



From 1996-2007, total crop production gains globally for corn due to biotech was 15.1 million tons, and 14.5 million tons for soybeans



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HELPING INCREASE GLOBAL FOOD PRODUCTION

The world's population has grown nearly four-fold over the last century and is projected to rise from more than 6.6 billion people today to more than 8 billion by 2030 (U.S. Census Bureau, International Database). In the United States, the population has tripled over the last century (U.S. Census Bureau, Historical National Population Estimates).

Did You Know?

- Feeding the growing population over the next quarter century will require doubling food production and improving food distribution (U.N. Population Fund). Accomplishing this will necessitate significant increases in the amount of food produced per acre, or crop yield.
- We will have to offset losses due to drought and climate change, which many climatologists believe will increase in the years ahead. It has been predicted that two out of three people will live in drought or water-stressed conditions by 2025 (U.N. Environment Programme, 2000).
- Crops improved through biotechnology are increasing food production worldwide. Higher-yielding crops can help feed more people and boost incomes for poor farmers.

BIOTECHNOLOGY IS ALREADY HELPING AND HAS POTENTIAL TO DO MORE

As of 2008, 13.3 million farmers in 25 countries are planting biotech crops. Ninety percent of those farmers are resource-poor farmers in developing countries (ISAAA, 2008). It is estimated that the U.S. has been able to enhance farm income by \$20 billion from 1996-2007, due to the use of biotech crops (ISAAA, 2008).

Diseases and pests reduce global production of food by more than 35% – a cost estimated at more than \$200 billion a year (Krattiger, 2000). Scientists are continuing work to develop a new generation of biotech crops to address threats to crop yields.

In addition to yield and productivity improvements, research is well underway to use biotechnology to improve the nutritional profile or productivity of crops that are staples in many developing countries where malnourishment or food security is an issue. Here are a few examples:

1. **Pest/disease resistant biotech rice:** Field trials of this crop are occurring in China and are awaiting regulatory approval. More than 90% of the world's rice is grown and consumed in Asia (ISAAA, 2008).

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The Council for Biotechnology Information communicates science-based information about the benefits and safety of agricultural and food biotechnology to sustainable development. Sustainable development seeks to balance and integrate immediate and long-term community needs. It helps enhance our quality of life today, as well as to protect, preserve, and fulfill our needs in the future. Sustainable agriculture is a key component of sustainable development, particularly because it allows for economically and environmentally sustainable agricultural practices. In the United States agricultural biotechnology is contributing today to sustainable agricultural practices, and it has the potential to make even greater contributions in the future through production of biofuels to help meet energy needs; development of drought-tolerant plants to better preserve and manage water resources; and increased crop production to feed our nation and the world's growing population. CBI members are the leading agricultural biotechnology companies.

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2. Vitamin-enhanced "golden" rice: Biotechnology researchers are enhancing rice—a staple food for the poor worldwide—to provide more beta carotene, which is a precursor to the production of Vitamin A (MacPherson, 2002). The World Health Organization estimates that millions of children worldwide may be suffering from Vitamin A deficiency, which can cause irreversible blindness. A lack of Vitamin A also weakens the body's ability to ward off infection and minor illness (U.N., 2004). "Golden" rice is expected to be available in 2012 (ISAAA, 2008).

3. Pest-resistant eggplant will boost yields, lower costs for resource-poor farmers: Researchers at Cornell University are working to develop an improved eggplant that is resistant to the fruit and shoot borer (FSB), a highly destructive pest that accounts for up to 40% of eggplant crop losses each year in India, Bangladesh, the Philippines and other regions Southeast Asia. The new eggplant could be ready by the end of 2009, and could help as many as 1.4 resource-poor farmers avoid devastation while reducing costs for consumers (Ramanujan, 2007).

These are only some examples of the new and exciting developments in biotechnology to help the world's farmers meet demands for a safe, sustainable food supply. Improved biotech cabbage, tomatoes, cassava, and other crops are in field trials today. These enhanced plants are designed to provide benefits that include: resisting pests, using water more efficiently, controlling the growth of weeds and providing other improvements to help farmers around the world.

Biotech crops' many benefits make them an attractive choice for small and large-scale farmers worldwide.

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