



CORRECTED-FEATURE-Debate over GM eggplant consumes India

12:03am EST

(Corrects to say 1.4 million farmers in paragraph 20 and 1.4 billion population in paragraph 24)

By Rina Chandran

MUMBAI, Feb 16 (Reuters) - The purple eggplant that Indian shopper Tanuja Krishnan picks out at a Mumbai market stall every week is an unlikely protagonist in a raging debate about whether genetically modified foods should be introduced into India.

A genetically modified version of eggplant, a staple in fiery curries, was slated to be the first GM food introduced into India in a bid to stabilise food prices and mitigate some of the effects of climate change on Indian food crop yields.

Yet, Environment Minister Jairam Ramesh blocked the release of the vegetable until further notice following an outcry by environmentalists and some farmers. The opposition to GM foods was so heated that some protesters burnt effigies.

Ramesh said there was not enough public trust to support the introduction of such crops into India's food supply until more research was done to remove all doubts that GM foods were safe for consumption.

But while those from the camp that opposed GM foods are celebrating, there are concerns that rising food prices will be a major problem for Indian policymakers in the future unless the country starts embracing genetically-modified food crops.

"This is bad for the country's agricultural and biotechnology future. Our scientists have lost their credibility, companies will be unwilling to invest more money, and it will take us a long time to pick up the pieces again," said C. Kameshwar Rao, an official at the Foundation for Biotechnology Awareness & Education, a GM advocacy institute.

"Scientists can't win a shouting match with politicians."

India's farm sector has changed very little since the advent of the Green Revolution with crop yields failing to keep up with soaring population growth and rising incomes.

At the same time, damage to crops from pests and disease have worsened due to rising temperatures from climate change.

HYBRIDS

Known as Bt brinjal, the Indian word for aubergine, the GM vegetable is able to resist some pests responsible for devastating crops across India thanks to a gene from soil bacteria called 'bacillus thuringiensis' (Bt).

The thought of eating a genetic hybrid has made consumers such as Krishnan wary. "I would try it to see if it tastes any different, if it has fewer pests, but I think I would prefer organic brinjal just to be safe," she said.

The moratorium against the release of the GM eggplant followed harsh criticism by environmentalists and farmers who demanded rigorous testing and labelling standards before Bt brinjal was cultivated.

"Stringent monitoring measures should be immediately put in place to ensure that no releases of GM crops happens," said Rajesh Krishnan, a manager for sustainable agriculture at Greenpeace India.

India's Genetic Engineering Approval Committee (GEAC) opened the way for the commercial cultivation of Bt brinjal last October, seven years after approving Bt cotton, which is now grown on more than 80 percent of total cotton area.

Thanks to genetically modified cotton, India has become the world's second largest cotton producer and exporter after China, with about 5 million farmers growing Bt cotton.

"Our experience with Bt cotton has showed the technology has benefited the farmer, the consumer and the states' economies," said Bhagirath Choudhary, head of the International Service for the Acquisition of Agri-biotech Applications (ISAAA) in Delhi.

"We have a solid case in Bt cotton, with higher yields, double the output and less use of insecticide. But the technology is so sophisticated, the general public is ignorant about it." India is among the top biotech crop growing countries, trailing only Argentina, Brazil and the United States.

NO OTHER OPTION

India is the world's second largest producer of eggplant after China and the vegetable is also used in traditional medicine to treat diabetes and hypertension.

About 1.4 million farmers grow eggplant, which is very susceptible to pest attacks. Farmers tend to spray the crop with pesticides 30-50 times during a crop cycle.

"The brinjal we eat now is more harmful because of the pesticide residue," said Raju Shetty, a farmer leader in western Maharashtra state and a member of parliament.

He supported Bt brinjal because he said "it will cut the cost of pesticide and boost yields. That's what farmers are seeking".

Even though the GM seeds for the vegetable would likely cost three times the price and farmers would need to purchase seeds for every sowing rather than reusing crop seeds, proponents say the extra expenses would be compensated by lower pesticide costs and less devastating crop losses.

Expanding India's food supply is crucial in a country of one billion people, with predictions the population might reach 1.4 billion by 2025.

The United Nations' Food and Agricultural Organisation has said food production will need to double by mid-century to meet demand from a growing world population, prompting calls for a second Green Revolution.

But Greenpeace maintains GM crops are a costly distraction from tackling hunger through fighting poverty and helping small holders in developing countries sell their products.

A combination of changing diets, a growing population, demand for farmland for industrialisation and high energy prices have stoked food prices globally, including in India, where the food price index rose 17.56 percent in the 12 months to Jan. 23.

India is also battling with lower crop yields and more pests and plant disease because of higher temperatures, raising concerns that India's farm output could lag demand and the world's second most populous country will become a large food importer unless crop yields jump.

Some economists and scientists in India favour a raft of policy initiatives, including genetic engineering, to improve yields and increase resistance to pests, disease and drought.

"You have a large population that's growing in affluence, but our resources -- land, water, cheap labour -- are all shrinking, so we have to increase output quickly and efficiently," said Gyanendra Shukla, director of Monsanto India Ltd.

"I don't see any other option but GM crops."

Since Monsanto launched the world's first GM crop in 1996, more than 25 countries have taken to biotech crops including soybean, corn, tomato, squash, papaya and sugarbeet.

Bt brinjal was developed by Maharashtra Hybrid Seeds Co (Mahyco) under licence from Monsanto, and estimates show economic benefits from higher yields could top \$400 million a year.

GEAC has also approved studies of GM okra, tomato and rice, but opponents say GM should be a last resort.

"You can't simply abandon all other solutions, including organic farming, to focus just on biotechnology when the testing, labelling and enforcement standards are so inadequate," said Kushal Yadav, an official at the Centre for Science and Environment.

NO PANACEA

Aside from health and safety concerns, critics worry that the widespread use of GM crops will put India's food supply largely in the hands of a few giant corporations that make the seeds.

There is also the possibility of genetic contamination if the Bt genes cross pollinate with other varieties.

A recent report by U.S. health and environment protection groups said that rather than reduce the use of pesticides, genetically engineered crops had actually prompted increased use of these chemicals, caused an epidemic of herbicide-resistant weeds and resulted in more chemical residues in foods.

A backlash against the technology also appears to be growing globally, with consumer resistance to what British tabloids have dubbed "Frankenfood" taking root.

Even advocates in India admit genetically modified crops are no magic bullet.

"Bt can't be the panacea for all the problems in Indian agriculture. But if we miss this, we miss the chance to usher in a new technology, see how it can help us," Choudhary said. (Additional reporting by Rajendra Jadhav and Sujoy Dhar; Editing by Megan Goldin)

© Thomson Reuters 2010. All rights reserved. Users may download and print extracts of content from this website for their own personal and non-commercial use only. Republication or redistribution of Thomson Reuters content, including by framing or similar means, is expressly prohibited without the prior written consent of Thomson Reuters. Thomson Reuters and its logo are registered trademarks or trademarks of the Thomson Reuters group of companies around the world.

Thomson Reuters journalists are subject to an Editorial Handbook which requires fair presentation and disclosure of relevant interests.