

## GM crops grow 15% in 2003

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Genetically engineered crop plantings increased 15 percent last year despite continued consumer resistance in Europe and elsewhere, according to a group that promotes use of the technology in poor countries.

For the seventh consecutive year, farmers around the world continued to plant biotech crops at a double-digit pace, with the 2003 total up 15 percent to 67.7 million hectares, according to a recently released report by the International Service for the Acquisition of Agri-biotech Applications (ISAAA).

ISAAA is a non-profit organization with an international network of centers designed to contribute to the alleviation of hunger and poverty by sharing crop biotechnology applications

Seven million farmers in 18 countries grew bio-engineered crops on 167.2 million acres last year, compared to 145 million acres in 2002, according to the ISAAA report. In 1996, the first year genetically modified crops were commercially available, about 4.3 million acres were under biotechnology cultivation.

In India, biotech cropping area grew 100 percent as a result of significant gains in Bt cotton area. India, which planted biotech cotton for the first time in 2002, doubled its Bt cotton area to approximately 247,000 acres in 2003.

"Farmers have made up their minds," informed Clive James, chairman ISAAA addressing Indian media via a satellite hook-up from Hong Kong "They continue to rapidly adopt biotech crops because of significant agronomic, economic, environmental and social advantages."

"Despite the ongoing debate in the European Union, there is cause for cautious optimism that the global area of biotech crops and the number of farmers planting them will continue to grow in 2004 and beyond," James said.

The number of countries responsible for 99 percent of the global biotech crop area expanded to six, up from four in 2002, according to the report. Brazil and South Africa joined the US, Argentina, Canada and China as the leading growers of biotech crops. China and South Africa experienced the greatest annual increase, with both countries planting one-third more biotech hectares than in 2002. The remaining top 10 countries planting more than 50,000 hectares are Australia, India, Romania and Uruguay; another eight countries each plant up to 50,000 hectares of biotech crops.

"The core methodology of this survey was based on legally available data worldwide," James informed. About the Indian agri biotech industry, he said, "The advent of new technologies such as Vip gene from Syngenta as an option for Monsanto's Cry gene is a clear indication that the industry is growing and have enough potential to grow at a higher pace."

The runaway success off GM crops in recent times has evoked mixed reactions around the world. Biotech leaders are jubilant. Responding to the ISAAA's report Carl B Feldbaum, president of the Biotechnology Industry Organization (BIO),US , "Today's report reconfirms two key facts about acceptance of crops improved through biotechnology. First, that wherever farmers have access to these enhanced crops, they will plant them as evidenced by the 15 percent increase in crop acreage in 18 countries, to reach a total of 167.2 million acres in 2003.

"Second, and particularly significant, is that the tools of agricultural biotechnology are scale neutral â€" farmers, regardless of size, have equal access to the benefits of biotechnology. ISAAA reports that 85 percent of those employing the technology are small farmers in developing countries, where growth is expected to continue. These farmers clearly recognize the agronomic, economic and environmental advantages of biotech crops."

Agriculture (USDA) has announced its intention to introduce sweeping changes in regulation of genetically engineered crops and plans to issue permits for field trials of genetically engineered crops through a two-tiered system. The riskiest and most novel crops would get the most scrutiny. The department said it would prepare an environmental impact statement. As part of that process, public comment will be sought. Only Smith, who heads biotechnology regulation at the department, told The New York Times that the proposals grew out of an interagency review of regulations sponsored by the White House last year.

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Elsewhere in Asia, China increased biotech crop acreage 33 percent as a result of significant gains in Bt cotton area. A total of 2.8 million hectares of Bt cotton was grown in 2003, up from 2.1 million hectares in 2002. The Philippines grew 20,000 hectares of Bt maize, making it the first biotech food/feed crop planted in Asia. Reports from Indonesia indicate farmers planted a small area of Bt cotton in Sulawesi.

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Within the next five years, ISAAA predicts 10 million farmers in 25 or more countries will plant 100 million hectares of biotech crops. According to the report, the global market value of biotech crops is expected to increase from approximately \$4.5 billion this year to \$5 billion or more by 2005.

The department now regulates genetically engineered crops and insects that pose a risk to other plants. Under its expanded mandate, it would also regulate genetic engineering that could threaten livestock, the environment and public health, as well as organisms intended to control pests. That could put more insects under the department's scrutiny.

The scientists urge in their letter that upcoming government decisions be "based on science-based policies that foster the development of demonstrated safe technologies with significant environmental and economic benefits in the UK."

The scientists cite firsthand global experience that "GM crops are providing farmers with cost-effective means of controlling pests while using less pesticides and reducing the impact of agriculture in the face of increasing environmental pressures." Amongst the signers of the letter include Peter Raven of the Missouri Botanical Gardens; Ingo Potrykus, developer of 'Golden Rice'; Gurdev Khush - the legendary rice breeder and winner of the World Food Prize; Florence Wambugu, author of 'Modifying Africa: How Biotechnology can Benefit the Poor and Hungry'; Charles Arntzen, the developer of edible vaccines in crops; and Roger Beachy of the Danforth Center for Plant Science in St. Louis.

Currently, the UK is at a critical stage in its considerations of GM technology now that its Advisory Committee on the Release to the Environment (ACRE) has provided recommendations to the government on the recently completed Farm Scale Evaluations (FSEs).

According to the letter's authors, "It is distressing to us to see the impacts that anti-science efforts in the UK have had on the development of excellent basic research into new technologies, as well as those engaged in it."

Professor James Ochanda of the University of Nairobi co-sponsored the letter campaign because he believes that "in Europe, biotechnology is based on ideology as opposed to rational choice. For Africans, biotech crops are an important means of fighting hunger and malnutrition. While Europe is debating about biotechnology, this is a technology that the developing world needs in order to address some of our most pressing societal problems."

"The UK and the EU need to move forward with biotech crops, just as has happened elsewhere in the world," says Prof. Kameshwar Rao of the Foundation for Biotechnology Awareness and Education in Bangalore who also sponsored the drive. "Biotech crops are helping to address critical needs for increased agricultural productivity and food security. They are not the problem, they are an essential component of the solution."

"Leading international scientists overwhelmingly support integrating biotech crops into existing agricultural systems," said Dr CS Prakash of the United States-based Tuskegee University and signer of the letter to Blair. "In reality, there is overwhelming scientific evidence that this technology is a safe and useful approach to improving agricultural production and environmental sustainability, and contributes significantly to better health."

GM crops continues to raise the hackles of both its supporters and opponents and there may not be a conclusive end to this debate in the near future globally.

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