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India's own Bt gene ready for transfer

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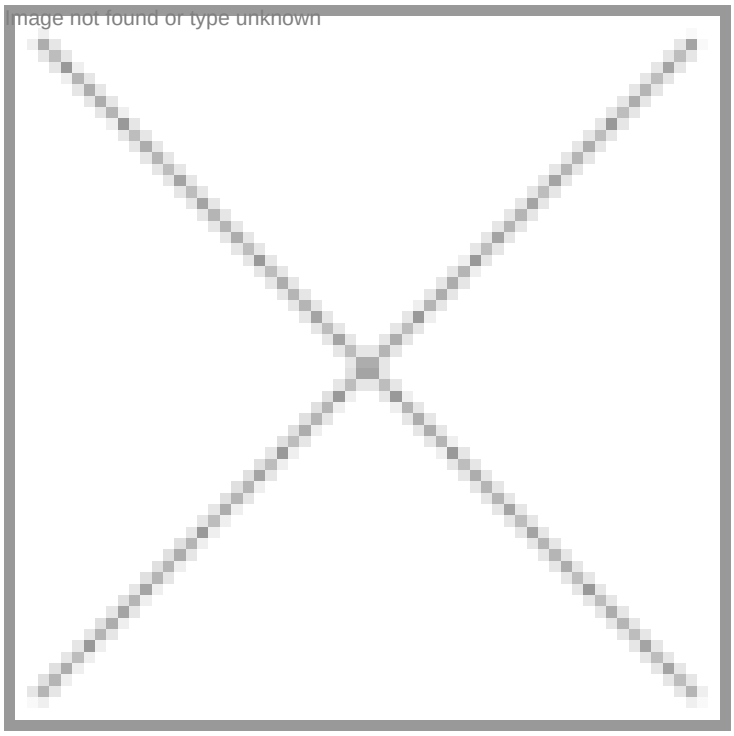

NBRI, Lucknow, has synthesized two new Bt genes. Great news. Greater is that it has takers.

Every Indian prides in "Made in India" tag. But the feeling is further cherished if one learns that indigenously developed biotech products comparable at global levels have been developed "by the Indians, of the Indians, for the Indians". October saw one such moment, which could go into the history books, when seven Indian seed manufacturing companies came together under a consortium Swarna Bharat Biotechnics Pvt Ltd (SBBPL) and signed an agreement to acquire the Indian Bt technology from National Botanical Research Institute (NBRI), Lucknow. This development assumes significance for two reasons. One, the ability to develop the technology, in this case the synthesis of two Bt genes Cry 1 AC and Cry1 Ec. The other to find takers.

The credit for the development of these genes goes to Dr Rakesh Tuli and his team at NBRI. Dr Tuli is known to be the first to have cloned an agricultural gene in India, while he was with Bhabha Atomic Research Centre, almost about 12 years back. Two years ago, he and his team synthesized the genes. Cry 1 AC gene produces a particular endotoxin (protein) in the plant, which is poisonous to certain lepidoterous bollworms such as American boll worm, spotted boll worm, and pink boll worm. Commenting on the superiority of the technology, Dr Tulli said, "These two genes provide protection against bollworm as well as the tobacco caterpillar, so the cotton farmer will have a broad umbrella of protection against the cotton lepidoteran pests. We can proudly claim our technology is superior to the available technology."

The alliance with SBBPL will throw open a new chapter in technology transfer business. This initiative will not only help bridge the widening technology divide, but also reduce the consequent loss due to delay in introducing the products and high cost

involved in acquiring technology. Dr P Sateesh Kumar, executive director, SBBPL, and director of Prabhat Agri Biotech, explained "SBBPL was formed to help the member companies to choose and develop biotech tools applicable to crop improvement and also co-ordinate jointly for the work on getting the regulatory clearances. SBBPL is the first of its kind public-private collaboration to address the concerns of small and marginal seed manufacturers to access high-cost technology at lower costs." According to the NBRI-SBBPL MoU, the consortium has been licensed the two Bt genes for an upfront fee of Rs 75 lakh over a three year period, along with a royalty of 3 percent. "The benefit for us is that we can access the technology distributing the Rs 75 lakh technology fee among the seven members," added Dr Kumar.

The interesting element of the consortium is that it consists of owner-managed companies only. The reason cited Dr Kumar is that owner-managed companies can take quick decisions. The member companies include Nuziveedu Seeds, Ganga Kaveri Seeds, Pravardhan Seeds, Prabhat Agri Biotech, Kaveri Seeds, Nandi Seeds, and Vikki's Agro Tech. Moreover, the seven member consortium commands a market share of 30 percent of total cotton seeds and enjoys a 50 percent share of the entire proprietary cotton hybrid seed marketed in the country.

That the MoU has been signed doesn't mean that the Bt crops will be ready soon. Dr Kumar explains, "We will be using this technology for cotton. Though, it can be use for other crops like radish, getting the biosafety clearances for food crops will take a very long time. So we are looking at cotton. It will take us about 18 months to transfer the technology to the material. Further, there will be biosafety assessment, and two years of field test. With all these things, it is likely that we would have the Bt seeds by 2005-06 in the market." The consortium is understood to have spent about Rs 5 crore on the initial work and is planning to apply for regulatory approval. Further, the consortium is considering setting up of a common R&D facility for future developmental activities.

The legal Bt cotton of Mahyco Monsanto is estimated to have been sown in about 60,000 acres in 2002-03 and in about 2 lakh acres of land in 2003-04. The Mahyco-Monsanto is estimated to have spent in excess of Rs 50 crore on developing the technology. But the current alliance has already found a favorable attitude from activists. Probably, the pride to nourish Indian technology finds their approval. On the cost side too, the claims are approbatory. Said Dr Kumar, "Indian farmers spend about Rs 1,600 crore on insecticides for controlling the pest in cotton fields and more precisely
Rs 1,200 crore on bollworm. Further, we will be able to sell our products at as low as Rs 800 per packet of 450 gm." With all the things in its favor the alliance is well positioned to bring a revolution. But all it needs is to get the act together.

Ch. Srinivas Rao