary. When GM soy was fed to female rats, most of their babies died within three weeks - compared to a 10% death rate among the control group fed natural soy. The GM-fed babies were also smaller, and later had problems getting pregnant.

When male rats were fed GM soy, their testicles actually changed color - from the normal pink to dark blue. Mice fed GM soy had altered young sperm. Even the embryos of GM fed parent mice had significant changes in their DNA. Mice fed GM corn in an Austrian government study had fewer babies, which were also smaller than normal.

Reproductive problems also plague livestock. Investigations in the state of Haryana, India revealed that most buffalo that ate GM cottonseed had complications such as premature deliveries, abortions, infertility, and prolapsed uteruses.

Many calves died. In the US, about two dozen farmers reported thousands of pigs became sterile after consuming certain GM corn varieties. Some had false pregnancies; others gave birth to bags of water. Cows and bulls also became infertile when fed the same corn.

In the US population, the incidence of low birth weight babies, infertility, and infant mortality are all escalating.

---

## Food designed to produce toxin

GM corn and cotton are engineered to produce their own built-in pesticide in every cell. When bugs bite the plant, the poison splits open their stomach and kills them. Biotech companies claim that the pesticide, called Bt - produced from soil bacteria *Bacillus thuringiensis* - has a history of safe use, since organic farmers and others use Bt bacteria spray for natural insect control. Genetic engineers insert Bt genes into corn and cotton, so the plants do the killing.

The Bt-toxin produced in GM plants, however, is thousands of times more concentrated than natural Bt spray, is designed to be more toxic, has properties of an allergen, and unlike the spray, cannot be washed off the plant.

Moreover, studies confirm that even the less toxic natural bacterial spray is harmful. When dispersed by plane to kill gypsy moths in the Pacific Northwest, about 500 people reported allergy or flu-like symptoms. Some had to go to the emergency room.

The exact same symptoms are now being reported by farm workers throughout India, from handling Bt cotton. In 2008, based on medical records, the Sunday India reported, "Victims of itching have increased massively this year . . . related to BT cotton farming."

## GMOs provoke immune reactions

AAEM states, "Multiple animal studies show significant immune dysregulation," including increase in cytokines, which are "associated with asthma, allergy, and inflammation" - all on the rise in the US.

According to GM food safety expert Dr. Arpad Pusztai, changes in the immune status of GM animals are "a consistent feature of all the studies." Even Monsanto's own research showed significant immune system changes in rats fed Bt corn. A

November 2008 by the Italian government also found that mice have an immune reaction to Bt corn.

GM soy and corn each contain two new proteins with allergenic properties, GM soy has up to seven times more trypsin inhibitor - a known soy allergen, and skin prick tests show some people react to GM, but not to non-GM soy.

Soon after GM soy was introduced to the UK, soy allergies skyrocketed by 50%. Perhaps the US epidemic of food allergies and asthma is a casualty of genetic manipulation.

## Animals dying in large numbers

In India, animals graze on cotton plants after harvest. But when shepherds let sheep graze on Bt cotton plants, thousands died. Post mortems showed severe irritation and black patches in both intestines and liver (as well as enlarged bile ducts). Investigators said preliminary evidence "strongly suggests that the sheep mortality was due to a toxin. . . . most probably Bt-toxin." In a small follow-up feeding study by the Deccan Development Society, all sheep fed Bt cotton plants died within 30 days; those that grazed on natural cotton plants remained healthy.

In a small village in Andhra Pradesh, buffalo grazed on cotton plants for eight years without incident. On January 3rd, 2008, the buffalo grazed on Bt cotton plants for the first time. All 13 were sick the next day; all died within 3 days.

Bt corn was also implicated in the deaths of cows in Germany, and horses, water buffaloes, and chickens in The Philippines.

In lab studies, twice the number of chickens fed Liberty Link corn died; 7 of 20 rats fed a GM tomato developed bleeding stomachs; another 7 of 40 died within two weeks.

Monsanto's own study showed evidence of

---

poisoning in major organs of rats fed Bt corn, according to top French toxicologist G. E. Seralini.

### **Worst finding of all - GMOs remain inside of us**

The only published human feeding study revealed what may be the most dangerous problem from GM foods. The gene inserted into GM soy transfers into the DNA of bacteria living inside our intestines and continues to function. This means that long after we stop eating GMOs, we may still have potentially harmful GM proteins produced continuously inside of us.

Put more plainly, eating a corn chip produced from Bt corn might transform our intestinal bacteria into living pesticide factories, possibly for the rest of our lives. When evidence of gene transfer is reported at medical conferences around the US, doctors often respond by citing the huge increase of gastrointestinal problems among their patients over the last decade. GM foods might be colonizing the gut flora of North Americans.

### **Warnings by government scientists ignored and denied**

Scientists at the Food and Drug Administration (FDA) had warned about all these problems even in the early 1990s. According to documents released from a lawsuit, the scientific consensus at the agency was that GM foods were inherently dangerous, and might create hard-to-detect allergies, poisons, gene transfer to gut bacteria, new diseases, and nutritional problems. They urged their superiors to require rigorous long-term tests.

But the White House had ordered the agency to promote biotechnology and the FDA responded by recruiting Michael Taylor, Monsanto's former attorney, to head up the formation of GMO policy.

That policy, which is in effect today, denies knowledge of scientists' concerns and declares that no safety studies on GMOs are required. It is up to

Monsanto and the other biotech companies to determine if their foods are safe. Mr. Taylor later became Monsanto's vice president.

### **Dangerously few studies, untraceable diseases**

AAEM states, "GM foods have not been properly tested" and "pose a serious health risk." Not a single human clinical trial on GMOs has been published. A 2007 review of published scientific literature on the "potential toxic effects/health risks of GM plants" revealed "that experimental data are very scarce." The author concludes his review by asking, "Where is the scientific evidence showing that GM plants/food are toxicologically safe, as assumed by the biotechnology companies?"

Famed Canadian geneticist David Suzuki answers, "The experiments simply haven't been done and we now have become the guinea pigs." He adds, "Anyone that says, 'Oh, we know that this is perfectly safe,' I say is either unbelievably stupid or deliberately lying."

Dr. Schubert points out, "If there are problems, we will probably never know because the cause will not be traceable and many diseases take a very long time to develop." If GMOs happen to cause immediate and acute symptoms with a unique signature, perhaps then we might have a chance to trace the cause.

This is precisely what happened during a US epidemic in the late 1980s. The disease was fast acting, deadly, and caused a unique measurable change in the blood - but it still took more than four years to identify that an epidemic was even occurring.

By then it had killed about 100 Americans and caused 5,000-10,000 people to fall sick or become permanently disabled. It was caused by a genetically engineered brand of a food supplement called L-tryptophan.

If other GM foods are contributing to the rise of

autism, obesity, diabetes, asthma, cancer, heart disease, allergies, reproductive problems, or any other common health problem now plaguing Americans, we may never know.

In fact, since animals fed GMOs had such a wide variety of problems, susceptible people may react to GM food with multiple symptoms. It is therefore telling that in the first nine years after the large scale introduction of GM crops in 1996, the incidence of people with three or more chronic diseases nearly doubled, from 7% to 13%.

To help identify if GMOs are causing harm, the AAEM asks their “members, the medical community, and the independent scientific community to gather case studies potentially related to GM food consumption and health effects, begin epidemiological research to investigate the role of GM foods on human health, and conduct safe

methods of determining the effect of GM foods on human health.”

Citizens need not wait for the results before taking the doctors advice to avoid GM foods. People can stay away from anything with soy or corn derivatives, cottonseed and canola oil, and sugar from GM sugar beets - unless it says organic or “non-GMO.” There is a pocket Non-GMO Shopping Guide, co-produced by the Institute for Responsible Technology and the Center for Food Safety, which is available as a download, as well as in natural food stores and in many doctors’ offices. If even a small percentage of people choose non-GMO brands, the food industry will likely respond as they did in Europe - by removing all GM ingredients. Thus, AAEM’s non-GMO prescription may be a watershed for the US food supply.

**\*Source: Institute for Responsible Technology**

### **Physicians’ Association Calls for Moratorium on GMO Foods**

Wichita, KS - The American Academy of Environmental Medicine (AAEM) today released its position paper on Genetically Modified foods stating that “GM foods pose a serious health risk” and calling for a moratorium on GM foods. Citing several animal studies, the AAEM concludes “there is more than a casual association between GM foods and adverse health effects” and that “GM foods pose a serious health risk in the areas of toxicology, allergy and immune function, reproductive health, and metabolic, physiologic and genetic health.” The AAEM calls for:

- o A moratorium on GM food, implementation of immediate long term safety testing and labeling of GM food.
- o Physicians to educate their patients, the medical community and the public to avoid GM foods.
- o Physicians to consider the role of GM foods in their patients’ disease processes.
- o More independent long term scientific studies to begin gathering data to investigate the role of GM foods on human health.

“Multiple animal studies have shown that GM foods cause damage to various organ systems in the body. With this mounting evidence, it is imperative to have a moratorium on GM foods for the safety of our patients’ and the public’s health,” said Dr. Amy Dean, PR chair and Board Member of AAEM. “Physicians are probably seeing the effects in their patients, but need to know how to ask the right questions,” said Dr. Jennifer Armstrong, President of AAEM. “The most common foods in North America which are consumed that are GMO are corn, soy, canola, and cottonseed oil.” The AAEM’s position paper on Genetically Modified foods can be found at <http://aaemonline.org/gmopost.html>. AAEM is an international association of physicians and other professionals dedicated to addressing the clinical aspects of environmental health.

About AAEM The American Academy of Environmental Medicine was founded in 1965, and is an international association of physicians and other professionals interested in the clinical aspects of humans and their environment. The Academy is interested in expanding the knowledge of interactions between human individuals and their environment, as these may be demonstrated to be reflected in their total health. The AAEM provides research and education in the recognition, treatment and prevention of illnesses induced by exposures to biological and chemical agents encountered in air, food and water.

**\*Source :American Academy of Environmental Medicine**

---

---

**Supreme Court's nominee Dr. Pushpa M. Bhargava to GEAC points out that the following bio-safety tests on GMOs (Bt Brinjal) were not done**

1. DNA fingerprinting and proteomics analysis and full characterization, both structurally and functionally, of the differences between the GMO and the parent organism
2. The total sequence of the transgene-flanking regions and the transgene, and identification of the site(s) of integration of the transgene in the GMO
3. Changes in the glycosylation pattern
4. Determination of any selective increase in transcription and translation, thus including a study of the transcriptome
5. Changes in the relative concentration of major and important intracellular metabolites
6. Changes in surface properties that may affect normal interaction between species, and with the environment, studied through scanning electron microscope and atomic force microscope
7. Reproduction interference
8. Gene flow
9. Dispersal into areas where positive harm could be done (as happened with water hyacinth and parthenium)
10. Development (if not already available) of a technique to determine with accuracy 0.01 percent contamination with GMO or its product
11. In the case of GM food material, possible interaction with commonly used drugs, especially probiotics
12. Acute toxicity studies with native (not "surrogate") protein, GM seeds and other GM plant material that is normally ingested by animals, including cattle. These studies should be done both on experimental lab animals and on farm animals such as goat, sheep and cows)
13. Chronic toxicity studies (including carcinogenicity) as above
14. Effect on cattle GI microflora
15. Effect on soil micronutrients in every region concerned (rain-fed, irrigated, semi-arid, etc.) where GMO is likely to be released or find its way
16. Development of resistance to the trait that is introduced
17. Increasing requirements for refuge crops, if any.
18. Increase in susceptibility to pests and infectious agents other than those that may be expected to be killed by the transgene.
19. Comparison of the growth characteristics of the GMO and the parent organism.
20. Emergence of new dangers, for example of super weeds, following prolonged use of herbicide-resistant GM crops.
21. Effect on the population density of non-susceptible pests, following at least five successive plantations – for example in the case of GM Bt plants.
22. Automated karyotyping and gross chromosomal analysis.
23. If the GMO is a plant, its biomass productivity in comparison to the parent.
24. Comparison of inputs required for optimal growth of the GMO in comparison to the parent organism.
25. Impact on ecology in controlled field trials (for example, on population of bees, and other useful insects). This would require total mapping of insects and other living species in every region where the GMO is intended to be released, over a substantial period of time.





**Dr. Krishan Bir Chaudhary visiting Brinjal fields with farmers at Village Makhamalabad, Nashik**



**Dr. Krishan Bir Chaudhary visiting Grapes orchard at Village:Matori, Talluka:Nashik.**



## Bharatiya Krushak Samaj protesting & burning the effigy of GEAC at Nagpur



---

# Letter to Shri Jairam Ramesh

Mr. Jairam Ramesh  
Minister, Environment and Forests,  
Government of India

Re: Bt-brinjal Part One

Dear Minister Ramesh

It is my pleasure to respond to your request of 7 November 2009 for my views on the Monsanto-Mahyco application to approve open cultivation of Bt-brinjal for use as food. As you know, I was one of a number of independent scientists who read and critiqued the scientific information provided by the developer in its case to demonstrate that the genetically engineered Bt-brinjal posed no safety concerns for human health or the environment. I came to the conclusion that the molecular data, and some related analyses, were too poorly conducted to make a definitive claim that this product is safe.

Since that time, the official Indian advisory body, GEAC, has ruled that the science provided by the company does satisfy them that Bt-brinjal is safe. I have only just learned, however, that new evidence in support of the claim of safety has become available. All or some of this evidence was gathered after the dossier was made publicly available in August of 2008. The new data was posted for viewing only days ago. I have been unable to review the new data to determine if they adequately address the concerns I raised previously. To do so properly, I will need additional time. Considering the volume of new data posted, I hope that you will extend your period of review until March of 2010.

Therefore, if you would permit me, I would prefer to respond to your request in two parts. In this letter, I will describe how I came to my present views on agriculture and my involvement in assessing other genetically engineered crops and the outcome of those assessments. This I believe to be important information because it is related to how I prioritise my assessment of the testing of Bt-brinjal, which will be the focus of my next letter.

Traits such as Bt (insect tolerance in general) and HT (herbicide tolerance in general, often RR for roundup ready) suit particular agroecosystems and philosophies of industrial agriculture. That is perhaps why, even according to industry figures, 67% of all commercialised genetically engineered crops are grown in only 2 countries, the United States and Argentina, and 80% in just 3 countries including Brazil. India, which the industry describes as a GE megacountry, produces only 6% of the world's GE crops and only uses 4% of its agricultural land for GE. The industry figures are contested and may overstate the amount of GE produced outside of the US and Argentina, making the concentration of GE crops in just a few agroecosystems even more telling.

As I discuss in my book *Hope not Hype*, only two countries on this planet have gambled with GE on more than 35% of their agricultural land. Those two countries are Argentina and Paraguay (and decidedly *not* the United States). They have over two-thirds of their agricultural land in GE production. Alongside the change to GE production has been an increase in "food insecurity" and "very low food security" as measured

---

by the UN Food and Agriculture Organisation.

Since India's only genetically engineered crop at this time is cotton, it is worth considering how GE cotton varieties in the US, where they have been in production the longest, are doing. Interestingly, the latest studies do not vindicate the claim that the crops are reliably increasing yield or financial returns (this is discussed and fully referenced in detail in Chapter 5 of *Hope not Hype*). The latest research shows that over time profits follow yield, but there is no consistent yield increase with GE cotton. There is year-to-year variation, with good yield years promoted by those who sell GE cotton seeds.

There are many reasons beyond safety to consider whether GE crops are the right kind of biotechnology for your country. These were considered methodically and holistically by the single largest research exercise on global agriculture in history conducted with funding from multiple UN agencies and the World Bank. This report, published in January as *Agriculture at a Crossroads*, was produced under the International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD). It involved around 400 researchers and twice the number of peer-reviewers. Built on the IPCC model, it underwent two rounds of open international peer-review and was ratified overwhelmingly at the intergovernmental plenary in April 2008.

The "IAASTD report" came to the conclusion that 'business as usual' will inevitably result in food and fuel needs exceeding global ability to meet them. However, this isn't a food shortage problem. The problem historically and presently is caused by social barriers and because of the model of agriculture for which most GE products are designed. In fact, more GE is more 'business as usual'. Some hunger in the future will probably be due to production limitations, but again mainly because of conspicuous consumption in wealthy countries, loss of land and fertility in both developed and developing countries (because of use of fossil-fuel dependent fertilizers), and poor policy decisions on water and biomass use. Unless the problem of "feeding the world" is considered holistically, inappropriate technologies that are not sustainable will be proposed as stop-gap solutions and that would not address the major causes of shortage.

I was a lead author on Chapter 6 of the global report, and of the biotechnology section of the Synthesis Report. This latter role was why I was invited to represent the authors at the intergovernmental plenary at which the report was adopted. In addition to that role, I have been a biotechnology advisor to multiple government agencies in New Zealand, and agencies of the US and Norwegian governments. I am listed by the United Nations as a biosafety expert and serve on the Ad Hoc Technical Experts Group to the Secretariat of the Convention on Biodiversity. I publish in the international peer-reviewed literature including such journals as *Science*, *Nature*, *Nature Biotechnology* and *Trends in Biotechnology* and have an active laboratory with three PhD students (with more on the way), a postdoctoral scholar and an honours student.

I am also the director of a research centre that voluntarily participates in the consultation in our country over the use of GE crops as human food. Our food regulator, Food Standards Australia New Zealand, is the competent authority for both Australia and New Zealand. They invite opinion, particularly scientific opinion, on applications for amending our food code to include GE crops on a case by case basis. I have reviewed three applications in great detail, and four applications to date. Two applications for which I submitted comments were withdrawn by the applicant (both ostensibly for commercial reasons, but there are reasons to doubt that, at least for the second application).

Both applications that were ultimately withdrawn were from Monsanto. The first was for a modified wheat

---

plant in 2004. The most recent withdrawal was of Monsanto's high lysine maize LY038. This is the most interesting case. My colleagues and I found over a hundred scientific flaws in the data. Nonetheless, the application was approved in several jurisdictions, including Australia/New Zealand, despite these problems. However, many of those flaws, and the most significant ones, were not considered permissible by many European countries or the European Food Safety Authority (EFSA), which refused to approve the maize unless the key problems with the scientific dossier were addressed with new experiments and the results still supported approval. Instead of investing the small increment of money necessary to produce this science, Monsanto instead stopped all commercial development of LY038. Since we estimate that Monsanto had by this time invested nearly US\$1 billion in development, marketing and processing facilities, and by its own admission expected that this product would produce a revenue stream of US\$1 billion/year, a few hundred thousand dollars of new scientific tests was to us an unlikely reason for withdrawing the product.

I relate this story for two reasons. The first is to let you know that I am not naïve to what it takes to make a quality dossier for an application to approve a GE plant and determine that it is safe for human health and the environment. I have been doing this analysis for some time, and been found to be in agreement at least with some competent authorities. Strikingly, the major defect in the LY038 dossier was the use of the wrong comparator. They used another GE variety against Codex Alimentarius and EU rules. Some jurisdictions went to great lengths to excuse this fundamental flaw, but others held their ground. I could not find the comparator even mentioned in the brinjal safety studies that I took special note of, much less a sense that the studies consistently used the appropriate comparator.

Second is to say that while India can have whatever standards it wishes for deciding on GE foods, other countries may close the door if proper and thorough safety testing has not been done. The LY038 application is instructive here. The Bt-brinjal dossier I viewed in August 2008 is, in my opinion, nowhere near the sophistication and quality of the LY038 dossier, and that dossier was still unacceptable to Europe. Many of the Bt-brinjal experiments, at least as described, would not satisfy Codex Alimentarius guidelines as applied by careful regulators. Does India want a reputation for low standards in food? Does it want to put its exports at risk? If the answers to these questions are 'no', then I would encourage you to set the standard with Bt-brinjal that you would like the industry to meet now and in the future for any GE crop. It is easier for industry to meet high government standards communicated clearly at the start than it is for government to raise industry standards later.

It is for me a serious error to assume that those with an interest in product development can also be biosafety scientists. The extensive network of funding for research for the purposes of advancing commercial agendas includes many in academia, so it is no longer valid to simply choose researchers from universities and call them independent. A truly world-leading strategy would be to maintain a distance between the regulator and the technology, and to certainly remove any consideration of trade from the regulator's brief. India could achieve this by supporting independent laboratories and researchers committed to public and environmental safety at both the basic research level and in review of technological applications. As we are witnessing by the accumulation of research results from a small and widely spread independent research community, the truth ultimately comes out. The challenge will be for political leaders such as yourself to ensure that the truth comes out before any undetected harms of new technologies.

With best wishes,  
Prof. Jack Heinemann  
24 November 2009

---

# Agricultural Practices and Carbon Sequestration

One of agriculture's major opportunities to help mitigate the effects of climate-warming gases lies in management of soil to increase organic content, thereby removing carbon from the atmosphere. Many scientists are conducting studies to determine which agricultural practices will in fact sequester carbon. Recent studies, summarized below, demonstrate that a number of biological, soil-based practices employed in integrated systems have great potential to sequester carbon. In contrast, recent studies suggest that no-till, a form of conservation tillage, has environmental benefits such as reducing soil erosion, but may not sequester more carbon than conventional tillage (plowing).

## Integrated soil-based practices

The most promising systems for carbon sequestration in soil combine crop rotation and low or no inputs of pesticides, herbicides, and industrial fertilizers. Long-term studies done by the Rodale Institute and others suggest that such systems build (not simply conserve) significant quantities of soil organic carbon through a variety of mechanisms such as enhanced abundance of mycorrhizal fungi. Several studies, including some done over long periods of time, have compared carbon accumulation in organic (plowed) and conventional (plowed) systems<sup>1</sup> and demonstrate that organic systems sequester more carbon than conventional chemical-intensive systems.

In a head-to-head comparison between conventional no-till and organic plowed systems, organic plowed systems sequestered more carbon even though the sampling was restricted to shallow soil, where no-till tends to show carbon accumulation. Although more studies are needed, there are good reasons to believe that organic systems would do at least as well as conventional systems deeper in the soil. Current organic systems typically employ plowing to control weeds, and conventional plowed systems generally sequester more carbon at greater soil depths than no-till (discussed below).

Systems that use crop rotations and green and animal manure have shown higher biodiversity by foregoing chemical pesticides, supplying more diverse habitats,<sup>4</sup> and reducing nitrogen pollution. Systems that integrate livestock and crops, employ perennial pastures, and adopt many of the practices used in organic production (e.g., long crop rotations, leguminous crops and cover crops, manure produced by livestock as fertilizer) also have shown potential for improved greenhouse gas balance, reduced pollution, and higher profitability. Further research on these promising approaches

will help optimize their benefits and determine their applicability across geographic regions.

In summary, available data suggest that organic and near-organic farming systems achieve greater carbon sequestration and other benefits compared with conventional systems. Further work, supported by adequate research funding, is needed to realize the promise of these biologically sophisticated production systems.

## No-till practices

Scientific evidence accumulated over the last two years has called into question the long-held view that no-till practices result in significant accumulations of carbon in the soil. The most important of these reports are

1. Baker, J.M., et al. 2007. Tillage and soil carbon sequestration—What do we really know? *Agriculture, Ecosystems and Environment* 118:1–5.

This landmark review of the scientific literature found that no-till fields sequestered no more carbon than plowed fields. Most previous studies measured carbon sequestration only down to about 30 cm. For example, a review often used to support no-till as a means to sequester soil carbon cited 140 studies, none of which measured soil carbon below 30 cm.<sup>5</sup> However, the roots of crops—which deposit carbon in the soil—often grow much deeper. In a review paper cited in Baker et al. that examined carbon changes to soil depths greater than 30 cm, most (35 of 51) of the studies found no significant difference in carbon sequestration between plowing and no-till. In fact, on average, the no-till systems may have lost some carbon over the period of the experiments. In summary, no-till tends to show increased carbon at shallow depths where crop residues are found, but at greater depths plowed soils typically sequester more carbon.

2. Blanco-Canqui, H., and R. Lal. 2008. No-tillage and soil-profile carbon sequestration: An on-farm assessment. *Soil Science Society of America Journal* 72:693–701.

This research compared soil carbon between plowed fields and fields managed with no-till practices for up to 30 years on actual farms (as opposed to controlled field tests) in three eastern states, using paired sites on each farm. Most of the sites showed no statistical differences between no-till and plowed fields in soil carbon accumulation when carbon from the entire soil profile (including depths below 30 cm) was



measured. Three of the 11 sites had greater soil carbon accumulation in the plowed fields than in the no-till fields. The paper also reviewed 16 studies from around the world that examined carbon sequestration at soil depths greater than 30 cm and found similar results.

3. Poirier, V., et al. 2009. Interactive effects of tillage and mineral fertilization on soil carbon profiles. *Soil Science Society of America Journal* 73:255–261.

This study of sites in Quebec, Canada, over a period of three years also found that the amount of sequestered carbon did not differ between no-till and plowing. These authors also found higher carbon accumulation from no-till only where the top several centimeters of soil were measured. When the measurements included the entire soil profile, the higher

carbon accumulation in plowed fields at lower depths compensated for the lower amount of carbon near the soil surface. Different fertilization rates did not alter these results.

#### Summary of the science

The current scientific literature does not support favoring no-till over plowing for carbon sequestration. The emerging consensus from numerous studies and reviews is that under a variety of environmental conditions no-till sequesters no more carbon than plowing. The apparent advantage for no-till in previous studies of carbon sequestration was an artifact of sampling carbon only near the soil surface.

**\*Source : Union of Concerned Scientists**

## **Organic cotton ‘fraud’ uncovered**

**BERLIN – [24.01.10] Leading European retailers and brands such as H&M, C&A and Tchibo have unknowingly been selling certified organic cotton clothing contaminated with genetically modified cotton from India, in a suspected fraud that is certain to shake consumer confidence in organic.**

The scale of the alleged fraud uncovered by the German edition of the *Financial Times* newspaper is shocking - if it's accurate. Lothar Kruse, a director of the independent testing laboratory Impetus in Bremerhaven, who examined the cotton fabrics claimed around "30% of the tested samples" contained genetically modified (GM) cotton. The head of the Indian agricultural authority, Apeda, Sanjay Dave, told the newspaper they were dealing with fraud on "a gigantic scale."

The GM cotton found in the brand's collections has been traced back to India which now supplies nearly half of the global supply of organic cotton. According to [Organic Exchange](#) figures - to be released shortly - India produced 61% of the total amount of organic cotton produced in 2008/09 with some 107,000 tonnes of fibre out of the total 175,113 tonnes grown worldwide.

It was reported that Indian authorities discovered the alleged fraud back in April 2009 and fines were imposed at that time on third party certification agencies EcoCert and Control Union, although no statements have yet been issued by these organisations.

There has been a strong suggestion in the sustainable textile industry that all has not been well in certain sections of the Indian organic cotton sector for some time. Reports from reliable, trusted organisations and producer groups about fraud within the Indian sector of the organic cotton industry have been common-place. The industry now needs to establish firmer rules of governance over organic cotton production, while brands need to invest more in improved supply chain transparency and more thorough testing.

#### **Brand reaction**

The brands involved in the alleged fraud have been criticised for not adequately monitoring their supply chains elsewhere. Monika Buening of the Federal Consumer Affairs Agency said that both H&M and C&A needed to take immediate action to limit the damage. "The fashion chains (H&M and C&A) were not vigilant enough," the Frankfurter Rundschau newspaper quoted her as saying.

A spokeswoman for the Swedish clothing chain H&M told news agency AFP that the company became aware of the incident last year and admitted that GM cotton could have made it into H&M's organic range. C&A are said to be undertaking a thorough investigation.

**\*Source: Eco Textile News**



---

---

## Mounting Pressure on Farmer as Producer

**\*Prof. J. George**

The agrarian crisis is continuing in different forms over the last few years. All hopes of any let up is like chasing a mirage. Why is it so? Why aren't the managers of the economy able to address the core problem and provide abatement to the millions of farmers in the country? Indeed the problem has been kept in the 'pending issues' basket for too long to attain a complexity of a humongous mountain.

We have to untangle this complex web thread by thread to be meaningful. Let us take the issue of agricultural commodity prices, the most burning issue both from the producers as well as the consumers perspectives..

For many years now food rice inflation has been an issue. The headline food price inflation in recent times has touched nearly 20 per cent. The retail food prices grew faster than the prices received by farmers across the country. The production landscape in the country is dominated by the marginal and small landholders.

This effectively means that no sooner the produce is harvested it is sold out to the designated agencies depending upon the arrangements and customs prevailing in the areas of production.

In case of staples certain areas enjoy a better arrangement of transparent and fair public agencies. The marketed surplus ratios and the ruling procurement price determine the earnings of the farmers. After this he is as much a consumer as any one else in the country irrespective of where s/he resides. The livelihood strategies are thus determined by the farm income alone in majority cases.

The relevant policies in this respect notwithstanding, the problem have been aggravated mainly due to lack of leadership and foresightedness. The commodity specific discussion thus becomes inescapable here to illustrate the provocative inference.

The sugar imbroglio is very much a live issue that has been allowed to escalate to the current position due to a clash of sentiments. It is often said that 'politics is the art of the possibilities'. But in the case of sugar and sugarcane pricing it has been made into the art of the impossibilities.

The consumer price of sugar has nearly tripled but dithering goes on the sugarcane prices. The blame game is goes on. First, the Group of Minister then, the Planning Commission's Deputy Chairman issued a statement to pacify the consumer's anger but to no avail. Finally, on Wednesday the cabinet committee on prices (CCP) decided to import refined sugar at zero duty u to December 31 2010, decides to permit UP mills to process raw sugar outside the state.

The government had on Friday 8 January 2010 provided sanction to sugar mills to extend by another 15 months their export obligation fulfillment. This whole episode smacks of what the noted economist Jagdish Bhagwati has termed as 'directly unproductive, profit-seeking (DUP) activities'. The theory of DUP activities using the welfare-theoretic analysis in fact maps out the levels of distortions before and after the DUP activities.

The ill fated extraordinary gazette of India narrating the Ordinance on the fair and remunerative price (FRP) was issued on 21<sup>st</sup> October 2009 to reinforce DUP activities that ensured security to the upstream stakeholders involved in the sugar processing. The three page ordinance explicitly undermines the interests of the sugarcane growers.

Contrarily, the directly unproductive profit-seeking activity through this Ordinance was to explain that "reasonable return on the capital employed" means 'the return on the net fixed assets plus working capital of a producer in relation to the manufacture of sugar including procurement of sugarcane on fair and remunerative price fixed under this section'.

---

The distortions in the policy space are clearly evident. The oversensitivity of the central authority towards the “producer” explained as ‘manufacturer of sugar - person carrying on business of manufacturing sugar’ and the cost of manufacturing sugar is clearly visible because FRP ‘means the price of sugarcane fixed by the central government under this section’.

The profit-seeking activities have been discernible for over a year now but were heightened during February 2009. Thus sufficient time was available to introduce corrective and non-deforming policy regime.

It was the impending general elections and subsequently it was the October 2009 assembly elections in four states including Maharashtra.

The sugarcane producing landscape is under heavy stress for leaving a huge carbon footprint. This stress will preclude any further increases in the area under the sugarcane crop that has been the main source of sugarcane output growth for the past 60 years.

In order to fully reap the productivity enhancing potential increased usage of chemical fertilisers and water, *mutatis mutandis*, will further aggravate the climate change dangers. A useful policy intervention was available under the knowledge initiative in agriculture programme, if the authorities cared enough for the sugarcane productivity.

The choice of easy option, namely, to import duty-free raw sugar under the delightful DUP enhancing advance license system (ALS) is indeed very unfortunate. This was accompanied by relaxing the export obligations as well as a liberal levy-sugar quota and open sale regime.

No doubt ALS in sugar has a 10<sup>th</sup> Plan regime lineage, the foreign trade policy 2004-09 and/or the faster and inclusive growth schedule of the 11<sup>th</sup> Plan period could have easily ushered in a better policy regime.

This bitter sugar episode is yet another indication of

the deepening agrarian crisis in India. Immediately, the leadership must take full responsibility and must realise that the degrees of freedom are heavily stacked against any establishment of credibility to the rulers.

Need one enumerate, yet again, the plight of public distribution system (PDS) and the Supreme Court’s instructions to improve the performance of the ministry?

The conflict of interest angle between the agriculture and the food and public distribution ministries is aggravating and fanning DUP activities. How do they do it is the important query. The answer is available in the mosaic of statutes governing the sugar sector that immensely demonstrate the “everybody, somebody, anybody, nobody (ESAN)” syndrome.

The final outcome makes both the producers as well as the consumers’ loose out heavily. If Prime Minister is serious about performance appraisal of various ministries then the conflict of interest issue must be addressed urgently. Similarly, the responsible executives who have the intellect as well as the requisite domestic and global sugar information must be charged for willfully neglecting to safeguard the interests of producers and consumers. The heads must roll immediately to send a clear message. This must be accomplished without any further delay.

Consumers of refined sugar have a combined strength of about 40% in the total demand for sweetener segment. The remaining constitutes bulk industry consumers like confectioneries, halwai’s, etc., who have, indeed craftily, raised the crescendo of deteriorating consumers plight before the festival season.

Hence any comprehensive long term policy regime inescapably must address structural rigidities in the production base. Cane pricing is one important area. The duality and sharp divide between CACP proposed but ministry determined FRP (earlier known as statutory minimum price-SMP)) and the

state advised price (SAP) must be resolved using sound political economy precepts and not politics.

The open source knowledge base of sugar cycle in India indicates that the downslide takes 2-3 years and recovery takes another 4-5 years. In totality the 6-8 year cyclical move given the extreme event occurrences due to the climate change may take a longer time period towards recovery. The three good seasons of 2005/06 to 2007/08 was followed by a 22% decline in sugarcane output and a steep (44%) slump in sugar production during the 2008/09 sugar season.

The production landscape in fact must be used as a live case for carbon trading within the national boundaries and within various stakeholders. The organic sugarcane is an unexplored product differentiation segment waiting for sustainability driven innovators a la C.K. Prahalad. The short term trade and tariff measures may be required but extreme cautions are required since these instruments serve a fertile ground for DUP activities.

### **Bharatiya Krishak Samaj protests against introduction of Bt brinjal, burns GEAC effigy**

Nagpur, Jan27: Farmers under the leadership of the Maharashtra state unit of Bharatiya Krishak Samaj (Indian Farmers' Organisation) today intercepted the Union environment minister, Jairam Ramesh while he was on his way to preside over the public consultation on Bt brinjal and shouted slogans against the proposed introduction of Bt brinjal.

They burnt an effigy of the Genetic Engineering Approval Committee (GEAC) in the presence of the minister. According to them "the GEAC with some handpicked scientists and so-called experts was responsible for pushing the approval of Bt brinjal."

The farmers said that the Bt brinjal not only can create ecological problem on account of gene flow resulting in genetic contamination, but also can prove hazardous to human and animal health as revealed by series of studies by independent scientists. The GEAC has deliberately overlooked the safety aspects of Bt brinjal, bowing to the pressures from US seed multinational, Monsanto and the US Administration, they said.

The farmers shouted slogans against the corporate takeover of Indian agriculture and demanded that the seed multinationals should leave the country.

The national President of Bharatiya Krishak Samaj, Dr Krishan Bir Chaudhary in a statement lauded the farmers for demonstrating against the introduction of Bt brinjal. "The GEAC has committed a scientific fraud in approving Bt brinjal. Worldwide studies done by independent scientists have revealed health and ecological hazards of Bt brinjal," he said.

The local police arrested the President of the Maharashtra unit of Bharatiya Krishak Samaj, Sanjay Jadhav, the youth wing president of the Nasik unit of Bharatiya Krishak Samaj, Dr Pramod Bairagi, and three other members of the Bharatiya Krishak Samaj, namely, Dada Saheb Gaikwad, Ramesh Changle and Bala Saheb Mate. The farmer leaders were released after six hour detention.

\*Source : <http://www.mynews.in/News>

---

# GMOs are going to create famine and hunger

\*John L. Allen Jr.

While the Pontifical Academy for Sciences discussed the pros of genetically modified organisms, Columban Missionary Fr. Sean McDonagh was across Rome making the case for the “con” point of view. McDonagh organized a small demonstration near the Piazza del Popolo, which was joined by a few left-of-center political movements in Italy.

A large banner read, “No to GMOs, yes to food security,” and a smaller sign addressed the Vatican gathering: “Pontifical Academy of Sciences, do not ally with those who, promoting GMOs, contribute to hunger in the world. Listen to the words of the Holy Father!” A well-known writer on environmental themes, McDonagh is a veteran Irish missionary who spent more than 20 years in the Philippines. He’s an outspoken critic of GMOs; in 2003, he published *Patenting Life? Stop! Is Corporate Greed Forcing us to Eat Genetically Engineered Food?* McDonagh spoke to NCR on the margins of the demonstration.

**Q: Promoters of GMOs bill them as a strategy for combating hunger. Why do you claim the exact opposite?**

At the moment, almost all GMOs (canola, Bt corn, soy) are actually animal feeds. You’re getting more of a meat dimension in the diets of people all over the world. It’s estimated that with a traditional Asian diet, including a little bit of meat, we could support about eight to nine billion people on the planet. But if we go down the European route of eating a lot of meat, we’ll be able to support maybe one and one-half to two billion. In other words, the direction GMOs take us is going to create famine and hunger in many parts of the world. That’s number one.

Number two is because all genetically modified seeds are now patented, you’re giving enormous

control to a handful of corporations over the seeds of the staple crops of the world. It started with rice, then corn, now they’re looking to wheat and potatoes. This should be totally unacceptable to anyone. Forget about the science of whether they’re safe or not. To give six Western corporations, in the United States and Europe, control over the seeds of the world is outrageous.

I have a particular problem with patenting living organisms. It entered our human reality through a decision of the U. S. Supreme Court in 1980, with *Diamond v. Chakrabarty*. It was never discussed in any parliament of the world. This extraordinary control, I would even call it domination, has been given to corporations. This, by the way, comes at the same time that these same people are promoting ‘free trade.’ The levels of mischievousness and deceit involved are actually gargantuan. If free trade is good, why shouldn’t sharing knowledge freely be good?

I come at it from the perspective of a missionary. I lived in the Philippines for 25 years, and I saw the mixed results, even of the Green Revolution, on the poor. GMOs will only exacerbate that, because not only will you have to buy your seeds, but you also have to buy the glyphosate, which is the Ready Roundup (a herbicide manufactured by Monsanto designed for use with genetically modified crops.) You’re getting crops now with multiple traits genetically engineered into them. There may be all kinds of problems with human health and the environment, but even if there weren’t, you might not want these traits.

**What about claims of dramatically improved yields?**

The point of the recent “Failure to Yield” report from the Union of Concerned Scientists is that the increase in yield in crops over the last 25 to

---

30 years has come from conventional breeding. It has nothing to do with GMOs at all, or very little. This report was just published two weeks ago. I would consider it a very objective study. It looks at soy, at corn, at canola, and so on. There's no increase in yields at all, which there was in the Green Revolution, so it's quite different.

My main concern, however, is giving this control to corporations. For example, 60 percent of lettuce in the United States is now controlled by Monsanto. This is frightening. In the 19th century, all kinds of securities and exchanges agencies were created to move in on monopolies.

Of course, those were monopolies on things like telephones. Now they want to build a monopoly on food. That, mind you, is precisely what they're after.

Feeding the world is about distributing food to those who need it, or distributing land so that people can grow their own food. I always give the example of Brazil. It's now the fourth largest exporter of food in the world, mainly animal feeds for Europe and America, and yet 35 to 36 million people go to bed hungry there every night.

Even if GMOs did increase the yield, is that extra food going to go to the people who need it? The reality is it won't, because Monsanto is not the St. Vincent DePaul Society. They're out there to make a big profit. They want to get monopoly control, and they make no bones about that.

All the experts at Catholic development agencies have taken the position that this is not the way to address food security, and that there's no magic bullet for hunger. What's needed is land reform, financial aid to small-scale farmers, markets where they can get value so they're not caught by the middle man. I've spent 40 years at this sort of work, and I know that's the way forward.

We also need to promote diversity in the diet.

This is the whole problem with the supposed "golden rice." Why should you say to poor people that they have to eat rice three times a day? Why not a little bit of vegetables, so they'd get all the vitamin A they need? To me, it's extraordinary that \$100 million has been spent on golden rice, when you could make a lot of vegetable seeds available in developing countries for that kind of money.

### **What about the safety question?**

The answer is, we don't know. That's the bottom line. Studies done, for example, by Arpad Pusztai in 1999 on Bt corn, or on Bt potatoes that were fed to rats, found problems with their inner organs and also problems with their brain. Being a good scientist, he did not say, 'Now we should reject the technology.' He said we should look to see where the problem might be. He wanted to see if the problem was in the gene itself, because you're bringing to the target organism a gene that normally the immune system of the target organism would attack. That's what your immune system does.

He was ready to go into the various dimensions of that question – for example, is it the promoter? That is, the virus or bacteria that's actually used to bring genetic material across to another organism. What happened, of course, is history. He was fired from the Rowett Institute in Scotland. He was accused of being a bad scientist. They said he would never get his research published in *The Lancet*, which he actually did. All he was basically saying is that this technology creates problems and we need to look at them.

The problem with regulatory agencies at the moment is that they're much too tied to political and economic interests. The United States is a very good example. It's amazing just how hard wired Monsanto is to the Environmental Protection Agency and to the Food and Drug Administration.

---

There's a real problem there, as a researcher showed with the Bt potato. When he went to the FDA, they said, we deal with potatoes but not the GM kind, that's over at the EPA. When he went to the EPA, they said, we don't deal with foodstuff, we deal with chemicals. Between them, they couldn't figure out which one was responsible for allowing this to be brought onto the market.

The real problem is that all the research on these genetically modified organisms is done by the corporations, who then stand to gain trillions of dollars. Biotech is one of the few industries that has not taken a dip in the current economic crisis, for the very simple reason that you have to eat every day. There's almost no independent verification. A Russian scientist named Ermakova has studied Bt soy, and found something similar to what Pusztai found with potatoes. I believe it's incumbent upon government to do public science and to protect the common good of ordinary citizens.

We are now all guinea pigs. We don't know what the impact will be, and it may be two or three generations before we find out. Don't forget, with ozone-layer-destroying CFCs it was 60 years before we knew they were harmful. They were considered to be the wonder chemical, non-toxic and so on ... you couldn't get any better. It was one man, British scientist Joe Farman, who actually found out by land research in Antarctica that they were doing irreparable damage to the ozone.

It's the same thing with impact on the environment: We don't know. But we do know that if you bring GMOs into a country like the Philippines, where we don't have any idea how many species are really there, now you're playing Russian roulette.

**What other justice concerns do you have with GMOs?**

I have a particular concern if they introduce, which they're threatening to do, this terminator gene, a plant whose seeds are genetically blocked from reproducing. I believe that's a huge moral issue. You're creating something that will not germinate on a second planting. I can't think of anything that's so ... I hate the word 'evil,' but certainly morally wrong. It's incredible that someone would create an organism that is deliberately sterile, particularly in the area of food. Food is a gift to all us, and obviously necessary for human life.

**Companies argue that if they can't protect their investment somehow, there's no incentive to do research and to develop better products.**

The evidence shows the opposite. If you look at the history of patents, most countries, including the United States, stole patents from other countries until they got their own economic and technological processes up and going. A Korean economist at Cambridge has done a very good study on that, and he calls it "kicking away the ladder." You're asking these so-called developing countries to follow these patent laws, but let's have a look at whether any of you actually followed it – beginning with post-Tudor Britain, right up to the United States, or more recent Japan and Korea.

Patents are for watches, not food. Patents always have to consider the trade off between the individual and the common good. Food, water and air should not be under a regime of patents, because we all need them. If you don't have air for five minutes you're dead, if you don't have water for five days you're dead, and if you don't have food for 60 days you're dead. For Christians, this is the first request in the Our Father: 'Give us this day our daily bread.' It's a huge issue, and I think patents are completely morally out of place. Churches, especially the Catholic church, that claim to be pro-life should have a serious moral critique of this arrogance.

---

It's also stealing, because what did they patent? They patented one small dimension of it. What about the farmers in the Philippines for the last 5,000 years who created all the other traits?

What about the farmers down on the altiplano in Peru who created 5,000 varieties of potatoes? Are they going to be compensated? I think governments should set up processes to say, okay, this is the money you've spent, this is the value to society as we see it, and therefore you should get 'x' amount of money. Ownership, however, is something completely different.

Here's another dimension of the injustice. The northern world, the United States and Europe, is poor biologically. Ireland, for example, has ten species of trees. Where I worked in the Philippines, I got money from the Australian government to do a study in a local forest. In a single hectare, you could get up to 130 species of trees.

There are 5,000 species total in that forest. The south is rich biologically but poor financially. Northern countries are using trade agreements to go down to the south, take advantage of its diversity, change slight little bits of it, and then bring it back to patent it. It's exploitation of the worst order. It makes Magellan, Cromwell, and the Pizarro brothers look like dime-store operators.

### **Do you believe the Pontifical Academy for Sciences is being exploited?**

It is. This is the Pontifical Academy for Sciences, so let's start with the 'pontifical' part. It's a Catholic organization. Who are the church's real experts in this area? I would say people like myself. I would say particularly the aid and development agencies, such as Misereor, Cafod, and Caritas. ... They thought so little of this expertise in the Catholic church that they didn't invite a single person from any one of those agencies.

Further, anyone who ever claims to be a scientist should hear the other side. That goes back to Plato. What are they afraid of? Why didn't they set up a decent colloquium over there? Also, why don't they take into account numerous independent studies in the last three years which have concluded that the way to food security is not through GM crops? Why just discard all that? There's a very recent study from Africa on the yields from organic farming, saying this is the kind of thing we should be promoting. I would consider this gathering grossly incompetent.

### **Why do you believe they're doing it this way?**

They want to get rid of the very minimal regulations that we have at the moment. They said it in the introduction to the study week, and every one of them says it in his abstract. That's their goal. Bishop Sanchez Sorondo (chancellor of the Pontifical Academy) has said that the purpose is to examine whether GM crops are safe, but I'm sorry, that's not it. The purpose is to use the prestige of the Pontifical Academy of Sciences and its good name to beat on governments so that you can reduce regulation.

I would also claim that they want to use something like the Potrykus rice as a battering ram against the regulatory process. The strategy is that if you get it through once, you've set the precedent. They say they want it for altruistic reasons, but this language of talking about the poor and about development is grossly misleading. I'm a professional anthropologist who has been working in the area of development economics, I think it's patronizing.

### **Proponents of GMOs suggest that you're guilty of neo-colonialism, in the sense that you presume to know what's best for the poor in Africa and other places.**

Let them come to where I was in the Philippines, and ask there. Let's go to the southern part of Brazil, or Argentina, where this is being pushed



---

on people. Let's do a real empirical study, and I think you'd find that the people who are affected by it are very negative towards it. I took up this issue only because I saw the impact it's had on people living there. I believe I have a better take on what's happening in the Philippines, for example, than anyone in the study week ... including the only person from the Philippines there, the director of the International Rice Research Center, but he's an American.

I was not against GMOs at first. When I arrived I taught anthropology and linguistics at the University of Mindanao in the Philippines, the biggest agricultural university in the region.

At that stage, I thought, if you can plant crops as far as the eye can see, why not? It was only as I began to see the other aspects, including wiping out genetic diversity, that I changed my mind.

I looked back at my Irish experience. We used to have these massive potato fields, and then suddenly in 1845, one pathogen wiped them out. I began to learn a lot about the importance of biodiversity.

The pro-GMO argument is comparable to what we used to hear from the bankers. They used to tell us we need a light touch with the regulations, because we're the entrepreneurs, we're the people who create wealth that sends the boys and girls to school and puts the Euro in the collection plate on Sunday.

If a banker came to you today and tried to say that there shouldn't be any regulation, we'd all laugh. We wouldn't even engage him intellectually. The same is true with these lads. The tide has gone out on what they want, and rightly so, because we're dealing with very serious issues.

Humankind has a very bad record of moving biodiversity around to the wrong places. It's like

the guy who brought rabbits out to Australia with disastrous results. This is biological science, which is different from architecture or engineering. If those guys get something wrong and the building collapses, too bad, but you can fix it. Biology reproduces. The Australian government can't fix the rabbits. The level of regulation should be multiple times more stringent than it is.

**The study week invited an African bishop. What's your sense of where African Catholics stand on GMOs?**

I've had conversations with African people, including religious orders, working in this area. We just had a conference in Assisi on ecology and integrity of creation at the heart of Christian mission.

There are all sorts of efforts by religious to build up organic agriculture in Africa. ... I feel this man shouldn't have come here. If they'd invited me, I wouldn't go. You just give them legitimacy, and it's not properly structured. I'm not a geneticist or a plant biologist, but based on the expertise I have as a missionary, I know this is not the way to go for sustainable agriculture. If it was, they'd have the right people at this meeting.

**Are you worried that the Vatican is going to come out with an official pro-GMO statement?**

Not at all. We were more concerned back in 2003, when Cardinal Renato Martino began to talk about how maybe GMOs could feed the world. We were very worried then, but not so much now.

The Pontifical Council for Justice and Peace, for example, may not yet have assessed the science, but they have begun to see the impact on developing countries. On January 1, there was an article in *L'Osservatore Romano*, in which Martino was quoted on that side of it.

---

---

# **Bharatiya Krishak Samaj letter to Minister of Environment & Forests on Bt Brinjal**

Date : Feb 5, 2010

**Dear Shri Jairam Ramesh jee,**

Since the approval of the Bt brinjal as a food crop by the Genetic Engineering Approval Committee (GEAC) in October 14, 2009, there has been series of public resentments and protests all over the country.

We appreciate your decision to withheld the release of Bt brinjal and go for public consultations. By now after public consultations in different parts of the country, we are sure that you must have personally felt the nature of public opposition to this genetically engineered food crop. The opposition is on the basis of sound scientific evidences and genuine concerns for food and environment safety.

Responsible citizens came on their own to oppose the introduction of Bt brinjal. The outburst of protest was severe in Kolkata. Similar protests by farmers, health experts, consumers were noticed in Bhubaneswar, Ahmedabad, Nagpur, Chandigarh, Hyderabad. In Nagpur, the Maharashtra unit of Bharatiya Krishak Samaj met you and submitted a memorandum. The outfits of several political parties ranging from the right wing BJP and the Left parties are opposed to the introduction of Bt brinjal.

India is the centre of origin for brinjal. As farmers we are very much concerned that by genetic contamination by Bt brinjal many indigenous varieties may become extinct. Brinjal is also valued for its medicinal value in ancient systems of medicine and hence introduction of Bt brinjal will be a problem. Introduction of Bt brinjal will violate the Cartagena Protocol on Biosafety to which India is a signatory

Way back in June 22, 2006, I wrote to the GEAC chairperson expressing my concerns. Reply to this letter which came about a year late in March 30, 2007 was evasive on many points I had raised.

There is no shortage of brinjal in the country. Rather this crop is grown in excess of demand leading to wastages. The advocates of Bt brinjal are putting up false claims of protecting the crop from fruit and shoot borer. There are 15 pests attacking brinjal. The farmers are successfully using conventional methods to control all these pests.

We are concerned that introduction of Bt brinjal will have adverse impact on soil microbial species, soil nutrients and micro flora. Bt is a proven toxin. Sheep and goats grazing over Bt cotton field died and GEAC turned a Nelson eye to these incidents which occurred in various parts of the country.

We have with us extensive studies done by independent scientists across the world pointing to the health and ecological hazards of Bt crops. The company data on biosafety are inadequate to address these problems. We urge you to stop the introduction of Bt brinjal

With warm regards

**Dr. KRISHAN BIR CHAUDHARY**  
**President**  
**Bharatiya Krishak Samaj**



Maharashtra Unit of Bharatiya Krishak Samaj presenting a memorandum to the Union Minister of State for Environment & Forest, Shri Jairam Ramesh on hazards of Bt Brinjal at Nagpur.



Bharatiya Krishak Samaj protesting against introduction of Bt Brinjal.