

UNITED SOYBEAN BOARD

ASK THE EXPERT



Dr. CS Prakash of Tuskegee University is widely known as one of the world's foremost experts in the benefits and safety of agricultural biotechnology.

As a professor of plant molecular genetics at Tuskegee University in Alabama, Dr. Prakash oversees research on food crops of importance to developing countries and the training of scientists in plant biotechnology. His Web site – www.agbioworld.org – has become an important portal for scientists, policy makers, activists and journalists. Dr. Prakash has served on the USDA's Agricultural Biotechnology Advisory Committee and sits on the Advisory Committee for the Department of Biotechnology for the government of India.

The United Soybean Board asked Dr. Prakash to share some of his thoughts on what's most important to know about biotech crops and foods. Below are a few of his favorite facts.

IN A WORLD WITHOUT BIOTECHNOLOGY:

- World prices of corn, soybeans and canola would be 5.8, 9.6 and 3.8 percent higher, respectively.
- Prices of soybean meal and oil would be 9 percent higher.
- Global production of grains and oilseeds would fall by 17.7 million tons and global consumption by 15.4 million tons.
- Without production gains, 100 million acres of more crop land would be needed.

Source: Graham Brookes et al.

A LOOK AT THE U.S.

- More than 85 percent of U.S. acreage is planted with biotech varieties. Yields have increased 36 percent since 1995, the last year before biotech varieties were commercially planted.
- Looking at U.S. soybean acreage in particular, nearly 92 percent of U.S. soybean acreage is now planted with biotech varieties and soybean yields have increased 12 percent since 1995.
- Soybean farmers have saved nearly a billion tons of precious top soil from being eroded by using no-till farming. Biotechnology makes feasible the widespread adoption of no-till farming.

Source: United States Department of Agriculture's National Agricultural Statistics Service (USDA NASS)

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A LOOK AT THE U.S. (CONTINUED)

- By adopting conservation tillage, U.S. farmers have reduced soil erosion by 1 billion tons per year. As of 2002, farmers have also accrued \$3.5 billion savings in water treatment and storage, waterway maintenance, navigation, fishing, flooding and lost recreation costs.

Source: ConservationInformation.org

BIOTECH CROPS – A GLOBAL PHENOMENON

- Biotech crops are grown in 25 countries on 2 billion acres worldwide.
- Biotech maize (corn) is grown on 260,000 acres in Europe including Spain, Czech Republic, Romania, Portugal, Germany, Poland and Slovakia.
- By 2007, biotechnology helped produce an additional 68 million tons of soybeans and 63 million tons of corn, enough to feed about 402 million people for a year.
- Biotech crops are grown by more than 12 million poor farmers in developing countries such as India, China, South Africa, Argentina and the Philippines. This helps sustainable development by providing US\$44 billion in additional income (1996-2007), 44 percent due to yield gains and 56 percent due to reduced production costs.

Source: [International Service for the Acquisition of Agri-biotech Applications](http://InternationalServicefortheAcquisitionofAgri-biotechApplications)

INTERNATIONAL CASE STUDY

- Biotechnology can make a difference in the developing world, when more crops can be grown on less land with less water, pesticides and fuel costs. An excellent example is biotech cotton in India.
- At 81 percent of all cotton grown in India, biotech cotton has provided \$2 billion in additional income to more than 5 million farmers and textile workers.
- Yield increased by 31 percent, insecticide use decreased by 39 percent and profitability increased by 88 percent to US \$100 per acre.
- Pesticide sprays decreased from an average of 12 to now just three per year.

Source: [International Service for the Acquisition of Agri-biotech Applications](http://InternationalServicefortheAcquisitionofAgri-biotechApplications).