

No one asks the farmer

The opposition's main contention is that the GM mustard hybrid incorporates three alien genes — barnase, barstar and bar — rendering it inherently unsafe for human and animal health.

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Written by **Harish Damodaran** | Updated: October 17, 2016 12:55 am



Today, we are in a somewhat analogous situation with regard to the commercialisation of GM mustard. (Illustrations: C R Sasikumar)

Fifty years ago, Union Minister for Food and Agriculture [Chidambaram Subramaniam](#) took the decision to import 18,000 tonnes of seeds of Lerma Rojo 64A and Sonora 64 wheat from Mexico. The seeds arrived just in time for their planting

come under these high-yielding varieties in the following season. Between 1965-66 and 1967-68, India's wheat production rose from 10.4 million tonnes (mt) to over 16.5 mt, crossing 20 mt in the next two years. Thus was born the Green Revolution.

Subramaniam encountered a flood of criticism when he proposed what was the largest import of seeds ever undertaken in world history. Planning Commission member V.K.R.V. Rao saw it as a waste of foreign exchange for a country already short of reserves. Senior scientists, too, objected, "partly because of fear and partly because of ego". Indian farmers, many held, wouldn't accept the Mexican semi-dwarf wheats, as they might yield less bhusa (straw). "Subramaniam and I were charged with recklessly playing with the lives of millions", the legendary Norman E. Borlaug was to recall. The new wheat strains bred by him ended up producing more grain as well as bhusa per hectare than the traditional tall, lodging-prone cultivators.

Subramaniam surmounted the heavy opposition only because of the backing he got from Indira Gandhi. She succeeded Lal Bahadur Shastri — who was equally supportive — as prime minister in January 1966, the nod for imports was granted in April, and the seeds came by end-September.

Many years later, Atal Bihari Vajpayee showed similar decisiveness when his government — on March 26, 2002 — approved the commercial cultivation of Monsanto's genetically modified (GM) Bt cotton. Just as Borlaug's varieties doubled India's wheat output in four years — annual grain imports had earlier topped 10 mt — Bt cotton almost trebled domestic production from 136 lakh bales (lb) to 398 lb between 2002-03 and 2013-14, and the country turned from a net importer of roughly 17 lb to a net exporter of over 105 lb. And most important, Indian farmers planted the subversive semi-dwarf wheats and Bt cotton without anybody holding a gun to their heads. They were guided by pure practical wisdom, unlike "academicians in ivory halls", to use Borlaug's scathing expression.

Today, we are in a somewhat analogous situation with regard to the commercialisation of GM mustard. The opposition in this case, though, is much more organised than what one would have seen even a decade ago. It includes both

institution, but by scientists at Delhi University's Centre for Genetic Manipulation of Crop Plants (CGMCP).

The opposition's main contention is that the GM mustard hybrid incorporates three alien genes — barnase, barstar and bar — rendering it inherently unsafe for human and animal health. But then, these genes have already been deployed in canola, which belongs to the same Brassicaceae plant family as mustard. The CGMCP scientists have basically modified the barnase-barstar-bar technology, originally used in canola, to create a robust and viable hybridisation system in mustard. It enables crossing of a wide range of Indian and East European origin mustard lines, creating hybrids potentially giving higher yields and also expressing other desired traits relating to disease resistance or oil quality. This is something not achievable through conventional breeding, more so given the narrow genetic base of mustard varieties grown in India.

India is already now importing some 3,50,000 tonnes of canola oil every year, a lot of it GM, and three mt of soyabean oil, which is entirely GM. No NGO till date has blocked a single consignment of imported GM oil or even corn entering any Indian port. How is it that GM technology is fine in imported videshi oil, but not if employed for desi mustard oil? And what kind of swadeshi/Make in India policy is this that allows 15 mt of edible oil worth \$10.5 billion to be imported annually, but prevents the country's own farmers from growing GM mustard hybrids with the potential to yield more?

Critics have tried to rubbish the indigenous publicly-bred GM mustard by saying that the barnase-barstar-bar technology was originally developed by a company now part of the German multinational Bayer AG, and the CGMCP scientists had done nothing new. Well, if it was that simple, would these scientists have been able to obtain six foreign patents — three from the US and one each from Europe, Canada and Australia — for their work in transgenic mustard breeding? Has one NGO or self-proclaimed Swadeshi actually bothered to visit CGMCP's laboratory in Delhi University's South Campus, even while flying in and feting French activist-

The GM mustard baiters have also made a big song and dance about the bar gene, which makes the plant resistant to the application of the herbicide glufosinate. Herbicides, they say, should not be permitted because they displace farm labourers engaged in manual weeding. By that logic, shouldn't we also ban washing machines or metro trains, since these reduce employment opportunities for domestic helps and rickshaw pullers? Is it the farmer's responsibility to guarantee rural employment (rozgar raksha), on top of being charged with the burden of khadya raksha (food security), seema raksha (the soldiers guarding our borders are mostly peasants in uniform) and now gau raksha (making it difficult for him to dispose of old unproductive cattle)?

In this whole debate about GM crops, the one person whose views seem to matter the least is the farmer himself. A farmer, we know very well, will not say whether a new hybrid/variety is good or bad until he has planted them and seen the results. Unfortunately, an environment has been created today where he is being denied the chance to make an informed judgement by those who don't really farm for a living. Things are worse with an agriculture minister — quite unlike Subramaniam 50 years ago or even Ajit Singh in 2002 — who apparently has more faith in traditional paramparagat krishi, yogic farming and boosting crop yields through music and positive thoughts.

The only man who can stop all this nonsense is [Narendra Modi](#). He should do what Lal Bahadur Shastri, Indira Gandhi and Atal Bihari Vajpayee did: Put national interest first and let farmers decide. And it must be done fast, as mustard cannot be sown beyond October. The time is truly running out.

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Prashant

Best point "" if opposition is ok with GM mustard in case of Import ,,then what is the problem in producing same in India"",,,,, problem is if that programe bcms a success,,whole opposition will be routed out for atleast 20 yrs,,,,,It will give a good name to modi ji,,His idea of "make in india" will achieve success,,,,,,,,,,,,,,,,,,,,, congress nitish can go to any limit to get "raj singhasan",,,

about 5 hours ago (0) · (0) reply (0)

H

Hitesh

I have seen many farmers protesting against the GM mustard (google will help you too). The article is lacking relevant facts regarding the GM mustard testing done by the scientist. Also if you want to involve the farmers of the India first tell the GEAC to upload their entire research and that too in regional language, secondly also tell them to provide more time to invite comments.

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P
700

Prashant

They r not Farmers,,but Kisan sabha dominated by Political grps

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915

We have lost 70% of gene pool since the advent of green revolution.GM seeds will be remunerative that is correct,but your article is silent on recommending any policy for protecting indigenous varieties.It is a high time that government creates seed banks and protected plantation for indigenous and wild varieties,otherwise we are going to loose gene pool,like we have lost so many breeds of cattle in garb of cross breeding.Until and unless such protection to indigenous gene pool is not there,it will be very hazardous to bring GM in open fields. Modiji must intervene at the earliest ,his policies had brought laurels to the farmers of Gujarat before.He is a very capable PM.

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R
100

Rajesh

Harish Damodaran is a known pro gm lobbyist and he has been doing it through the spaces he get as a journalist, no one can do anything about it. But one thing he agrees with us is that no one has asked the farmer. So the logical demand then is to organise farmer consultations across the country before approving this crop. Since its a food crop and can impact the consumers they should also be consulted. We should also consult state govts as agriculture and public health are both under the state list of our constitution. So may be the way forward is an unbiased public consultation, like we saw in the case of Bt Brinjal. So will Harish Damodaran ask for that??

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MannA · Trishanu Up Voted

B

Benzene

one side they have set aside a target and even formulated a committee on doubling the farmers income other side they are reluctant to use innovation in farming ,with this conservative and hypoctatic mindset it is not possible to double farmers income and by traditional way of farming its looks impossible

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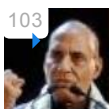
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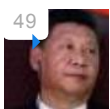
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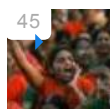
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