

Bioengineered, Insect-Resistant Variety Of Eggplant Developed

Cornell University



Eggplant is an essential crop in many tropical countries around the world, including India and the Philippines. However, eggplant fields are often attacked by the eggplant fruit and shoot borer (EFSB), an insect that can causes widespread crop damage. These losses hurt the food supply chain, as well as the regional economies where eggplant is a staple food source. They also force farmers to spread expensive chemical pesticides, to which the EFSB is gradually becoming resistant.

In an effort to strengthen crop yields, Cornell University, Ithaca, N.Y., and Sathguru Management Consultants in India have partnered with a private enterprise Mahyco seed company and a consortium of public research institutions to introduce a bioengineered, EFSB-resistant variety of eggplant to Asia. They coordinated the pro bono use of Monsanto – Mahyco technology, which was licensed to a public/private research and development consortium to develop this new variety of eggplant. The work was funded by the U.S. Agency for International Development’s Agriculture Biotechnology Support Project and the governments of India, Bangladesh and the Philippines.

“ *Bioengineered eggplant allows farmers to reduce their dependence on pesticides, it's safe for the environment, and maximizes farm yields and creates more stable income for farming families.* ”

Monsanto's insect-resistance technology is based on the cry1Ac protein from *Bacillus thuringiensis* (Bt), a soil bacterium. This unique organism produces crystal proteins that are toxic to a variety of insects, including EFSB. The technology bioengineers the cry1Ac gene into the eggplant, creating a hybrid variety with plant leaves that are toxic to EFSB but safe for human consumption.

Transgenic Bt-hybrid eggplant will be available commercially in India, Bangladesh and the Philippines in 2008.

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