

How Modi govt has 'scuttled' GM farming in India by moving Bt Brinjal trials to states

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New Delhi: The Modi government appears to have sounded the death knell for genetically modified (GM) crops in India by shifting the onus of trials to states.

On Monday, Union Minister for Environment and Climate Change Prakash Javadekar said in a written reply to the Rajya Sabha that seed makers' proposals for scientific field trials of GM crops, including Bt brinjal, will not be taken up for consideration by the Genetic Engineering Appraisal Committee (GEAC) — the apex panel handling GM matters — without recommendations from states/union territories where the trials are proposed to be undertaken.

This effectively means that where the GEAC was vetting trial requests so far, they will now be handled by states and UTs.

According to Javadekar, the government took the decision following opposition from various farm unions and NGOs, including the RSS affiliate Bharatiya Kisan Sangh (BKS).

The minister's reply came months after it was reported that the government had, in May 2020, allowed a Maharashtra-based company to conduct field trials for Bt brinjal in **eight states**, including Madhya Pradesh and Karnataka. The varieties to be



tested were a proprietary product of the government-run Indian Agricultural Research Institute (IARI).

However, Covid-19 is believed to have kept the trials from proceeding. Two years ago, a Haryana farmer had conducted an unofficial — surreptitious — experiment by cultivating and selling Bt brinjal **over two years**. His farm **was discovered** in 2019, and the matter created much uproar.

GM crops have been controversial in India from the get-go. While proponents of the technology wax eloquent about its benefits — less pesticide, lower water requirement, higher productivity — critics dismiss it as a failed experiment with no known advantage, also alleging potential toxicity.

Bt cotton remains the only GM crop approved for cultivation in India, even though neighbouring Bangladesh has reaped much success with Bt brinjal.

The BKS has lauded the government's latest decision, noting that GM crops threaten biodiversity. However, many supporters of the technology see it as “a regressive step” that will deal a heavy blow to industry players — private and public — involved in the field. They also see it as an abdication of responsibility by the central government.

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‘Why waste money’

Ram Kaundinya, the Director General at the Federation of Seed Industry of India and Alliance for Agri Innovation, an industry body, said the government's decision will “affect the future of GM technology as the existing structure is already cumbersome, leading to zero field trial progress in the last 10 years”.

“This is a regressive step,” he added. “Technical ability and (the responsibility of) consensus-making lies with the Centre. The GEAC has technical knowledge and expertise, not the states,” he said, adding that states come into picture when a crop has to be tested in different agro-climatic zones.

Kaundinya said many GM-related companies “will shut their business unless the government makes it clear whether they want the technology... as both the public and private sectors invest hundreds of crore rupees in it”. “Why waste money on products if they aren't tested?” he added.

Discussing the benefits of Bt brinjal, he said they will save money as they reduce pesticide use in brinjals, known to be the most pesticide-intensive vegetable, to 5-6 sprays, from 35-40 sprays, in one crop season (70-80 days). This, in turn, will help mitigate the risk of pesticide pollution among consumers and livestock, he added.



“The new rules will hamper further development/introduction of GM crops that are drought resistant and salinity tolerant, reduce water and fertiliser usage by 25-50 per cent in rice and sugarcane, and boost soil conservation efforts.”

The agricultural science community doesn't set much store by the criticism of GM crops either.

“No scientist has ever claimed that these varieties are unsafe. It is because of these apprehensions that **GM golden rice**, which combats nutritional deficiencies such as Vitamin A, was not introduced despite its launch in 1999,” said Dr V.S. Tomar, former Vice-Chancellor of the Jawaharlal Nehru Krishi Vishwa Vidyalaya in Madhya Pradesh.

Criticising the government decision, he added that “state institutions and departments don't have technical expertise or resources to develop such variety at a large scale and then do extensive trials before making a recommendation to the central authority”.

“Policy formation and consensus is the Centre's work and states cannot be relied on for this.”

A senior official from the Madhya Pradesh Horticulture & Food Processing Department said, in light of the government decision, “Bt brinjal now has no future”.

“With no trials, there's no cultivation in the country. Pesticide and insecticide companies are putting NGOs and civil society groups on the front to oppose these varieties as they are resistant to pests, which will hamper their business,” the official added.

“The argument that Bt brinjal will prove toxic is trash as it has been cultivated in Bangladesh with no issues and farmers are reaping profits with bumper yields and reduced input costs.”

Bangladesh has been **cultivating** Bt brinjal for seven years, and the number of farmers involved in its cultivation has **reportedly** jumped to 27,012 in 2018 from 20 in 2014.

According to a **2020 study**, conducted by Bangladesh and US researchers, Bt brinjal raised yields by 51 per cent in the neighbouring country, and reduced pesticide costs by 37.5 per cent. The yield, the study found, was further increased by the fact that there were fewer pest-damaged brinjals that had to be discarded. The study estimated a revenue increase of 128 per cent for farmers using Bt brinjal.

Also, it said, farmers growing Bt brinjal were 11.5 per cent less likely to report pesticide poisoning despite retaining 6.5 kg more brinjals for home consumption.



A 2011 study titled 'Potential Benefits of Bt Brinjal in India — An Economic Assessment', conducted by researchers at the ICAR-National Institute (formerly Centre) of Agricultural Economics and Policy Research (ICAR-NIAP), noted that even at 15 per cent adoption level, Bt brinjal would provide a yield gain of 37 per cent and reduce insecticide use by 42 per cent.

The increase in net returns was estimated at Rs 11,029/hectare, the study stated.

At 60 per cent adoption level, Bt brinjal would provide an additional production of 119,000 tonnes and an increase in net returns to the tune of Rs 44,117/hectare. The country may gain direct economic benefits of Rs 577 crore and Rs 2,387 crore annually at 15 per cent and 60 per cent adoption levels, respectively, it said.

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'Technology should be foolproof'

When the field trials for Bt brinjal were approved last year, it was seen as a major breakthrough following the 10-year moratorium imposed by the erstwhile UPA government on the release of the crop.

However, the Swadeshi Jagran Manch (SJM), another RSS affiliate, wrote to the government, describing the development as "disturbing news" that paved the way for the "controversial technology" against "national interest".

Speaking to ThePrint, BKS national secretary (organisation) Dinesh Kulkarni said Bt brinjal "is a failed technology similar to Bt cotton, which failed because it got vulnerable to other pests".

"This neither reduced cost to farmers nor yield has increased. We aren't against technology but it should be foolproof. Bt technology isn't foolproof as there's no study in India or abroad regarding its economic, social or biodiversity effect."

The GEAC, it added, has become an "aide of Bt companies".

"It should be quashed and reconstituted. If trials resume, we will write to states to stop them as it's an irreversible technology that will destroy biodiversity. We are in touch with state governments as they have agreed to not go ahead with these Bt varieties."

Officials from the GEAC told ThePrint that benefits of Bt varieties outweigh apprehensions about them, but said they were unable to move ahead with trials with central support.

"We convened multiple meetings between SJM and BKS and the (seed) companies but no breakthrough was achieved," an official said, not wishing to be named.



“The review committee on genetic manipulation (RCGM) passes on the data of new varieties to us for field trials. However, now states will have to initiate recommending new GM crops for trials. This is highly improbable considering the lack of technical expertise and resources at state.”

For private players, the official added, “it will be difficult to approach every state to push their varieties developed after hefty investment with the vision of implementing on a national level”.

Edited by Sunanda Ranjan

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