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India struggles to keep Bt cotton growth story going

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In 2002, India had 7.7 million hectares of land under cotton cultivation. IA decade later in 2011-12, the area under Bt cotton cultivation in the country stood at 12.1 million hectares, which is about 90 percent of the total land under cotton cultivation in the country.

The cotton yield per hectare has increased by 60 percent since 2002. The revolutionary change is attributed to the introduction of Bt cotton in the farm fields of India. Cotton farmers in India, who had once given up cotton cultivation due to unaffordable costs of production and expensive and ineffective pest control, have returned to the crop since 2002. This change is also often referred to as the White Gold Revolution in the country.

But amid this boom, there is a region that has been an exception. Maharashtra, a state in western India, has seen a drop in the yield and production of Bt cotton in the past one year, especially in the dry regions of Vidarbha, that receives low rainfall. This is despite the fact that 95 percent of the total land sown in the state comes under Bt cotton cultivation.

According to statistics provided by the Maharashtra Cotton Growers Marketing Federation, the total sown area in Maharashtra in 2011-12 was 41.26 lakh hectares. Out of this, the total area sown under Bt cotton was 39.20 lakh hectares in 2011-12 as compared to 36.21 lakh hectares in 2010-11. However, the production saw a drop to 69 lakh bales in 2011-12 as compared to 74.73 lakh bales in 2010-11. Productivity too saw a drop with 2011-12 hitting a figure of 286 lint kg per hectare as compared to 322 lint kg per hectare in 2010-11.

Maharashtra grows 35 percent of India's total Bt cotton. But industry experts now say that more needs to be done by the government to bolster yield and incentivize farmers.

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Irrigation woes

Dr NP Hirani, chairman of Maharashtra Cotton Growers Marketing Federation, says, "Low irrigation facilities in the state has been a big problem for farmers. If you draw a comparative picture with other cotton-growing states, such as Gujarat, Andhra Pradesh, Punjab and Haryana, Maharashtra has the lowest area under irrigation. We have 15 percent of the cultivated area under irrigation, out of which four percent is surface irrigation and 12 percent is well irrigation. In Gujarat, irrigation comes up to around 40 percent, while in Punjab and Haryana, it is 99 per cent. In Andhra Pradesh, it is 39 percent."

To take Bt cotton to its next level of growth, irrigation and tools for water availability will play a crucial role in the coming months. Dr Gyanendra Shukla, director, Mahyco Monsanto Biotech, says, "On the whole, India faces a water scarcity. In such a situation, the government, rather than giving monetary packages, should be thinking of providing such technologies as to how a farmer can store water and use them for his crops." Against this backdrop, companies are already working on drought-resistant seeds.

States like Gujarat and Rajasthan have been heavily investing in irrigation technologies over the past 10 years, with Gujarat reporting an impressive yield and acceptance from farmers. Dr BR Shah, director, Agriculture and Co-operation Department, Government of Gujarat, says, "There is a very good response to Bt cotton from farmers. After introduction of Bt cotton, the area under Bt cotton has increased, while area under other crops has shown decreasing trend. There was a continuous rise in acceptability of Bt cotton in Gujarat." The total area in Gujarat under Bt cotton cultivation is 24.62 lakh hectares out of 29.62 lakh hectares of total area under cotton in kharif 2011. Also, nearly 52.89 lakh packets of seeds of Bt cotton were sold in Gujarat during 2011-12.

Cost of cultivation

Also, cost of cultivation is taking a toll on farmers. Labour is scare. The cost of cultivation for a farmer ranges between Rs 15,000 and Rs 20,000 per acre. This excludes land rentals. Labour for picking and weeding takes 60 percent of the cultivation cost. "The seed packet prices might have gone up but that consitutes just seven-to-eight percent of the total cultivation cost," says Dr Shukla. Bringing in technologies that can control both sucking pest and weeding can significantly reduce cultivation costs.

Market price hurdle

Industry experts are unanimous in the view that though the increase in the price of Bt cotton seeds has not had any impact on the yield, but the price or returns they get from the market will affect it.Ã?Â Fluctuations of cotton prices in the international market over the last one year has greatly affected the prices procured by Indian farmers. "The price hike in Bt cotton seeds have not shown any adverse effect on cotton cultivation in Gujarat, but the fluctuating of market price of seed cotton during last two cotton trading season may affect cultivation of Bt cotton in the next kharif season," says Dr Shah.

Industry experts say if not given any certainty on returns, farmers may shift to other crops from Bt cotton. "If cotton prices go up by 20 percent then we can see the area under Bt cotton cultivation to remain the same, but if it continues to remain in the current level, then we will see a shift to other crops, such as soybean or maize," informs Dr Shukla.

The government should constitute a policy regime where it can maintain a fine balance between commodity price for cotton and price that farmers procure in the market. New technologies can make a difference. The benefits of Bt cotton have been realized and it is time to move to the next level. "The country has procured all the benefits of Bt cotton. Whatever improvement has to happen has taken place. It is time that we move to other technologies, which will improve yields. For example, sucking pest or drought-resistant technologies that many companies are working upon," says Mr Dhiren N Sheth, president, Cotton Association of India.Ã?Â "All stakeholders should sit down together and then come out with a common consensus."