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Mahyco

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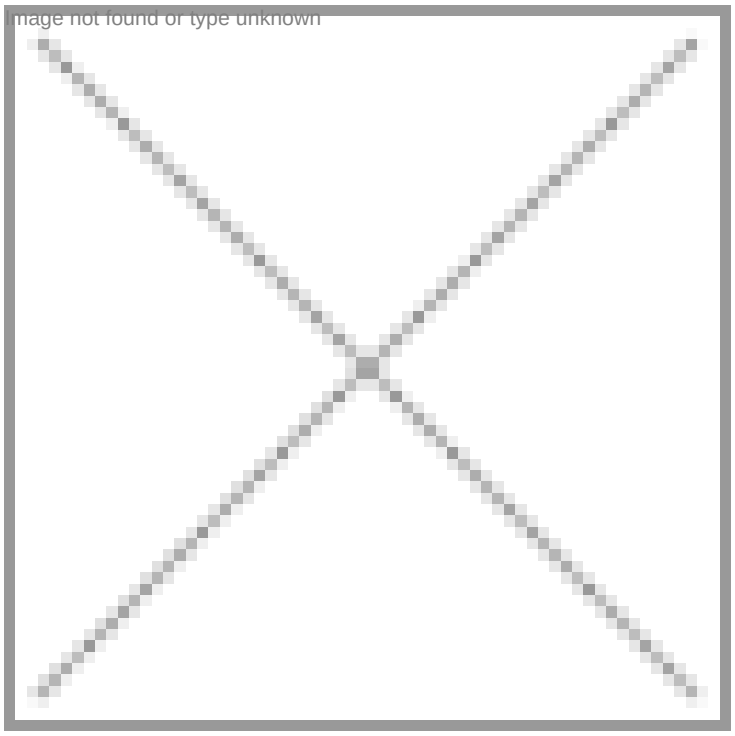

Rank 9

Mahyco

Revolutionizing bioagriculture

Mahyco is the first Indian company to commercially grow and market transgenic Bollgard cotton.

Going by the number of Bt cotton packets sold in 2007-2008, the Maharashtra Hybrid Seed Company (Mahyco) has witnessed a huge jump. Mahyco sold about 2 million packets of Bollgard and Bollgard II as compared to 13 lakh packets in 2006-2007. Bollgard was sold at Rs 750 per packet and Bollgard II at Rs 925 per packet. Mahyco hybrids were planted on approximately 1.6 million acres by almost 7 lakh farmers across the country. Mahyco hybrids were sold by over 4,500 outlets across the country. An ISO 9001-2000 company with the largest multi-locational ISO certification, Mahyco is the first Indian company to commercially grow and market transgenic Bollgard cotton in 2002. Apart from Bollgard Cotton, Mahyco also comes up with products in field crops, vegetable crops and
oil seeds.

The ISO 9001-2000 certification awarded to Mahyco is the largest multilocation certification in India covering 59 locations. Mahyco's Quality Assurance laboratory at Dawalwadi (INML-06), has been granted the status of Member Laboratory of the International Seed Testing Association (ISTA), Zurich, Switzerland since 1999 and the status of ISTA accredited Laboratory since April 2005. Production centers of Mahyco are again located in the central and southern zones in India. Infrastructure on the whole (all India basis) includes 27 production centers and 8 processing units), 9,000 tonnes of dehuminified storage capacity of sensitive seeds. The current staff strength at Mahyco is 1,025 and there are plans to recruit at least 5 percent more in the current financial year.

Infrastructure for the company includes an R&D unit at Jalna. Set up in 1998, the R&D unit at Jalna at Dawalwadi is one of Asia's most advanced seed industry R&D establishment and is well equipped with state-of-the-art labs for seed health, molecular biology, cytogenetics, pathology, entomology, molecular virology and plant transformation. Best multi-disciplinary talent, trained nationally and internationally work in the center. Amongst all the R&D units located across the country, the Jalna unit is the only center to conduct trials and research for transgenic crops. The company conducts research in 6 locations in the country.

As far as R&D developments are concerned, continuous efforts in crop breeding are ongoing to add value in creating new products. Successful commercialization of Bollgard II cotton hybrids in the north zone was one of the major achievements. New generation cotton hybrids for the central zone with Bollgard II stacked gene technology have also been commercialized. Inter-specific extra long staple cotton hybrids were under advanced stage of testing. Cotton hybrids with Bollgard II and roundup ready flex technology were tested in the south zone.

On the biotechnology front, Mahyco research continued with the development of insect-resistant brinjal, okra and rice. Bt brinjal entered large scale trials in Kharif 2007 while Bt okra and Bt rice were further evaluated in multi-location research trials. In the laboratory, work continued in the areas of insecticidal genes, virus tolerance, abiotic stress tolerance and microbial mining for agronomically useful traits. The use and development of DNA marker technology for implementation in crop breeding programs was also a major focus.

A spokesperson from Mahyco said, "Mahyco has a strong track record in product development, and has the long-term goal of bringing the best technologies to the Indian farmer. Examples are insect resistant and herbicide tolerant crops. With reference to biotech crops, Mahyco has continued to work closely with the regulatory authorities in terms of biosafety and field compliance."

At Mahyco, plant biotechnology is viewed as a tool to be used in a selective manner as an integral part of plant breeding programs. Traits of value, which are difficult to breed for, or are absent in germplasm available to breeders, are the focus of biotechnology research at Mahyco. Making such traits available enables breeders to incorporate them in a precise manner, eliminating unwanted traits that could be carried along in traditional breeding methods. Biotechnology research programs at Mahyco have access to ultracentrifuges, automated DNA sequencing, electron microscopy, microtomes, fermentation, and CHEF gel capabilities. Major research areas include crop transformation, molecular virology, molecular microbiology, gene discovery and molecular markers, entomology and diagnostics.

In fiscal 2007-2008, Mahyco got approval for various cotton hybrids in all the three zones. MRC â€“ 7017 BG-II and MRC 7031 BG-II in the north zone, MRC-7351 BG-II in the central zone, MRC-7160 BG-II and MRC-7347 BG-II in the south zone. These are all new generation hybrids with excellent performance and superior fiber quality. There is an overwhelming response to all the new released hybrids. The new product sales have been excellent in the first year of release and a growth of over 400 percent in the current financial year. The total number of hybrids available in India is 225 (94 hybrids approved this year and 131 hybrids were approved till last year). "The response of farmers to BG I and BG II is quite encouraging as these hybrids performed well to meet expectations of farmers in general. With regards to recently launched hybrids, MRC

7351, MRC 7017 (Nikki) and MRC 7347 (Bhakti), BG II version has proved its superiority in terms of resistance to all bollworms and higher boll retention. With regards to MRC 6304 and MRC 6025 - BG I in the north zone, MRC 6301 in the central zone and MRC 6322 and MRC 6918 in the south zone are among the preferred hybrids of customers considering performance in terms of yield, superior cotton quality," the spokesperson said.

Mahyco has also been particular about its quality norms. During production, proper inspections are conducted by the production staff to maintain the healthy crop. Proper rouging of off-types are done at vegetative and pre-flowering stage in male as well as female blocks to maintain the genetic purity. Proper inputs are given and micronutrient sprays are given to maintain the health of the crop and to get good germination. The appropriate pesticide sprays are given as per the need. Bollworm infested plants if noticed are uprooted. The quality standard of 95 percent genetic purity, 80 percent germination and more than 98 percent Bt gene purity is maintained.

Mahyco had also entered into a partnership with Arcadia Biosciences, Davis, CA, USA, for development of biotech crops with increased nitrogen use efficiency (NUE) and salt tolerance (ST). These traits would be of immense benefit to Indian farmers. Plants with increased NUE show the same level of productivity as conventional crops with significantly reduced input of nitrogen fertilizer. At normal levels of nitrogen, yield is increased further. Plants with increased ST are able to withstand levels of salinity which would normally render conventional crops unproductive. Other Mahyco associates include the Barwale Foundation (formerly Mahyco Research Foundation) is a charitable non-profit organization for public benefits, established in 1986 to promote agriculture, human welfare, research and education in view to improve the quality of the human mankind. The Barwale Foundation is recognized as an R&D organization by the Department of Scientific & Industrial Research (DSIR), Ministry of Science & Technology, Government of India. The Shri Ganapati Netralaya was started on December 31, 1992 at Jalna by Mahyco Research Foundation Trust wiith an objective of providing the best possible eye-care services in the region, particularly to the rural population, by the most economical methods, with most modern and state-of-the-art technology directed towards prevention,diognosis and treatment.

As far as future plans are concerned, Mahyco has an approval waiting for extra long staple cotton hybrids with Bollgard II trait to be released in the central and south zone. In the present fiscal year, Mahyco would continue with plans to develop biotech crops with a view to bring the best technologies available to the Indian farmer.