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Different crops, different norms?

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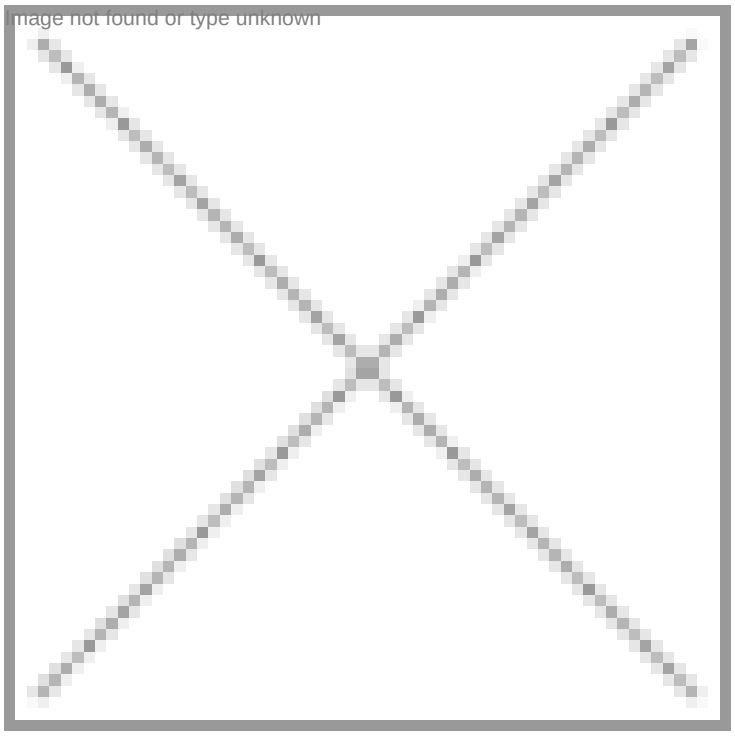

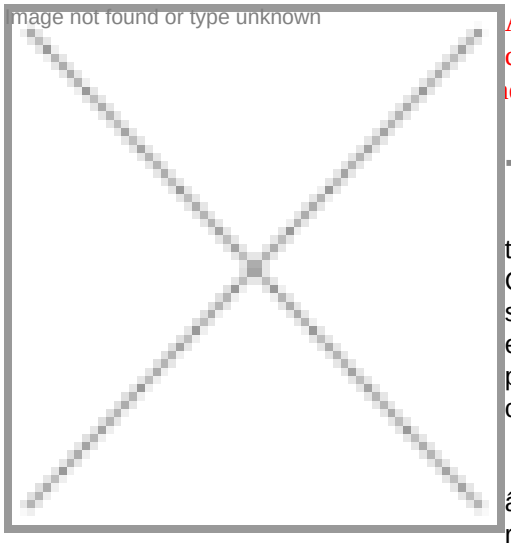

A policy paper of the National Academy of Agricultural Sciences recommends classification of GM crop events based on perceived bio-safety risks. ıe debate

The latest policy paper authored by the National Academy of Agricultural Sciences (NAAS) on biosafety of genetically modified (GM) food crops in India raises few important points. Among them is the need to have a transparent time-bound decision making system for rejection or acceptance of the GM crop events taking care of all the concerns. It highlights the need to strengthen the public sector laboratories conducting bio-safety evaluation and establishment of accredited private sector bio-safety labs for crops and food products. The reason cited is that there will be a deluge of GM crop events in the coming future and the physical and administrative infrastructure should be

â€œWe need to strictly enforce regulations on the ground because a good regulatory act, if poorly implemented can bring disrepute to this wonderful technology," states the policy paper.

Due to the long gestation period for the development of useful GM crop events and the high cost of R&D, there seems to bea

need to have a sound biosafety evaluation and regulatory infrastructure.

Regulatory hurdles

Raising an important point, the NAAS paper highlights the need to classify GM crops. It recommends the classification of GM crop events based on the perceived bio-safety risks and calibration of the level of regulation. For example, a gene from a food crop or another edible life form being transferred to another food crop need not go for an elaborate toxicity and allergenicity testing. Similarly, a protein coming from a distant source like soil bacterium but already tested extensively for toxicity and allergenicity need not be tested again and again because it will unnecessarily delay the deployment of a benign gene for the benefit of society.

Dr Seetharama Nadoor, executive director, Association of Biotechnology led Enterprises-Agriculture Group (ABLE-AG) says â€œregulatory bodies appointed by the government are very strict, and study all the mandatory research data placed before it, and only after giving serious considerations to each aspect of safety and utility of any new product, it gives a go-ahead signal.â€? â€œThere is no reason for any concern on the thoroughness and seriousness of the decision making process. The academy has rightly emphasized this aspect in its policy paper,â€? says Dr Nadoor.

Sharing his views, Mr Sushil Karwa, managing director, Krishidhan Group of companies, says, â€œThe policy paper from NAAS on biosafety recommendation is a comprehensive report on the present and the way forward in biosafety. It also states that India has one of the stringent regulatory handling expertise with international standard norms and practices. However, there is a need for capacity building, so that large numbers of GM samples are handled efficiently, and there is also a need to promote education on biosafety so that undue fear could be addressed within society. Risk assessment and communication centers are prerequisites for India due to its complex diversity and culture. Once such centers are established, a more focused public-centric pooling on GM technology could be sought for creating better science-driven decision-making scenarios.â€?

The debate is on

In a country where politics has to be a part of every process, the moratorium decision surely created a lot of heartburn within scientific circles. However, many prominent scientists working in the area are of the view that the central government will not be able to skip this issue for long. Researchers from government institutes are eagerly looking for a solution as the lack of a clear policy adds only to the confusion.

Those supporting GM crops say that no agricultural technology is more promising or spreading faster around the world than GM technology for increasing production of safe food. The argument put forward is that biotech crops are crucial for food and nutritional security of the country and research must continue with the aim to develop safer, more productive and nutritious food crops.

Another reason why the government is widely debating this issue of adoption of biotech products can be the fact that inIndia, with low per-capita resources, only technologies such as GM crops can help overcome the challenges of food, nutrition and protecting the environment.

Many experts are of the view that it is now a foregone conclusion that all products proved to be substantially equivalent to non-GM sources will sooner or later find place in our daily foods. â€œWe must also be concerned with terrible opportunity costs of such delays in a country where one-third of the population goes to sleep hungry every day. Unfortunately, the government is somewhat held up when a small minority raises objections on non-scientific and trivial issues,â€? says Dr Nadoor.

Factions opposed to GM technology want studies to scientifically justify that agribiotech products, especially GM crops, go through stringent regulations for better public perception and acceptance.

Professor P Balasubramanian, department of plant biotechnology, Center for Plant Molecular Biology and Biotechnology, Tamil Nadu Agricultural University, Coimbatore, says, â€œThat it is almost impossible to prove that GM crops are completely safe is a fact. Several other established technologies which are widely used in the world are also supposed to be not absolutely safe. Yet the global population welcomed those technologies wholeheartedly and they are in use for a long time now.â€?

Is market entry possible?

With no clear policy direction on reconsideration of moratorium on Bt crops from the government, the chances of GM food crops being commercialized this year seem to be dim. Also, the much debated Biotechnology Regulatory Authority of India (BRAI) Bill is yet to be passed by parliament. Under such a challenging environment, it is difficult to visualize any additional product being marketed this year.

Terming the ban on environmental release as unfortunate, Dr Nadoor says, â€œThere are many products in the pipeline, but unfortunately they are unduly held up. The unfortunate aspect of this holding back is not due to any safety or other substantial issues. The new challenge facing the industry is that agriculture is facing a state subject, and some state governments are delaying permission for field-testing.â€?

Giving an example, Professor Balasubramanian points out, â€œNuclear power, personalized mode of travel (automobiles;no carpool or public transport but sedans for individual travelers who often get killed more often in road accidents) also fall in the same category of GM crops, but are well managed in the sense that it is possible to make them work towards chosen goals for human welfare. Those technologies have not been rejected outright by the people. Why this rage against GM technology alone? Our resource-poor farmers certainly deserves a better deal than the extant technologies which often prove more expensiveâ€?. He further adds, â€œBiosafety issues need to be analyzed not based on an armchair-wisdom but through analysis by those who practice GM science. Political issues should not complicate the decisions, unlike as is seen nowadays.â€?

Mr Sushil Karwa believes that the safety concerns are very important. Sharing his viewpoint, he says, â€œBrinjal being a food crop which is consumed by many in India has genuine concern from society. However, most of the studies on biosafety have proved Bt Brinjal to be safe for human consumption and environmental cultivation. I think public awareness and pooling about the technology is something India needs to adopt so that the potential technology's benefits and risks are disseminated by science-based studies and public perception is sought at a wide scale.â€?

As stipulated in the revised RCGM guidelines, the Indian Council of Agricultural Research will have to take a proactive role in the conduct and monitoring of biosafety cum-evaluation trials. This, as per recommendations in NAAS paper will help in reducing time line to bring the elite GM crop material to the farmers.

Rahul Koul in New Delhi