



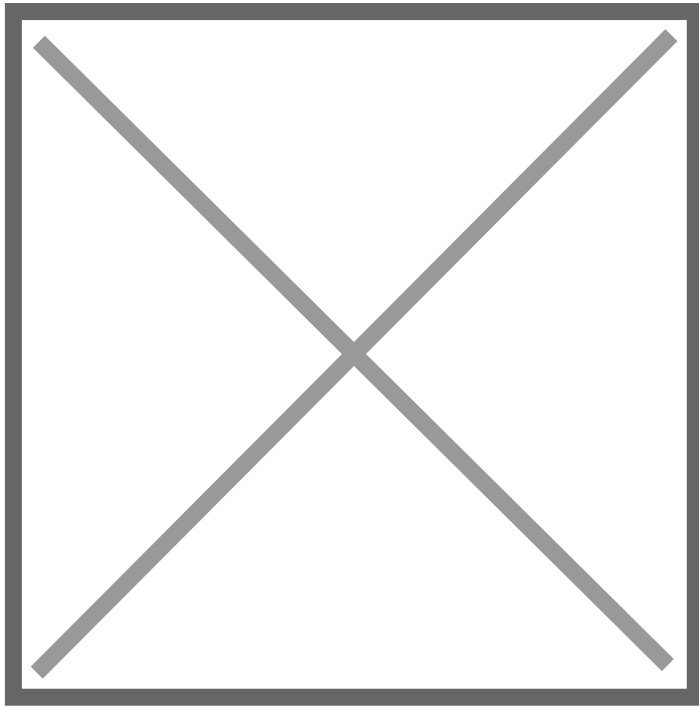
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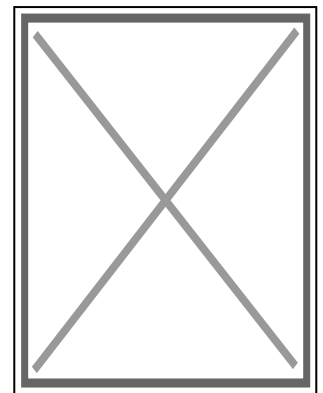
India needs a biotechnology commission

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A biotech commission is needed to genuinely assess the risks of release of a GMO in the country

In March 2002, the Genetic Engineering Approval Committee (GEAC) of the Ministry of Environment and Forests, Government of India, approved the commercial marketing of seeds of Mahyco-Monsanto's Bt-cotton carrying an insecticidal gene from *Bacillus thuringiensis* that was claimed to produce in the plant a product that would kill cotton pests such as bollworm. This was the first approval of the commercial release in the environment of a Genetically Manipulated Organism (GMO) in India, and we witnessed the first commercial plantation of a GMO in India in 2002. However, as was expected by many of us, there has been widespread failure of the above Bt-cotton in India as described, amongst numerous others, the following reports:

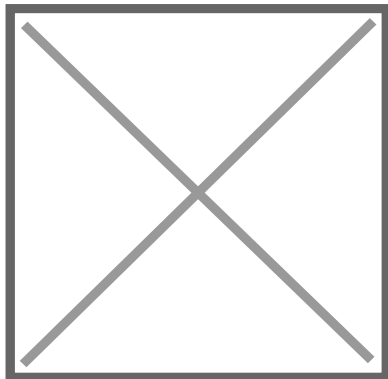


- Probe sought into the failure of first Bt- cotton crop, The Hindu, 16 April 2003
- Government to be cautious on Bt-cotton, The New Indian Express, 24 April 2003
- Bt-cotton ryots suffer higher losses, says study, The Hindu, 6 June 2003
- Bt-crops fail to live upto promise, Deccan Chronicle, 6 June 2003
- In the biological trap (the failure of Bt- cotton in Warrangal and adjoining villages), The Hindu, 10 June 2003
- Bt-cotton: adopt weight-and-watch policy, The Tribune, 14 July 2003

Not only that, at least in Gujarat farmers are using other varieties (such as Navbharat) or even second (F2) generation so-called Bt-seeds (In Gujarat, Bt cotton seed loses out to illegal Navbharat, The New Indian Express, 25 April 2003). In May 2002, I received a letter from Kapil Shah of the charitable trust, Jatan, in Gujarat, stating, "Different varieties and versions of Bt-seeds are sold in Gujarat at the rate of Rs 70 to Rs 1600 per 450 grams seed pack". He sent me two samples of such seeds. One was "claimed to be F1 and sold openly with a cash memo with brand name Maxi-151". The other one was from their Khadi Institute, for the product of which Kapil Shah stated: "while processing this cotton, the processors found

uncommon itching and rash on their body".

All the above-mentioned seeds were sent to me for analysis. As no reliable, uncorrupt and technically sound commercial organization exists in the country today for analysis of GMOs, I tried to send the seeds to a well-known organization in the US through a company in India of which I am the Chairman. The seeds were destroyed by the US Customs and never reached the destination.



As I have said above, all this was expected for the following three reasons:

No professional, objective and reliable procedure exists in the country for assessment of genuine risks underlying the release of a GMO that would safeguard the interests of the country and its farmers and not serve merely the interests of a multinational corporation (MNC) or those linked directly or indirectly to such MNCs. I have stated these risks and the method of their assessment, elsewhere in detail (Economic and Political Weekly, 13 April 2002, pp. 1402-1406; Down to Earth, 15 April 2002, pp. 49-50).

There has been so far no requirement for transparency in the operation of whatever procedures exist in the country for approval of the release of a GMO in the environment.

Thus, even though the public has a right to know on what basis was the permission granted to Mahyco-Monsanto for commercializing their Bt-cotton, the RCGM (the Review Committee on Genetic Manipulation, of the Department of Biotechnology, Government of India) and the GEAC have never agreed to make public any information in this regard in spite of repeated requests from many responsible individuals and organizations.

No penalty exists in the country for not following the laws of the land in regard to the release and monitoring of GMOs (no matter how inadequate these laws may be), as long as such a transgression of law helps the MNCs and, through steps widely known to the Indian public, those who were instrumental in granting the permission for the release of the GMO under a veil of secrecy, presumably because, on stringent scientific grounds, the permission was unwarranted. The entire sequence of events spread over the last many years that eventually led to the clearance by the GEAC of Mahyco-Monsanto's Bt-seeds in March 2002 (and what happened afterwards) is a story of such transgressions of the laws of the land by the DBT and the Ministry of Environment and Forests.

How may we ensure that such a fiasco that has occurred with Bt-cotton does not happen again? If the Government of India, the governments of our states and our bureaucracy are seriously interested in using biotechnology for the largest benefit of the largest number of our people, and not merely in serving the interests of the Government-bureacracy-MNC nexus that is widely known to serve only its own interests and not that of the people of the developing and the least-developed countries, they must together set up an independent Biotechnology Commission consisting of members who would satisfy the following criteria:

- High professional ability recognized nationally and internationally using stringent criteria
- Adequately demonstrated honesty, integrity and courage of a high order
- High public credibility of which indisputable evidence exists
- Established commitment to the country
- Proven qualities of leadership.

The Commission should set up, amongst others, a system for clearance of a GMO for release in the environment. This system would first assess (a) the need for such a release; (b) the credentials of the organization that is asking for the release; and (c) the experience with the GMO elsewhere where it may have been released. It would then investigate alternatives such as Integrated Pest Management for cotton. If after this investigation and analysis, the Commission (or the system mentioned above that it sets up) feels that there is an established need for the GMO and no alternative to it, it would state the risks of the proposed release and the methodology of assessment of these risks. If the GMO passes this risk assessment procedure, the system would assess the residual risk which will always be there, against the expected benefit, and permit the release only if

the expected benefit exceeds the residual risk.

Furthermore, the entire process mentioned above must be transparent, with the public having access to all the relevant information at all stages of assessment. The assessment procedure must, in fact, involve all the stake holders at appropriate stages of the assessment.

Lastly, the Commission must clearly state the monitoring protocol for a follow-up after the commercial release of a GMO, as is done in the case of release of new drugs.

It is unfortunate that no release of any GMO ĀĀĀĀ perhaps, anywhere in the world, and surely in India ĀĀĀĀ has followed the above procedure. We must remember that, unlike drugs produced through genetic engineering, a GMO once released cannot be recalled. We should not the forget the havoc that has been created in our country by unintended and unmonitored release of water hyacinth and of parthenium (Congress grass). None of these existed in the country before I was married and it is a dreadful thought that our married life has been synchronous with the emergence of these two as the most expensive weeds ever in our history! I would not like our children to face the same situation in future with GMOs.