

## Bt Cotton is a Winner

10 August 2004 | News



**Dr Shanthu Shantharam** 

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Bt (*Bacillus thuringiensis*) cotton MECH-162 in India seems to be a hands down winner according to a peer reviewed scientific paper by Bambawale et al in the June 2004 issue of Current Science (Vol. 86: No12; 1628-1633). This research report must be the first independently conducted study by Indian agricultural scientists on the performance of Bt cotton.

It ought to put an end to any more debate on whether Bt cotton works or not; whether it is beneficial to farmers or not; or whether it yields better or not. Bambawale et al conducted a participatory field trial with MECH-162 variety of Bt cotton in Nanded district of Maharashtra spread over 33 hectares of irrigated area under the integrated pest management (IPM) conditions. Compared to other conventional cottons and non-Bt MECH cotton, MECH-162 did exceedingly well in every aspect of its agronomic performance. MECH-162 suffered significantly lower bollworm and sucking pest infestation, took four sprays less of insecticide and yield increased up to 12.4 quintals per hectare and a net return of Rs 16,231 per hectare in spite of the initial cost of the seed being higher. The quality of field data and the rigor of the analysis in the paper speak for itself and there should not be any more doubts about it. If people still do not believe that Bt cotton is a superior variety, then it is best to just ignore them and let the technology march on as it will and should. The results of Bambawale et al should not surprise any of us who have critically and objectively evaluated its performance in China, the US and South Africa.

Bambawale et al findings readily support AC Nielsen. ORG-MARG study has reported that Bt cotton is a real winner. The fact that Bt cotton planting acreage today stands at almost 900,000 acres is a testimony of its superior performance. It seems that Gujarat is growing 100 percent Bt cotton for the past year. Almost 18 Indian seed companies have now sub-licensed the same Bt cotton technology from Monsanto. Two big bio agri companies Nuziveedu Seeds and Rasi Seeds have been authorized by the regulator, the Genetic Engineering Approval Committee (GEAC) to sell their Bt cotton varieties from next year. The competition is hotting up, as it should.

Competition will no doubt bring down the price of Bt cotton, a natural market phenomenon. It is believed that these newly authorized Bt cotton varieties will give a run to Monsanto's MECH varieties because of their superior genetic background. The new varieties will be a boon for the cotton farmers with more choice of seed varieties.

One need to ask to why the Bt cotton acreage is increasing year after year in India and why more and more seed companies are buying license to get the Bt cotton technology. The reasons are not too far to fetch. They all have seen on the ground how Bt cotton works and how the growers are happy to pay for this new technology and they do not want to miss the opportunity to benefit from it.

I have no doubt those activist groups who have no love for GM (genetically modified) crops will once again criticize this good scientific paper by Bambawale et al as some ploy of the private sector. They will also try to discredit this GM technology. I suggest that anyone who is really interested in the truth of the matter, compare the data and reports put out by activists who are trying to discredit the GM crops technology and compare it with what AC Nielsen and Bambawale et al have published and determine for yourself as to which report is more authentic and scientific. If you do not have the expertise to judge it for yourself then take them to one who does and get a first hand opinion on them.

The real good news is that newer and superior varieties of Bt cotton are coming to the market and that is proof positive that the technology works and it is beneficial. What is appealing in Bambawale et al paper was that the study was conducted with farmer's participation and under IPM conditions. This once again proves the point that Bt cotton technology can be managed efficiently under environmentally safe conditions. Verifiable and authentic results from elsewhere in the world clearly demonstrate that Bt cotton offers substantial and consistent benefits to the resource-poor farmers. The urban myth that GM crops do not benefit poor farmers in India and elsewhere is just that. Eventually farmers will decide what is good for them and decide they will. It is simply a matter of time and good technology will prevail and the rest fall by the way side. Hail to Bt cotton!

*(The author runs a bioagri consultancy, Biologistics International in Ellicott City, Maryland, USA. As the director of the US Department of Agriculture, Shantharam evaluated and cleared the world's first ever trial of Bt cotton and has since evolved the regulatory mechanisms to evaluate a variety of GM crops. He advises the governments in many countries on agricultural biotechnology)*