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No scientific basis to GM crops' regulation

It is odd that the GEAC should undermine its own role, by seeking States' go-ahead before giving its approval for field trials

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The successful Covid vaccine drive and use of Bt Cotton technology for the economic benefit of the cotton farmers are great examples of using science and technology to solve problems in the health and agriculture fields.

However agri biotechnology continues to get the cold shoulder. Since 2010 there have been concerted efforts made to derail the regulatory process for deployment of agricultural biotechnology-based solutions for the problems faced by Indian farmers.

It started with the imposition of moratorium on Bt Brinjal in spite of the data based scientific evidence supporting the efficacy and safety of the technology and the approval of the regulatory body, the Genetic Engineering Appraisal Committee (GEAC). Simultaneously a new rule mandated industry to seek No Objection Certificate (NOC) from States for conducting confined field trials with GM crops, after obtaining GEAC approval. As expected, most of the States, under the influence of vested interests and unscientific arguments, have not been giving NOCs, which has created a huge obstacle in field testing of GM crops.

States' NOC, a pain point

This problem is further compounded with GEAC now asking the applicants to get the NOC from the States even before issuing its approval for conducting field trials. Approval of field trials, which should have been a pure science based regulatory process, has now been converted into a political and public consultation process. In the absence of a uniform scientific process for issuing NOC, States might resort to the only process they follow in such cases, — seeking public opinion.

This happened with the case of

our member company's application in Karnataka last month. Public consultation for a research trial is a wrong precedent. Scientific assessment and approval for field trials by GEAC should have come first. Regulatory assessments of technologies should be based on science.

Central and State governments should exercise judgement based on scientific assessment rather than allowing regulatory decisions being taken on majority opinion. Field trials help us to understand the technology and its performance better based on which GEAC can make its decision. Rejection of applications for field trials will hinder scientific progress.

Karnataka farmers need solutions for problems such as bollworms in cotton and Fall Army Worm in maize. The public has to be educated about safety and usefulness of the technology and the need to test new technologies. Ideology and activism-based objections should not prevail as was seen during the public consultation conducted for Bt Brinjal. Hopefully, Karnataka government will allow field trials.

Ideally the government should have notified some testing sites under the control of ICAR and agricultural universities and allowed companies to conduct trials in those sites without need for NOC from States. This would have helped in generating scientific information for assessment of technology. Notification of such designated sites for field trials has been pending for the last several years.

The regulator is the only independent body who should assess the scientific validity and safety of a new technology. The role of the government and the policy makers is to identify the specific areas in which agri biotechnology is to be deployed in the best interests of the farmer, the consumer and the country.

For the sake of transparency and



Tech focus The bollworm attack on Bt cotton needs a scientific solution MURALI KUMARK

predictable policy regime, the role of public institutions, Indian and foreign private industry needs to be defined in this policy. This will encourage investments in the sector by both the public institutions and the private sector. This has been missing for the last 11 years in India.

In the absence of such clear policy, Bt Brinjal and GM Mustard did not get political support and were kept on hold by the government. Some of the political parties and States are permanently opposed, either directly or indirectly, to the use of agri biotechnology. They oppose even trials for reasons not based on science. GM technology has not progressed in India due to these reasons and the losers are farmers, as is seen with proliferation of cultivation of unapproved GM traits in Cotton for weed and insect control. This is dangerous for farmers who buy this seed from unauthorised sources without any quality assurance.

In addition to all this negativism, GEAC has now asked for the States' opinion on the draft guidelines for deployment of the new non-GM

Gene Editing technology in agriculture. The draft guidelines were cleared by scientific body RCGM under the Ministry of Science and Technology.

There were inputs from eminent scientists of the National Academy of Agricultural Sciences and ICAR. In spite of this and the full powers given to GEAC by the Environment Protection Act to decide such matters, the States' opinion is being sought.

GEAC will find itself in a tricky spot if the comments of States are in contrast to the science-based conclusions of all the technical experts in several committees or States give a fractured verdict or delay their responses. These are dangers of judging scientific matters through majority opinion rather than scientific assessments.

Gene editing potential

Gene editing technology has potential to help breeders develop crop varieties that can withstand biotic and abiotic stresses better and enhance their nutritional content. Guidelines are already delayed by

more than two years. It is essential to build capacity among States to understand the technology and support it.

Denying farmers access to modern science and technology will diminish their competitiveness in global markets.

A basket of technological tools must be made available to the farmer and the choice should be left to him. No single technology is a silver bullet, be it GM or Gene Editing or chemicals or fertilisers or Organic or Natural Farming. There is a place for each one of them.

The Centre has to take a leadership role in deployment of modern biotechnology in agriculture. There is an urgent need for a dialogue between Centre and States and among political parties to put this derailed process back on track. Otherwise we will be letting down our farmers who are fighting the impact of climate change, pests, diseases, stagnant yields and age-old agronomic practices.

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