

GROWING WITH BIOTECHNOLOGY

A story from India

After only a year of growing Bt cotton in one acre, Adi Reddy and his wife Urmila increased cultivation to three acres. Bt cotton, a biotechnology variety designed to withstand serious pests, delivered on its promise to prevent heavy crop losses. From improved productivity to a more efficient harvest timetable, the benefits of the crop were undeniable.

Just like Adi and Urmila, more than 2 million farmers in India are planting Bt cotton. And the number is growing every year. The Bt cotton experience of the Reddy family is now among many positive stories about this crop technology.

Taking a chance

This rural Indian couple first learned of Bt cotton through demonstration farms in their district, Warangal. Two years passed before they became really interested in this new technology. By 2003, repeated bollworm infestation had done enough damage to their cotton crops to persuade them to try the new variety. Given 17 years experience with conventional cotton farming, they were taking a 'hopeful' chance.

That chance paid off as income skyrocketed in just a year. After a 20-quintal (2,000 kg) harvest that first year, there was no turning back. In 2004, Adi and Urmila were able to buy two more acres with their extra earnings. Not surprisingly, they used it to cultivate more Bt cotton.

Goodbye to pests

Bt cotton is designed to fight major pests, so less labour is required for a healthy harvest. "Farmers don't need to spray so many pesticides when farming Bt cotton," stresses Kandunuri Nagesh, who coordinates the Federation of Farmer Associations (FFA) in Warangal. However, he notes that some farmers find it hard to give up old habits – such as frequent pesticide spraying. So, FFA educates Warangal farmers on correct Bt cotton cultivation.

Tangible improvements surrounding quality of life lie ahead for farmers like Adi and Urmila, who have turned FFA advice into practice. For one, Bt technology helped the Reddys save 7,000–8,000 rupees (US\$175–200) per spraying cycle. And instead of hours spent spraying, the couple can now spend new free time

with their two children, socialise more with friends and teach others about how they too can benefit from Bt cotton farming.

How often does Adi spray his field? "I learned from Farmer Field School that I should check my plants for bugs first, rather than spray according to a schedule," Adi explains, referring to his new best-farming practices. "I check for the presence of destructive bugs, plus beneficial insects and then decide whether or not to spray."



Adi checks for pests on his Bt cotton plants.

Efficient harvest

With Bt cotton, farmers avoid setbacks in production. Nobody understands this better than Adi. In the past, his regular cotton crops were heavily infested – yield was low, and it took up to 10 months to reap a decent harvest and clear the field for another planting cycle. But the efficient production from Bt cotton shaved months off this turnover period – and increased yields. Now, Adi harvests 15 quintals (1,500 kg) per acre in as little as six months.

For farmers, time is money, and efficiency is crucial to success. By shortening cotton harvest time to six months, Adi and Urmila can now grow a second crop, maize, in rotation with Bt cotton. So today, they bring in 40,000 rupees (US\$1,000) per acre from Bt cotton and an extra 20,000–25,000 rupees (US\$500-625) per hectare from maize.

Endless potential

Adi beams with pride as he looks at the motorcycle he bought with his added income. It's no surprise that many cotton farmers in India have shifted to Bt cotton, considering it delivers family benefits and enhanced livelihoods.

Next year, Adi and Urmila plan to grow Bt cotton again. They will plant an advanced version that offers protection against



Urmila and Adi Reddy grow Bt cotton in 3 acres. They also grow maize and rice.

more pests. Adi expresses optimism over other products that biotechnology promises cotton farmers, including crops that minimise back-breaking weeding and some that withstand harsh weather.

"I'm willing to try anything new, as long as it doesn't harm us," says Adi, looking confidently into the future.