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News

# India's transgenic aubergine in a stew

## Environment ministry rejects bid to grow genetically modified crop.

K. S. Jayaraman

India's government has refused to allow commercial cultivation of what would have been the country's first genetically modified (GM) food crop. The decision has been welcomed by green activists, but some scientists say that it will set back Indian plant-biotechnology research.

On 9 February, environment minister Jairam Ramesh announced an indefinite moratorium on the cultivation of a transgenic version of aubergine, or brinjal, that is insect-resistant. The crop carries a gene from the bacterium *Bacillus thuringiensis* (*Bt*), and was developed by Mahyco–Monsanto Biotech, a joint venture between the Jalna-based Maharashtra Hybrid Seed Company and the US seed giant Monsanto, based in St Louis county, Missouri.

*Bt* brinjal was approved for cultivation by India's Genetic Engineering Approval Committee (GEAC), a scientific regulatory body, in October 2009. But stiff opposition from activists then forced the government to put off commercial release until further discussions were held (see '[Transgenic aubergines put on ice](#)').

**“This is a victory for India's food sovereignty.”**

*Gangula  
Ramanjaneyulu  
Centre for Sustainable  
Agriculture in  
Hyderabad*

This week's announcement follows public consultations that were held in seven cities across the country. A 19-page **statement** issued by Ramesh said that his ministry had decided to impose a moratorium on the release of *Bt* brinjal until independent scientific studies had established that it would not adversely affect the environment or human health. The minister said that there was still a lack of clear consensus within the scientific community on the issue.

The decision, he added, was also influenced by widespread opposition from state governments; negative public reaction to the prospect of growing *Bt* brinjal; and advice from Monkombu Swaminathan, the agricultural scientist known as the father of the green revolution in India. The moratorium period will be used to commission fresh scientific studies and to set up an independent regulatory authority for GM



Public protests in India have helped to keep a genetically modified aubergine from being grown by farmers.

*Jagadeesh NV/EPA/Corbis*

crops. Mahyco spokesperson Raju Barwale said that the company respected the decision of the environment ministry.

### Argy bhaji

"This is a victory for India's food sovereignty, preserving the control of seeds and food in the hands of our farmers and consumers instead of a few multinational corporations like Monsanto," says Gangula Ramanjaneyulu, director of the Centre for Sustainable Agriculture in Hyderabad.

GEAC member Pushpa Bhargava, the founding director of the Centre for Cellular and Molecular Biology in Hyderabad and an active campaigner against *Bt* brinjal, added that he was pleased with the precedent-setting decision.

But some scientists are disappointed, and worry that the ruling could delay the introduction of other GM crops developed by Indian scientists, such as rice that is insect-resistant (*Bt* rice) or enriched with vitamin A and micronutrients.

**"A lot of people in crop biotech will be devastated."**

"Our national labs have all the genes for rice improvement, we do not need Monsanto," says Govindarajan Padmanabhan, a biochemist and former director of the Indian Institute of Science in Bangalore. "The moratorium will actually affect the indigenous effort" to create GM crops that could feed India's rapidly growing population, he said.

*Chaveli Kameswara Rao  
Foundation for Biotechnology Awareness and Education*

"We have no less than ten GM products to get into the regulatory system for trials — including brinjal, chickpea, sorghum, sugar cane, castor [oil plant], rice and potato — that took 15 years to develop and a lot of money," adds Ananda Kumar, project director for plant biotechnology at the Indian Council of Agricultural Research (ICAR) in New Delhi. "All scientists associated with these projects are disillusioned."

### Rice on the side

Ramesh insists that the moratorium is specific to *Bt* brinjal and should not discourage ongoing research. But Chaveli Kameswara Rao, secretary of the Foundation for Biotechnology Awareness and Education, a biotech advocacy group based in Bangalore, believes that it will have a broader impact. "A lot of people in crop biotech will be devastated. No money will come for research, and students rushing to get degrees in biotechnology will stop," he says. "It is bad for the country."

But Maharaj Kishan Bhan, secretary for the Indian government's Department of Biotechnology — which, together with ICAR, funds the majority of GM crop research — disagrees. "I do not think our

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funding will decrease," he told *Nature*. "This year we are putting maximum emphasis on research in agricultural and environmental biotechnology."

Kameswara Rao points out that even if *Bt* brinjal cannot be grown legally, farmers may start cultivating it anyway, as has happened with *Bt* cotton (see '[Illegal seeds overtake India's cotton fields](#)').

Indeed, Chinese farmers had been growing *Bt* rice for five years before receiving official government approval just four months ago, says Kumar. To prevent an unauthorized release of *Bt* brinjal in India, Ramanjaneyulu believes that the environment ministry should now confiscate the transgenic brinjal seeds held by Mahyco.



## Comments

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The biggest mistake by Indian Government was the extraordinary haste with which it tried to conduct the consultations. Additionally, lack of Awareness programs regarding GM foods, lead to the overcrowding of news items from anti-GM lobby, which acted in a clinical manner, to hit hard, on the prospects of GM food supporting the food sustainability in India. Anyway, those self proclaimed anti-GM Gods, are not going to care for how many farmers in particular and the public in general are dying, without food. and how much pesticide residue is building up in land and rivers of India, through pest susceptible Brinjal cultivation. GM scientists would be better prepared, once they learn how to speak in a way, which people would like and understand better. #9439

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Posted by: **Amit Rai** | 2010-02-11 05:05:51 AM

Right decision by Honourable MEF Jairam. I myself has conducted bt brinjal, tomato, rice etc field trail at IARI & feel years of animal & human trails (SAFOTEST) are required after completion of field trails before going ahead. Indians should not be used as guinea pig for transgenics. Even if we decide to go ahead only transgenics developed in govt. labs with our own genes/promoters should be taken into account in order to save poor Indian farmers from MNCs. As far as transgenic rice is concerned Prof S. K. Raina at IARI who developed it has himself joined MNC so integrity of our own scientists & decision makers are doubtfull. Now time has come to think about nature & humanity above #9452

our personal gains. Anurag chaurasia, ICAR,INDIA, anurag@nbaim.org, anurag\_vns1@yahoo.co.in, +919452196686(M)

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Posted by: **Anurag Chaurasia** | 2010-02-12 07:45:30 AM

Anurag, could you provide lil more results of what you found or of your work.

#9463

It is really important that everyone is educated of all the issues involving bt crops and their affects

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Posted by: **Nikhil Chopra** | 2010-02-12 07:16:17 PM

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