

Biosafety News

India tries its hand at desi Bt cotton once again



After a failed experiment in 2009, India is once again trying its hand at creating desi Bt cotton seeds. The city-based Central Institute of Cotton Research (CICR) this week signed a memorandum of understanding with Delhi University whose scientists have discovered a Bt gene - Tg2E-13. Research will now be conducted with the CICR to ensure commercial development of a genetically modified (GM) seed.

It is also learnt through sources that the CICR is also planning to tie up with Tamil Nadu Agriculture University for another gene discovered by a group of experts there. It will eventually work on developing a Bt cotton seed having both the genes.

The GM seed with two genes is expected to provide double protection against bollworm, the common pest hitting cotton crops. This will be projected as an alternative to the Bollgard 2 seed sold by US multinational Monsanto which has a monopoly on Bt cotton seed business so far since 2002.

"It will, however, take at least three years for the indigenous seeds to reach the market," the sources said.

It took eight years of research for Dr Deepak Pental of Delhi University to come up with the Tg2E-13. Now, CICR will further work on it, before it presents the seed for approval to the ministry of environment which is the approving authority for all GM crops.

The CICR will start with confined trials in a glass house. It will be followed by field trials in a restricted area. There are plans to develop a Bt variety (multiple crossbreeding) as against a hybrid (single cross-breeding). Currently, only seeds of Monsanto's Bt hybrid plants are available in the market.

A hybrid is a mix between a pure Monsanto plant with a local variety of cotton. The seeds of a hybrid plant can be used only once as the next generation does not have consistent characteristics. So, the farmer has to buy fresh stock of seeds every season.

In a Bt variety, on the other hand, seeds can be extracted from the cotton crop itself. To generate a Bt variety, the hybrid plant has to be repeatedly bred with the other non-Bt variety. "A plant with stable characteristics is generated after five such breedings," say scientists.

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A Bt variety is known a better option as against the hybrid plant for the farmers as seeds can be easily generated from the regular crop itself.

However, sources admit that there is a long way to go. Apart from getting the approval from MoEF, the CICR has to ensure that it does end up in a debacle, as has happened before.

The University of Agricultural Sciences, Dharwad in Karnataka, had developed an indigenous Bt seed - Bikaneri narma (BNBt) after decade-long research. However, after it was commercially launched in 2009, it was found that BNBt had the Mon-531 gene originally discovered by Monsanto and not an indigenous version. The process was put on hold and referred to an expert committee, which recommended that the scientists should come up with an original gene instead of Mon 531. There has been no progress so far.

To ensure that new genes do not end up in a fiasco, the CICR will also have to ensure that Tg2E-13 and the other one developed in Tamil Nadu are different Mon 531.

For More Details: <http://timesofindia.indiatimes.com/india/India-tries-its-hand-at-desi-Bt-cotton-once-again/articleshow/47740754.cms>

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