

Genetically Modified Bt Brinjal Aubergine Illegally Growing in India: Who Is Really Pulling the Strings?

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*In February 2010, the Indian government placed an indefinite moratorium on the commercial release of **Bt brinjal**. (Genetically Modified Aubergine or EggPlant) Prior to this decision, numerous independent scientists from India and abroad had pointed out safety concerns regarding Bt brinjal based on data and reports in the biosafety dossier that Mahyco, the crop developer, had submitted to the regulators.*

Campaigner **Aruna Rodrigues** [explains](#):

“The then Minister of the Ministry of Environment and Forests Jairam Ramesh instituted a unique four-month scientific enquiry and public hearings. His decision to reject the commercialisation of Bt brinjal was supported by advice he received from several renowned international scientists. Their collective appraisals demonstrated serious environmental and biosafety concerns, which included issues regarding the toxicity of Bt proteins resulting from their mode of action on the human gut system.”

She went on to say that India is a centre of origin of brinjal with the greatest genetic diversity and that contamination was a certainty. Rodrigues added:

“In his summing-up of the unsustainability of Bt brinjal and of its implications if introduced, one of the experts involved, Professor Andow, said it posed several unique challenges because the likelihood of resistance evolving quickly is high. He added that without any management of resistance evolution, Bt brinjal is projected to fail in 4-12 years.”

Jairam Ramesh pronounced a moratorium on Bt brinjal in February 2010 founded on what he called “a cautious, precautionary principle-based approach.” The moratorium is still in place and has not been lifted.

Despite this, the illegal cultivation of Bt brinjal has recently been discovered in the state of Haryana. In response, the Coalition for a GM Free India held a press conference in Delhi on 25 April 2019 demanding immediate action from state and central governments.

Afsar Jafri, agriculture trade policy analyst, argued that there was good reason why India opted to impose an indefinite moratorium on Bt brinjal and that all the environmental and

health hazards acknowledged at the time continue to remain intact.

Kapil Shah, founder of Jatan Trust in Gujarat, said:

“This is clearly a failure of concerned government agencies that illegal Bt brinjal is being cultivated in the country. The regulatory body Genetic Engineering Appraisal Committee behaves as a promotional body than a regulator and therein lies a major problem.”

The Genetic Engineering Appraisal Committee (GEAC) was created as the apex regulatory body to protect the environment, nature and health from the risks of gene technology. Shah added that when illegal GM soy cultivation was discovered in Gujarat in 2017 and a complaint lodged with GEAC, the response was slow and “dangerously lackadaisical”.

Dr Rajinder Chaudhary of Kudarti Kheti Abhiyan in Haryana stated that the discovery of Bt brinjal cultivation demonstrated a failure of departments of horticulture and agriculture to remain vigilant about such hazardous seeds entering seed supply chains:

“It is also a failure of the central regulators for not creating extensive awareness about hazards of Bt brinjal and why a moratorium has been placed on the same. If civil society groups can get to know about this, why can’t alert government agencies?”

Sridhar Radhakrishnan of Thanal Agroecology Centre in Kerala said that India could not afford to allow this Bt brinjal cultivation to continue or spread. He argued that it represented a bio-hazard that had to be contained and destroyed:

“GEAC should ascertain and confirm that illegal Bt brinjal cultivation is indeed happening and find out the full extent of such cultivation... no penal action should be taken against farmers who have been duped into cultivating these illegal seeds... there should be deterrent penal action against seed suppliers and against the crop developer company whose seeds are being illegally spread.”

Brief history of GMO contamination in India

In India, five high-level reports have advised against the adoption of GM crops: the Jairam Ramesh Report, imposing an indefinite moratorium on Bt Brinjal (2010); the Sopory Committee Report (2012); the Parliamentary Standing Committee Report (2012); The Technical Expert Committee Final Report (2013); and the Parliamentary Standing Committee on Science & Technology, Environment and Forests (2017).

One of the reasons for advising against GM adoption is that India’s [GMO regulating bodies](#) lack competency, are riddled with endemic conflicts of interest and lack expertise in GMO risk assessment protocols, including food safety assessment and the assessment of environmental impacts.

India's first and only legal GM crop cultivation – Bt cotton – was discovered in 2001 growing on thousands of hectares in Gujarat, spread surreptitiously and illegally by the biotech industry. News of large-scale illegal cultivation of Bt cotton emerged, even as field trials that were to decide whether India would opt for this GM crop were still underway. In March 2002, the GEAC ended up approving Bt cotton for commercial cultivation in India: approval-by-contamination.

In 2005, biologist **Pushpa Bhargava** noted that unapproved varieties of several GM crops were being sold to farmers. In 2008, it was reported that [illegally cultivated GM okra](#) was growing in India and poor farmers had been offered lucrative deals to plant 'special seed' of all sorts of vegetables.

In 2013, scientists and NGOs protested the introduction of transgenic brinjal in Bangladesh – a centre for origin and diversity of the vegetable – as it would give rise to contamination of the crop in India. In 2014, the [West Bengal government said](#) it had received information regarding "infiltration" of commercial seeds of GM Bt brinjal from Bangladesh.

During the press conference in Delhi, trade policy analyst Afsar Jafri said India and other countries are part of the Cartagena Biosafety Protocol, which requires prior informed consent for any transboundary movement. He said that India should therefore put pressure on Bangladesh at the highest level to ensure that there is compliance and that their seed producers and others are warned about smuggling into India any transgenic material from Bangladesh.

In 2017, the illegal cultivation of GM Herbicide-tolerant (HT) soybean was reported in Gujarat.

In 2018, there were reports of [HT cotton illegally growing in India](#). In relation to this, [a 2017 journal paper](#) reported that cotton farmers have been encouraged to change their ploughing practices, which has led to more weeds being left in their fields. It is suggested that the outcome in terms of yields (or farmer profit) is arguably no better than before. However, it coincides with the appearance of an increasing supply (and farmer demand) for HT cotton seeds.

The authors, **Glenn Stone** and **Andrew Flachs** observe:

"The challenge for agroculture is how to break the dependence on double-lining and ox-weeding to open the door to herbicide-based management.... how could farmers be pushed onto an herbicide-intensive path?"

They show how farmers are indeed being nudged onto such a path and also note the potential market for herbicide growth alone in India is huge: [sales could reach USD 800 million](#) this year with scope for even greater expansion. From cotton to soybean, little wonder we see the appearance of HT seeds in the country.

In 2018, **Rohit Parakh** of India for Safe Food stated indicated that GM seeds are being

imported into India:

“Commerce Ministry’s own data on imports of live seeds clearly indicates that India continues to import genetically modified seeds including GM canola, GM sugar beet, GM papaya, GM squash and GM corn seeds (apart from soybean) from countries such as the USA... with no approval from the GEAC as is the requirement.”

In 2018, the Centre for Science and Environment tested 65 imported and domestically produced processed food samples in India. Some 32 per cent of the samples tested were GM positive. Some brands had claims on their labels suggesting that they had no GM ingredients but were found to be GM positive.

We also have [bogus arguments](#) about GM mustard being forwarded by developers at Delhi University and the government. And USAID has been [pushing for GM](#) in Punjab and twisting a problematic situation to further Monsanto’s (now Bayer) interests by trying to get GM soybean planted in the state.

Given [the issues](#) surrounding GM crops (including the [failure of Bt cotton](#) in the country), there is good reason to be concerned, not least about the technology [placing an economic noose](#) on subsistence farmers for the sake of profits, as we have witnessed with Bt cotton.”

A decade ago, rigorous consultations and lawful practices and procedures were adhered to when assessing Bt brinjal. If legitimate outcomes and scientific-based decisions are ultimately to be ignored and flouted at will, then we may ask what is the point of carrying out such assessments?

With regulators who seem to be wilfully “lackadaisical” and compromised, we may also ask: who is really pulling the strings?

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