



Nagpur institute throws up challenge to Monsanto spinoffs, to hit fields in two years

# Homespun Bt here at last

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**A**FTER facing criticism for years of failure in developing its own Bt cotton, the Central Institute for Cotton Research (CICR) now has something concrete to claim. It has been able to introduce the Cry1 Ac gene in an Indian cotton variety and, if all goes well, the institute's Bt will hit the market in another two years.

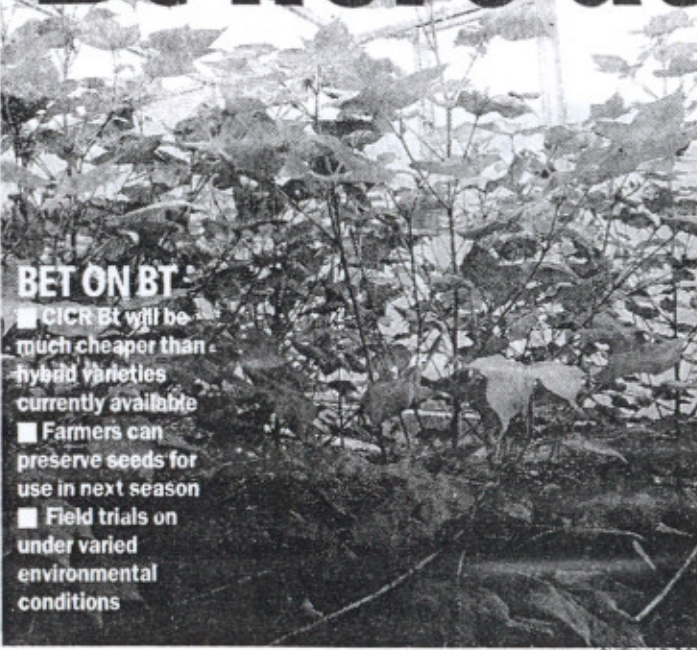
Director B M Khadi is confident the breed will be a success. "The CICR Bt will be an independent variety, which the farmers won't have to buy every year from the market like the Bt hybrids available currently.

"Moreover, it will be much,

much cheaper than those now available," he said.

CICR has been trying to develop India's own Bt since the early 1990s.

"At long last, we have standardised our own protocol (method) for a primary transgenic variety. We call it meristem culture. Using this method, we have put the Cry1 Ac Bt gene in the famous Rajasthan variety, Bikaner Narma, and are currently testing it under different environmental conditions across the country. The results are very encouraging and there is little doubt that we'll be able to introduce our Bt in the market in two years," Khadi, who led the research team at the University of Agricultural Sciences,



## BET ON Bt

- CICR Bt will be much cheaper than hybrid varieties currently available
- Farmers can preserve seeds for use in next season
- Field trials on under varied environmental conditions

Dharwad, said.

Incidentally, primary transgenic is the original variety of the like the one developed and marketed by Monsanto. Secondary transgenic varieties (hybrids) were developed under license from Monsanto by companies like Mahyco, Rasi, Ankur and I weedu. While hybrid seeds have to be bought anew every year, the primary variety can be preserved and used by the farmer in successive years.

CICR scientists have also introduced the gene in three other varieties—LRA 1566, LRK 51 RG 8 (Desi cotton)—and field trials are underway on the CICR campus. But their efficacy is yet to be established, until

Bikaner Narma modification. "We were always interested in the primary transgenic variety. Initially, we tried to use Monsanto's somatic embryogenesis method on Indian varieties, but we failed. Cotton is acknowledged to be a very tough crop from the bio-technological point of view. Even the Monsanto method was successful on only two American varieties, Coker 312 and Coker 310. Similar efforts have failed in China too," Khadi said.

According to the CICR director, besides his own institute, only China has succeeded in developing its own protocol, Pollen Pathway. "After an open field trial at the CICR, the Bikaner Narma is currently under trial at nine select stations in south and central India. One year later, we will subject it to multi-locational trials (on select plots) and large-scale trials (on farmer's fields)," Khadi said.

"We hope the final results will be good and our Bt will be ready to hit the fields in two years," he added.

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