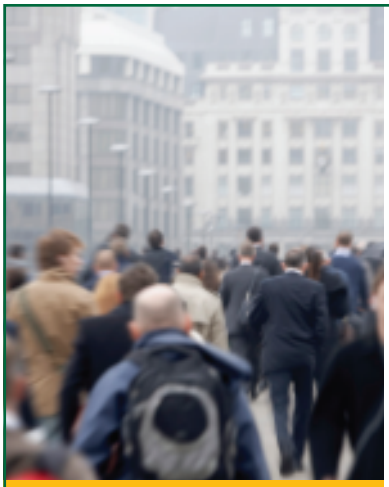

HELPING INCREASE GLOBAL FOOD PRODUCTION

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).

DID YOU KNOW?

- Crops improved through biotechnology are increasing food production worldwide. Biotech crops contributed production gains of 29.6 million metric tons for soybeans, corn, cotton, and canola in 2008 (James, 2009). Higher-yielding crops can help feed more people and boost incomes for poor farmers.
- Feeding the growing population in the next fifteen years 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.
- In the United States, biotech crops produced include soybeans, corn, cotton oil, canola, papaya, and squash (James, 2009).

Biotech crops contributed production gains of 29.6 million metric tons for soybeans, corn, cotton, and canola in 2008

BIOTECHNOLOGY IS ALREADY HELPING AND HAS POTENTIAL TO DO MORE

As of 2009, 14 million farmers in 25 countries are planting biotech crops. Ninety-three percent of those farmers are resource-poor farmers in developing countries (James, 2009).

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-resistant (Bt) rice and phytase maize** – In 2009, China— the world's top rice producer and second largest corn producer— completed approvals for Bt rice, and phytase maize (corn), an animal feed crop. Both crops were developed by China's public sector, and mark a monumental change in China's ability to produce more food for its 1.3 billion inhabitants (James, 2009).
2. **Vitamin-enhanced "golden" rice** – Although not yet commercially available, researchers have enhanced rice—a staple food for billions worldwide–to provide more beta carotene, which is a precursor to the body's 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).

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Continued

3. **Pest-resistant (Bt) eggplant or "brinjal" in India:** Although not yet approved for commercialization in India, Bt brinjal was developed jointly by the public and private sectors in India, and is expected, if commercialized, to reduce insecticide sprays by up to 80% and offer significantly higher yields than currently grown varieties (James, 2009).

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. Biotech- 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.

CITATIONS:

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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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