

THE BT COTTON CASE

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Bt Cotton is based on a technology that will work with reasonable success in many countries but it will not work in India. Its irrelevance to our small farmers is the crux of the resistance to its introduction here. Another reason why many have opposed Bt cotton (not GM technology) is the fact that it belongs to Monsanto. Monsanto has a record of prosecuting farmers for technology infringement and harassing them with lawsuits. Using their technology will have implications in the field of Intellectual Property Rights because their policies are in conflict with Indian law. Apart from this, there has been anger at the way that public opinion was orchestrated before the release. The way reports were planted, people interviewed selectively so that no critical voice was heard, senior members of the scientific administration promised release of not one but many GM crops, even before the authorized Committee had met. All this told its own story.

Another phenomenon that was witnessed during the build up to the release of Bt cotton, was the sponsored Dilli Darshan of all the pro GM farmer leaders. Predominantly Sri Sharad Joshi, an ardent advocate of patenting of seeds and GM crops. It was made out in many strategic TV interviews that the farmers were all in support of Bt cotton and nobody had the right to deny them what they wanted. These groups of farmers represent a very tiny fraction of the farming community. On whose behalf do they speak? There are as many farmer leaders, Sri Tikait and Sri Nanjundaswamy for example, who are as opposed to GM crops as those who support them are for.

The tragic fact is that the real farmers, the mass of India's farming community has no idea what Bt cotton is nor what GM crops are. All these so called farmer leaders are speaking as lobbyists, not farmers. The pro GM farm lobby, specially Sri Joshi asserts that the farmer, not the scientist, will decide whether Bt cotton technology is appropriate for Indian agriculture or not. This absurd contention displays the depth of ignorance about this new technology. When a farmer buys a pumping set or a thresher, he expects that the Indian Bureau of Standards would certify the efficiency and safety of such products after experts had tested it, because he lacks the ability to test these things himself. By which ridiculous argument then should Sri Joshi's farmer be considered competent to evaluate the human health and environmental safety of a complex and still unproven technology? If these people were interested in the well being of farmers, instead of just themselves, they would have been in the forefront of demanding rigorous tests so that the farming and rural community was not endangered.

Bt cotton was developed for cold temperate countries like the US where pests are limited, - chiefly the bollworm, against which the Bt toxin works and pest load in fields is not high. There land holdings are large, and subsidies are so huge that the risk taking capacity of farmers is substantial. Bt cotton is unlikely to work for more than a few years in India because it is fundamentally at odds with the agricultural and climatic conditions here. Insects are likely to develop resistance quite fast, making the variety useless in a few years. For the Bt technology to be successful, Monsanto stipulates that the farmer has to

set aside about 20 % of his acreage for non-Bt cotton. This is essential so that the bollworm can feed partly on non poisonous, normal cotton and remain susceptible to the Bt toxin. Otherwise, like the mosquitoes developed resistance to DDT , the bollworm will quickly become resistant to Bt toxin and the crop will fail.

In the US with 10,000 to 30,000 acre holdings, wasting 20 % of the acreage, even more if needed is not an issue. Pesticide sprayings are reduced because there is only one main pest, the bollworm and that is targeted by Bt toxin .Should even then everything go wrong, the 1 billion dollar a day agriculture subsidy of the OECD countries is more than adequate to bail out the American farmer so that he is not in any danger of contemplating any extreme steps like his abandoned Indian brethren.

In India, with its small land holdings, the economics of Bt cotton cannot work after setting aside 20% as an insect refuge. There are many kinds of cotton pests in India apart from the bollworm. The use of pesticides will have to continue because spraying will be needed to kill these other pests. Pesticide use will also continue because as in all tropical countries, pest attack is far more intense and the number of insects per acre will be far higher than in colder countries. It is unlikely the Bt strategy alone will be effective in controlling the intense pest attacks common in the tropics. Monsanto fully aware of this, recommends that farmers should count the number of insects in their fields and if these exceed a certain number, pesticide sprayings should be done.

So what is the final take on Bt cotton for India? As the Genetic Engineering Approval Committee (GEAC) stated in its approval 'with conditions', Bt cotton is not recommended for small farmers. But wasn't the rhetoric of the scientific- administrative establishment these past few years replete with arguments that Bt cotton was crucially needed to provide a good cotton variety to small farmers to stop the tragedy of cotton suicides. When critics asked why we should not use Indian technology rather than Monsanto's, the powers replied that the small farmers were in urgent need of help and we could not wait for the Indian technology.

Now that the GEAC has had to admit what everyone knew from the start, that this Bt technology will not help the small farmers, the public needs to know who is responsible for pushing Monsanto's technology in this way. Which lobby is railroading India's GM policy? There are many other questions. Given the record of pesticide abuse because of the failure to educate farmers, is it realistic to expect that the complex system of refuges will be implemented even by larger farmers?

In what must be a first in the world, monitoring and regulation of a GM crop has been entrusted to the very same company that is producing and selling the GM variety! Countries across the world are making a lot of effort to put in as much transparency and independence into their monitoring systems, as possible. In many nations, it is mandatory to have public discussions on risks and benefits of the proposed GM variety. Concerned citizens can review the regulation and monitoring process. The Indian officials however have decided not to have even a pretense of objectivity or transparency. Mahyco-Monsanto will be monitoring the performance of Mahyco- Monsanto! Is it realistic to

expect that the company will be reporting negative data about itself? Is it likely that Mahyco-Monsanto will inform the government that pollen flow can be detected over large distances, that there is a real danger of foreign genes getting transferred with the pollen? Do you see them reporting that the insects have developed resistance and that their variety has failed? And will the company spend money to hire expert scientists needed to do this kind of work even if it is going to cut into their profit margin?

There are those who will tell you that resistance in the pest is bound to come, it is natural. Of course it is! But not in a few years. If resistance is going to come in just two to three years, does the variety have any relevance for the farmers? Because when the variety fails that fast, the farmers are even worse off than they were. The Bt cotton crop has failed in South Sulawesi, Indonesia because the pests have become resistant to the Bt toxin. Angry farmers are protesting against Monsanto and their government because cotton yields are down to 500kg / hectare from the promised three tons. Violent demonstrators clashing with the police are demanding that Bt cotton and other transgenic crops be banned.

In our own Gujarat- Maharashtra belt, farmers are reporting no significant yield differences between Bt and non- Bt cotton. Add to this the additional cost of the expensive Bt seed (about 4-5 times the cost of non-Bt seed so far) and non- productive refuges amounting to 20 % of the land holding and you do not have to be a genius to figure out that Bt cotton is not going to be economically viable under Indian conditions. Farmers are reporting that due to heavy pest attacks this last season when they were cultivating the illegal Bt cotton supplied by Navbharat , they had to resort to frequent sprayings in their fields. Monsanto itself has been spraying several times in its experimental plots.

As anyone who understands Indian agriculture will tell you, the cotton problem in India has several causes. Most important is the generally bad quality of the seeds available. Mixtures of varieties are being sold to farmers in the name of standardized seed, resulting in uneven crops and low yields. Spurious and adulterated pesticides that failed to control the pests landed the farmer in deepening debt. Farmers themselves complain of problems with grading and pricing and ad hoc government policy when sudden imports can reduce the value of their crops. The problems facing cotton farmers have to be dealt at various levels if there is a genuine desire to solve them. With the introduction of Bt cotton, the government has sought to make Monsanto happy, not the cotton farmers in trouble.

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