

On GM crops, a failure to heed scientific evidence

Last week, the Centre told the Supreme Court that it was yet to make up its mind on the commercial release of genetically modified (GM) mustard (*Brassica juncea*) and was still studying the matter. This week, Union environment minister Harsh Vardhan reiterated the point, underlining that there were “compelling arguments” both for and against GM crops. Vardhan, who also serves as science minister, proffered that the government’s decision will be “based on common good”. If that is indeed to be the case, then this government’s continued dithering on GM crops simply does not add up.

Yes, this has been a controversial issue with the green lobby raising a litany of complaints but the fact of the matter is that a large and growing body of evidence indicates in no uncertain terms that GM crops are indeed safe and economically beneficial.

The Indian state, however, has seemingly always been in two minds about GM crops. During the UPA era, Prime Minister Manmohan Singh and agriculture minister Sharad Pawar favoured GM crops while two successive environment ministers, Jairam Ramesh and Jayanthi Natarajan, stood in opposition. Natarajan’s successor Veerappa Moily, however, was in the pro-GM camp and reversed a moratorium on field trials, which were then re-started in some BJP-ruled states after the NDA came to power at the Centre in 2014. Prime Minister Narendra Modi was considered to be in favour of GM crops, and his environment ministry reported in 2016 that there were no safety concerns regarding the use of GM mustard. In May this year, the Genetic Engineering Appraisal Committee (GEAC), the apex regulatory body for GM seeds, cleared the Dhara Mustard Hybrid-11 (DMH-11) for commercial field use.

But by then the Supreme Court had put a spanner in the works—it was hearing anti-GM campaigner Aruna Rodrigues’ demand for an “independent evaluation” of DMH-11. That case is scheduled for a final hearing in November; meanwhile, a parliamentary standing committee, headed by the Congress party’s Renuka Chowdhury, has advised the government to go slow because it believes that there isn’t enough evidence to decide either way.

This is decidedly odd, for research done by at least six different institutes under the Indian Council of Agricultural Research has found GM crops to be safe for animal health. The Central Avian Research Institute in Bareilly gave genetically modified cottonseed meal to broiler chickens over a period of nine years and found no difference with those that consumed non-GM feed. The Central Sheep and Wool Research Institute at Malpura, in collaboration with the Central Institute of Cotton Research, Nagpur, did similar tests on lambs, and again found no adverse impact. The Indian Veterinary Research Institute, in Bareilly, came up with similar results for goats, the National Dairy Research Institute at Karnal for cows, and the Central Institute of Fisheries Education, Mumbai for fish.

Additionally, the National Institute of Nutrition in Hyderabad conducted tests for toxicity and allergenicity and found no adverse effects. And if all this wasn’t enough, sample this: a 2014 meta-study by Wilhelm Klumper and Martin Qaim of the University of Göttingen, Germany, analysing 147 other studies of GM crops from around the world, found that GM technology helped increase crop yields by 22%, reduced the use of chemical pesticides by 37%, and increased farmer profits by 68%.

Today, GM crops are cultivated over 185 million hectares of land, by more than 18 million farmers across 26 countries, marking a 110-fold increase since GM crops were first commercialized, according to data from the International Service for the Acquisition of Agri-biotech Applications. At least 30 other countries import GM produce, which means about nearly 68% of the world’s

population is already consuming GM products.

In fact, India too has been importing GM products—specifically, GM soybean oil and GM canola oil (which is a sister crop of mustard)—for nearly two decades now. These imports cost about Rs80,000 crore annually and are needed to cover nearly half of India's edible oil demand. Now, if GM mustard, which has a much higher yield than traditional varieties, can be cultivated domestically, it can not only reduce the import bill significantly but also increase the income of about six million mustard farmers.

One only needs to look at the enormous success of BT cotton, the only GM crop that is allowed to be cultivated in the country, to gauge the potential here. In fact, while BT cotton was developed by a foreign company, thus fuelling concerns about vested interests and corporate control among environmental activists, GM mustard has been developed at the publicly funded Centre for Genetic Manipulation of Crop Plants at the University of Delhi after 20 years of research.

Simply put, GM crops make for good science and good economics, and India needs to embrace both. If it doesn't, it will fall behind.

Do you think India should begin cultivating GM mustard? Tell us at views@livemint.com

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