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An overview of developments in transgenic food crops

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The crop, which has got alien genes into its cells by recombination DNA technology, is called transgenic crop. These crops are used for many purposes: improve the quality of the agricultural or horticultural products; such as, tolerance to cold, frost or drought, the resistance to insects and diseases. Improving resistance to these diseases and insects also reduces the need of herbicides and pesticides. This makes the plants safer for the environment. In the future, transgenic crops may play the pivotal role for developing country with respect to food and nutritional security. Now, this is the only alternative available to cope up with the burgeoning population. The GM crops offer both challenges and opportunities for growth and development of mankind. These technologies should be used to complement the traditional methods for enhancing productivity and quality rather than to replace the conventional methods. Globally, GM crops still occupy only 3.4 percent of the total farmland and are adopted by a minuscule minority of farmers (17.3 million out of the total 513 million farmers around the world. India is at the crossroads as far as the use of genetically engineered crops in agriculture is concerned. Since 1948 population more than doubling in the sixty years, there seems to be a compelling need for the country to find alternate ways to feed India's 1.2 billion people, thus there comes a role to play by GM crops. In India, 10.8 million hectares of GM crops were sown in 2012, out of a total of 182 million hectares of irrigated farmland in the country. Bt cotton, a patented product of Monsanto, remains the first and only GM crop to be commercially cultivated in India, starting in 2002. Following Bt cotton, the Indian government tried to introduce Bt brinjal (egg plant) towards the end of 2009. It was the first GM food crop to be commercialized in India. However, after serious concerns were raised on its safety by scientists, ecologists, farmers and consumers, an indefinite moratorium was put on it in 2010. The biggest challenge for the government will now be to come up with a good regulatory system and communication mechanism on GM foods, which can help allay fears regarding the safety of such crops, while also ensuring higher and sustainable agricultural productivity and remuneration to farmers.

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