



Monthly Bulletin  
on Genetic Engineering  
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## National News

### 1. Anbumani rejects GM Food!

<http://www.hinduonnet.com/thehindu/thscrip/print.pl?file=2008121054150400.htm&date=2008/12/10/&prd=th&>

**Health Ministry won't allow its introduction without proper tests**

#### **Anbumani Ramadoss**

KANCHEEPURAM: Union Minister for Health Anbumani Ramadoss on Tuesday said that he would oppose any move to introduce genetically modified food or seeds in the agriculture sector.

Addressing a State-level farmer's conference organised by the Thamizhnadu Uzhavar Periyakkam, here, he said, "As a Central Minister I will oppose any move to introduce GM food or seeds in India." The Pattali Makkal Katchi had taken a policy decision to oppose introduction of genetically modified seeds. He said efforts were being made by certain quarters to introduce Bt.Brinjal, a genetically modified variety, without conducting any test on Indian soil. "The Ministry of Health will oppose it and will not allow introduction of such a variety without conducting proper tests."

Dr.Ramadoss warned that if the trend of "taking away" cultivable lands from farmers for setting up special economic zones were to continue, it would lead to a revolt. If it happened, no government would have the strength to face such situation. Twenty-five resolutions, including a demand for a separate budget for agriculture, industrial status for agriculture, fair and justifiable rate for agriculture produce, setting up of special agriculture economic zones and free distribution of seeds were adopted at the conference.

PMK president and executive president, TUP, G.K.Mani, natural farming concept proponent Nammalwar [a prominent member of SAGE] and Union Minister for State (Railways) R.Velu participated in conference.

### 2. Ban GM food, GEAC member tells PM

<http://www.expressbuzz.com/edition/story.aspx?Title=Ban+GM+food,+GEAC+member+tells+PM&artid=3BQWOeSzMpl=&SectionID=Qz/kHVp9tEs=&MainSectionID=wIcBMLGbUJI=&SectionName=UOaHCPTTmuP3XGzZRCAUTQ=&SEO=Genetic,%20Engineering,%20Approval,%20Committee,%20Anbuman>

BANGALORE: After the recent announcement by Anbumani Ramadoss, Union Minister for Health and Family Welfare, that he would not let GM foods enter India, Pushpa Bhargava, member of the Genetic Engineering Approval Committee (GEAC) and leading molecular biologist, has in a letter to Prime Minister Manmohan Singh, urged a ban on all GM foods being imported into the country, until proper safety research was done on them.

Bhargava, who was appointed by the Supreme Court to observe the functioning of India's apex GM regulatory committee - GEAC, has urged the PM to take notice of the dangers of the virtually unchecked approval given to genetically modified (GM) crops in the country that is largely serving the interest of multinational companies such as Monsanto.

The approval is being granted by a committee of the department of bio-technology, followed by the GEAC of the Ministry of Environment and Forests.

In his letter, Bhargava has cited a public interest petition pending in the Supreme Court (filed by Aruna Rodrigues, P V Satheesh and others), asking for a moratorium of a few years on the sale of GM seeds and approval of GM crops. In pursuance of this case, the Supreme Court had nominated him to attend the meetings of the GEAC, which according to him had made him acutely aware of the shortcomings in that area.

He has also mentioned in his letter that **he has brought to the notice of GEAC, a list of tests that must be done before a GM crop is approved. However, he said, only less than 10 per cent of these tests were actually being done**, before approving a GM crop. "Not only that, in the absence of a national facility to do

these tests or verify the results of tests done by others, the seed companies are either doing the tests themselves or getting them done by laboratories in the country on samples provided by them.

These laboratories do not have a facility to determine whether a seed was normal or GM, he lamented. Further, he feared that India, primarily being an agricultural country, would cease to be a free country if its agriculture was brought under the control of foreign multinational companies (MNCs), through control of seed and agrochemical production.

He said, "The marketing of GM seeds by MNCs is a step in this direction." Bhargava cautioned the PM saying that as much as 30 per cent of the country's seed production was directly or indirectly in the hands of MNCs.

When Express asked Bhargava what prompted him to take this action, he said, "As a concerned scientist, it is my moral responsibility to inform the world about the harmful effects of GM food." He said, "**We are on the verge of permitting GM foods and if they are released in the market it will be a disaster, since no proper tests have been done on them.**" He has also faxed a copy of the letter to the Union Health Minister and is awaiting a response.

### 3. GM Crops battle heats up

<http://news.bbc.co.uk/1/hi/business/7785212.stm>

Driving through Warangal in India's southern state of Andhra Pradesh, you pass row upon row of cotton fields. It is one of the region's traditional crops but these days almost all of it is genetically modified (GM). Introduced in 2002, there are now over 17 million acres of bacillus thuringiensis (BT) cotton grown in India - making the country the second largest cotton grower and exporter after China. Genetically modified cotton is the only commercially approved GM crop in the country today.

Mr Virender has four acres of land, all planted with BT cotton. This year the crop has not been

as good and Mr Virender says they have seen different problems with new insects now attacking the leaves. His wife Rama Devi has a completely different problem with the new cotton. I'm allergic to BT cotton, a problem I never had with the non-BT variety. I get a cough and blocked nose as well as other respiratory problems," she says.

About 80% of India's cotton farmers are growing BT cotton and the seeds are distributed through the US firm Monsanto's partner, Maharashtra Hybrid Seed Company (Mahyco). But there are still many activists opposed to GM crops in India. They argue that there is a direct link between the thousands of suicides among cotton farmers in Maharashtra and the introduction of BT cotton in the area.

A recent study by the International Food Policy Research Institute concluded there was no evidence of a direct link, but said the cost of BT cotton may have been a contributing factor in specific cases.

But environmental activist Vandana Shiva is still not convinced.

"The more recent escalation of suicides has been in the region of Vidarbha and if you look at the data of expansion of BT cotton the highest expansion has taken place there," she says.

"In Vidharbha, one farmer is killing himself every six hours and the separation of suicides from BT cotton is the worst lie because if you do a suicide map of this country and you do a BT sales map of this country - you have a one-to-one co-relation in terms of the districts," she maintains.

Usha Barwale Zehr of Mahyco strongly denies the allegation and argues that farmers are doing extremely well with BT cotton.

Options for farmers might be about to expand as Mahyco is on the verge of getting approval for a new BT brinjal, or aubergine seed. Whilst some Indians consume BT cotton in the form of cottonseed oil, the approval of brinjal will directly introduce a genetically modified food to the Indian population for the first time.

So what do ordinary Indians think?

I might even stop buying brinjals because I'm not sure," says one man, while a woman tells the BBC she does not think they will be very good for her health. "I wouldn't want to buy a GM food or a vegetable for myself. They might play havoc with the body system. We just haven't done a long term research on GM food," she says.

The question of approval is one that many Indians are now asking, including the health minister Anbumani Ramadoss who is considering a ban on all GM seeds.

With biotech firms and some farmers arguing for approval, and activists and other farmers against the idea, the lines seem to be drawn for a prolonged battle.

<http://www.bbc.co.uk/radio/podcasts/bizdaily/>

#### 4. Danger looms over Indian rice!

The Mahyco seed company has conducted unprotected field trials of GM Rice Hybrids in Jharkhand flouting all rules prescribed for field trials of GM crops. The company lied to the Government stating that it had burnt the crop residue after harvest, in compliance with the rules. Gene Campaign has recorded that no burning had taken place. Alarming, new GM rice plants were coming up. This has started the process of contaminating other rice crops in the region. Mahyco's careless trials can contaminate natural rice populations with alien GM genes. Maximum genetic diversity is found in Orissa, Jharkhand and Chattisgarh. Countries like Mexico, Peru and China have banned GM versions of their special crops. Only India takes this risk.

Careless field trials can affect our rice exports. **The Agbiotechnology Task Force, chaired by Dr. M.S. Swaminathan, recommended that GM rice should be kept far away from centres of rice diversity and that crops, in which India had a trading interest like rice and soybean, should not be genetically engineered.** Field trials of rice must be

stopped immediately and exemplary penalties must be imposed for violations. The rules and guidelines for GM crops must be reviewed and strengthened to protect our environment and public interest.

#### 5. Kerala says no to genetically modified seeds

<http://www.hindu.com/thehindu/holnus/015200812181581.htm>

THIRUVANANTHAPURAM, India - Opposing any type of trial-runs of genetically modified seeds in the state, the CPI(M) led LDF government in Kerala has asked the Centre to declare the State as 'GM free' State in the country. It was the government's declared policy that genetically modified seeds would not be allowed to be cultivated either on experimental basis or otherwise in the state, Agriculture Minister Mullakara Ratnakaran told the Assembly while replying to a submission.

Instructions have been issued to officials to see that such seeds were not used in the state, Ratnakaran said referring to reports that genetically modified seeds were being "experimented" in Palakkad district. Ratnakaran said the seeds developed at the Pattambi Paddy Seed Research Centre under Agriculture University have not been handed over to any private players.

The University had also been instructed to seek the government's prior permission if they want to give the seeds developed to institutions outside the country or State for any purpose, Ratnakaran said replying to the submission of Koor Kunjumon.

#### 6. Playing with fire in Orissa's farmland

<http://www.business-standard.com/india/storypage.php?autono=340002>

**The unchecked spread of illegal Bt cotton cultivation is a serious threat to the state's agriculture, warns Latha Jishnu.**

Orissa's farmlands have become the battleground for several conflicting interests. There is the familiar battle over what should be grown — traditional food grains versus the more rewarding cash crops — but the more insidious battle is being waged over how the crops should be grown and what technology should be used. Cotton is the focus of this largely covert operation to wean farmers on a genetically modified (GM) regimen in a state which maintains that it intends to remain GM-free.

Over the past five years there have been significant shifts in the agricultural landscape of Orissa which has taken rather enthusiastically to cotton cultivation. From less than 30,000 hectares in 2002-03, the area under cotton has expanded to over 63,000 hectares in 2007-2008. By the end of the 11th Plan, the state intends to double this figure, according to a paper prepared by the department of agriculture. But the extraordinary aspect of Orissa's growing appetite for cotton is that almost the entire crop is being grown under contract, either for mills, traders or in small measure for research institutes. Farm experts say this is an unusual phenomenon.

The figures revealed by the department are eye-popping. In response to a right to information (RTI) petition filed by a voluntary organisation, it disclosed that 58,255 farmers were contracted by 15 companies to grow cotton on 60,371 hectares during 2007-08. That's a cool 95 per cent of the total area under cotton but a chunk of this is devoted to growing organic cotton which is turning into a money-spinner. The concern, and a serious worry, is that a substantial number of the farmers are using illegal GM seeds to cultivate cotton. The seeds, according to sources in Orissa, are supplied either by the contracting company or bought by the farmers themselves. Officials have turned a blind eye to this by claiming they are helpless in the matter although there have been reports of several seizures of GM seeds by the police. Little is being done to check this proliferation or to warn farmers about the hazards of Bt cotton. Field visits by agriculture experts have shown that farmers have not been instructed in biosafety protocols and have completely ignored the mandatory regulations.

The irony is that Orissa has been proclaiming rather loudly that it is against GM crops. Not only

has the agriculture minister stated on the floor of the assembly that he would not allow GM crops into the state but the chief minister himself has issued a memo that GM crops should be discouraged in the state. To make its stand very clear, the directorate of agriculture and food production issued a notice in August this year declaring that the cultivation of Bt cotton was illegal. All of this begs the question why no punitive action is being taken against the companies and farmers who are contravening the law. In parts of Bolangir district, a major hotspot for cultivation of GM cotton, the authorities say they have conducted raids but were unsuccessful in unearthing illegal seeds.

But whatever officials may say, Orissa is known to have been a hotbed of GM testing for companies producing Bt cotton since 2002 — and that, too, without clearance from the Genetic Engineering Approvals Committee (GEAC), the regulator. Activist Debjeet Sarangi, [a member of SAGE] founder of Living Farms which campaigns for organic farming, says almost all the brands of Bt cotton seeds are available in Rayagada and Bolangir. He believes it is part of a tested strategy — Gujarat was the testing ground in the early 2000s — by companies to capture the market. The ploy is simple: Release GM seeds clandestinely and then seek to make it legal by saying it is already widespread and farmers are demanding it.

Sarangi says RTI petitions have revealed that extensive field testing of Bt cotton varieties has been underway in Orissa since 2004 are not being discontinued despite the state's declared intention of barring GMOs. A proposal for the field trial of Bt Cotton in Bhawanipatna for the current year has been accepted and the Orissa University for Agriculture and Technology (OUAT) is set to start testing of a GM food crop, the controversial Bt eggplant or brinjal.

This has provoked widespread protests across Orissa because the state's rich biodiversity boasts close to 200 varieties of eggplants. There is no way that it can prevent contamination from GM varieties through gene flow when over 80 per cent of its farmers are marginal cultivators with holdings that are less than two hectares. Surely, Orissa understands that it cannot resolve the paradox of promoting organic cultivation while playing footsie with genetically engineered crops?

## 7. Cotton farmers worried over drastic fall in yield

<http://www.thehindu.com/2008/11/24/stories/2008112456570600.htm>

\*Delayed rains, fertilizer shortage and pests [on Bt cotton] are the factors.

GUNTUR: Cotton farmers in the district are in disquiet at the worrying prospects over a drastic fall in yield. Ironically, the bad news comes at a time when the remunerative price offered for cotton is at its highest, in the last decade. Cotton Corporation of India (CCI) which commenced purchasing of cotton in the district on Friday offered Rs.3,000 per quintal as M.S.P, but the farmers in the district have been distraught at the prospects of a drastic fall in the production.

The agricultural officials and farmers point out two important factors that affected the yield. If the scanty and delayed rainfall hampered the sowing operations, the pest resistant BT cotton crop was ravaged by a variety of pests including, 'Nandedu' pest and 'Pandaku' pest. The non-availability of mixed fertilisers was also another crucial factor that affected the production.

However, this time, **agricultural officials point out that BT Cotton seed, which had proved its resistance against Kaya purugu (bollworms) had become vulnerable as it was affected by a pest known as Rasam purugu (sucking pests).** An agricultural official pointed out that it was too late to act and hoped that the yield might be as less as was being predicted now.

## Legal Issues

### 8. Critics gear up to challenge GEAC's approval of GM crops in SC

<http://www.financialexpress.com/news/critics-gear-up-to-challenge-geacs-approval-of-gm-crops-in-sc/389660/2>

The critics of the transgenic technology in agriculture are gearing up to challenge the regulator's decision in the Supreme Court for allowing limited field trial of several genetically modified (GM) food crops, including Monsanto India's Hishell and 900M Gold corn hybrids.

The regulator, Genetic Engineering Approval Committee (GEAC), has recently allowed strip trials of RB-transgenic potato developed by the Central Potato Research Institute, Shimla and limited field trials of GM cotton hybrids, Hishell and 900M Gold containing stacked events - MON 89034 and NK603 - at the farms of five state agriculture universities.

On December 3, 2008, the special bench of the Supreme Court, headed by the chief justice KG Balakrishnan, is slated to deliberate on a supplementary affidavit filed by Aruna Rodrigues, PV Satheesh and Rajeev Baruah, presenting extracts from a recent scientific study conducted by the Austrian government, arriving at a conclusion that GM corn caused infertility.

The supplementary affidavit is part of the original writ petition 206 of 2005 filed by the petitioners calling for a moratorium on GM crops.

The Austrian, study sponsored by the country's agriculture and health ministries and conducted by the team headed by Jurgen Zentek of the University of Vienna, found that mice fed with GM corn had less offspring in the third and fourth generations and these differences were statistically significant. Mice fed with non-GM corn reproduced more efficiently. The research team concluded that this effect could be attributed to the difference in the food source. The Austrian scientists conducted several long-term feeding trials with laboratory mice over a course of 20 weeks.

The petitioners have also submitted to the Supreme Court their own study on reproductive problems caused to buffalo and sheep on account of grazing over Bt cotton fields in Hissar in Haryana. The study was conducted with the assistance of veterinary scientists. The petitioners have also produced the recorded comments of scientist Pushpa M Bhargava on the GEAC's dismal performance. Bhargava is the special invitee to GEAC meetings at the instance of the order of the Supreme Court.

## *GE Across the World*

### 9. Chinese want GM-free and chemical-free foods

<http://www.msnbc.msn.com/id/26874854/>

“CHINESE SHOPPERS are clamouring for chemical-free and GM-free foods in the wake of the melamine poisoning calamity that harmed over 50,000 Chinese children,” says Bass Coast Shire Councillor Gareth Barlow. “Chinese families give the health and welfare of their only child the highest priority and they want to buy chemical-free and GM-free foods of unimpeachable quality.

“Chinese shoppers want foods that are guaranteed free of chemicals and GM,” Councillor Barlow says. “Chinese importers envisage ten year contracts on favourable terms, for assured supplies of top quality, fresh chemical-free and GM-free foods. “These GM-free and chemical-free marketing opportunities at home and abroad are just too good to miss,” Councillor Barlow concludes.

### 10. EU Ministers Back GMO-Free Zones

<http://www.euractiv.com/en/cap/eu-ministers-back-gmo-free-zones/article-177557>

\*Long-term environmental risk assessment of GMOs should be improved and member states allowed to establish GMO-free zones, EU ministers agreed last week. On 4 December, the bloc’s environment ministers concluded a six-month process launched by the French EU Presidency aimed at overcoming the Council’s inability to take authorisation decisions on new GM products for cultivation in the EU. It is not yet clear whether the conclusions of the exercise will actually help to break the current deadlock. Nevertheless, ministers agreed to:

\*Improve evaluation of the medium and long-term environmental impacts of GM crops, in particular of pesticide-producing and herbicide-resistant GM crops;

\*launch a joint European Commission and member-state reflection group in 2009 to define and consider socio-economic

implications of placing GMOs on the market (such as cost-benefit analysis of the possible consequences of the entry of GMO seeds into the overall agricultural system);

\*improve the use of member-state experts in the European Food Safety Authority’s (EFSA) safety evaluation of GMOs;

\*fix Community thresholds for the presence of GMOs in conventional seeds;

\*protect, on a case-by-case basis, sensitive and protected areas by establishing GMO-free zones.

#### **Positions:**

EU Environment Commissioner Stavros Dimas believes it is “absolutely vital” that member states participate in GMO risk assessment and that their involvement in EFSA’s work is reinforced. Dimas said the Commission wants member states to define measures to allow the establishment of GMO and GMO-free zones in order to “facilitate the co-existence of both types of crops”.

EuropaBio, the European association for bioindustries, warns against further delays to EU approvals for GM crop cultivation applications. “There has not been one new GM crop cleared for cultivation in the EU for ten long years. The current de facto moratorium on new approvals has to end so that EU farmers can choose the technology that works best for them,” the association said in a statement.

“It is now the time for action and we anticipate implementation of existing legislation to allow for the approvals of biotech crops for cultivation without further and unnecessary delay,” said EuropaBio’s secretary-general, Willy De Greef.

Greenpeace’s European unit welcomed the “clear signal” member states had sent to the Commission on the “need to improve the way we assess the impact of GM crops on the

environment, on our health and on the lives of millions of farmers". "It is now up to the Commission and the European Food Safety Authority to implement these recommendations," said Greenpeace EU's GMO policy director, Marco Contiero.

Meanwhile, the NGO deplored that due to pressure from the United Kingdom and the Commission, which are "pushing to lower safety standards on GMO seed contamination," ministers "failed to ensure that the seeds that are bought and sold in the EU would remain free of GM contamination".

### Next Steps:

2009: Launch of a Commission and member-state reflection group to define and consider socio-economic implications of the placing on the market of GMOs.

By March 2010: EFSA to complete its revision of guidelines on environmental risk assessment of GMOs.

By June 2010: The Commission to draft a report on the conclusions of the Commission-member state reflection group on the socio-economic implications of GMOs.

## *GE & Health implications*

### 11. Italian National Institute of Research on Food and Nutrition – Mice Study

**Jeffrey Smith**

[http://www.huffingtonpost.com/jeffrey-smith/will-genetically-modified\\_b\\_145320.html](http://www.huffingtonpost.com/jeffrey-smith/will-genetically-modified_b_145320.html)

Two new government studies, published within days of each other, point to disturbing health hazards of genetically modified (GM) foods.

On November 13th, a study by the Italian National Institute of Research on Food and Nutrition showed how GM corn caused significant immune system changes in mice, related to allergic and inflammatory responses. The corn, sold by Monsanto, contains a gene that produces the toxic "Bt" pesticide in every cell—and in every bite. The results raise the question whether this toxin (or some other unpredictable change in the GM corn) might be contributing to the rise in allergies or other immune disorders in North America.

The second study provokes the equally compelling question, are GM foods the missing link to decreasing fertility? The Austrian Agency for Health and Food Safety commissioned one of the very few long-term feeding studies on GM corn, released last week. The University of Veterinary Medicine in Vienna fed GM Monsanto's GM corn to mice, which were then mated. In the third and fourth litters, there was a reduction in the number of size of rat pups (statistically significant). Similarly, in mice fed GM corn for four successive generations (from original mice parents to their great grandchildren), the size and number of offspring was less than those compared to non-GM fed mice (trend only, not yet statistically significant).

These studies should strike a major blow to biotech advocates who claim that genetically modified organisms (GMOs) are safe. They should—but similar results in other studies and reports have so far been unable to dislodge the GMO safety myth and get them off our plates.

<http://ngin.tripod.com/pants1.htm>

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