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## Why does India need GM Mustard at all?

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Thirteen years after the Genetic Engineering Approval Committee (GEAC) had 'deferred' commercial approval for genetically-modified (GM) mustard; the genie is once again back. Costing Rs 70-crore of taxpayer's money, which could have helped set up at least 3,000 new schools, the new GM mustard awaiting approval for commercial cultivation this time comes dressed up in public sector attire.

The same claims, the same language (almost the same) and the same fears. Earlier it was Pro-Agro Seeds India, a subsidiary of multinational agro-chemical giant Bayer, which claimed its GM variety containing four foreign genes, would raise the productivity of mustard by 20-25 per cent, and improve oil quality. The new GM mustard that has been developed by the Centre for Genetic Manipulation of Crop Plants, University of Delhi, and contains three alien genes - Bar, Barnase and Barstar -- also makes strikingly similar claims. At the same time, for reasons that can be explained, the promoters of the earlier Pro-Agro GM mustard as well as Delhi University's new GM mustard deny the expression of herbicide resistance, although both use a gene known for it.

### **Pro-GM lobbies distorting facts**

The country is importing Rs 60,000-crore worth of edible oils every year and therefore there is an urgent need to increase the production of mustard, which in turn means producing more edible oils, goes the refrain. In several panel discussions and public debates on this subject in which I have participated, I have heard Dr Deepak Pental, a former Vice-Chancellor of Delhi University and the lead developer of the new GM mustard, repeatedly assert on the need to cut down on the foreign exchange outgo and also how much would be the resulting saving for a developing country like India. This is exactly what the promoters of the GM mustard developed by Pro-Agro used to claim some 13 years back. Edible oil imports at that time were also around 50 per cent of the domestic requirement, costing the state exchequer Rs 12,000-crore.

To any educated person, the argument on the need to reduce the huge import bill on edible oils sounds

very appealing. But very cleverly, the GM lobby has used this argument to give an impression as if it is because of the shortfall in mustard production. In reality, it is not so.

Let me explain. Former Prime Minister Rajiv Gandhi was piqued over India's rising imports. He was desperate to cut down on what the macro-economists call as the Current Account Deficit. Fuel, fertilizer and edible oils topped the import chart. The annual import bill for edible oils then hovered between Rs 1500 and Rs 3000-crores. Knowing that edible oil imports could be stopped since India had the ability to raise domestic oilseeds production and also undertake processing, he launched a Technology Mission in Oilseeds in 1985.

In less than ten years, between 1986 and 1993, doubling of oilseeds production was remarkable indeed, and was later dubbed as Yellow Revolution. From 11 million tonnes in 1986-87, oilseeds production jumped to 22 million tonnes in 1993-94. From a net importer, India became almost self-sufficient in edible oils. With 97 per cent self-sufficiency, India's imports were reduced to only 3 per cent of the requirement. The downslide began a few years later when India deliberately began to lower the import duties allowing cheaper and heavily subsidized edible oil to flow in. The more the edible oil imports, the more the domestic processing industry pulled down the shutters.

### **Flawed Import-Export policy no excuse**

In 2002-03, when Pro-Agro was trying to market its GM mustard, the imports had touched Rs 12,000-crore at the then prevailing prices. Thirteen years later, when Dr Pental is trying to push the new GM mustard - DMH 11 -- the annual import bill has soared to Rs 60,000-crore. But the rising import bill, as is evident, is not because of any shortfall in domestic production, but resulting from a flawed import-export policy that had brought the import tariffs to almost zero. What is therefore needed is to raise the import tariffs to about 70 per cent or higher (WTO allows India a maximum of 300 per cent import tariffs on edible oils) and then provide a high price and an assured market, farmers would do the rest.

At the same time, the claim that GM mustard increases productivity by 20-25 per cent is simply absurd, and if I may say so is motivated. First of all, there is no known gene (or a cluster of genes) that can increase productivity. Secondly, any GM variety is known to be as good as the hybrid in which the alien gene is inserted. Even if a gene simplifies the process of hybridization it does not mean it raises crop productivity. To compare the yield of GM mustard (which essentially means hybrid mustard) with traditional varieties therefore is only unfair. On the related issues of gene flow, contamination and the growth of super weeds, the response so far has been unscientific.

In the past 13 years, I have not heard of any complaint about the quality of mustard oil that is available. Mustard has traditionally been used for food (its leaves cooked as sarson ka saag) and should not be viewed only as edible oil. I sometimes use mustard oil for taking care of my ear and nose ailments, for regular body massage, and it is also used in several traditional medicine formulations. It is therefore crucial that the concerns raised by the ministry of environment and forests at the time of imposing a moratorium on Bt brinjal in 2010, the Parliamentary Standing Committee report on GM Foods, as well as the recommendations of the Supreme Court Technical Committee are followed in letter and spirit.

The common problem that consumers encounter with mustard oil is its rampant adulteration with cheaper oils. Nowadays I find that even the adulterated mustard oil (mostly with cheaper cottonseed oil or palm oil) that is being openly sold contains a sprinkling of red chilly solution so as to satisfy the taste and smell at the time of cooking.

ABLE would do a remarkable public service if it were to launch a consumer campaign demanding the Food Safety Standards Authority of India (FSSAI) to ensure availability of genuine and pure mustard oil. I still can't understand why the Genetic Engineering Appraisal Committee (as it is called now) wants to sweep under the carpet the conclusions arrived in the excellent 19-page report the then Minister for Environment Jairam Ramesh had submitted at the time of announcing a moratorium.

Is the GM industry so powerful that the GEAC is willing to scuttle a scientific debate spearheaded by a former minister and is even willing to ignore the resulting health and environmental concerns for no apparent benefit resulting from commercializing GM mustard?

**Author's Bio:** *Devinder Sharma is well-known for his views on food and trade policy. Trained as an agricultural scientist, Mr Sharma after serving as the Development Editor of the Indian Express, quit active journalism to research on policy issues. He has been vocal on issues concerning sustainable agriculture, biodiversity and intellectual property rights, environment and development, food security and poverty, biotechnology and hunger, and the implications of the free trade paradigm for developing countries.*

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