

populations so that all corn farmers (biotech, non-GE conventional farmers, and organic farmers) benefit by using less chemical insecticide and having corn with less pest damage. Virus-resistant GE papayas saved the Hawaiian papaya industry from a deadly virus.

The U.S. regulatory system for GE crops and animals needs improvement. Congress should establish at FDA a mandatory pre-market approval process for GE crops and provide explicit authority to regulate any environmental risks associated with GE animals. USDA needs to update its oversight of GE crops to include its “noxious weed” authority and to ensure that all GE crops are regulated.

Sustainable practices are essential to achieving long-term benefits from GE crops. Resistant weeds and pests have developed because of misuse and overuse of GE crops by technology



Cotton engineered with its own built-in pesticide has greatly reduced the amount of chemical insecticides sprayed by farmers in the United States, India, and China, thereby improving yields and incomes.

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developers and farmers. Herbicide-tolerant crops must be grown in conjunction with integrated weed management techniques, with emphasis on rotation of crops and herbicides with different modes of action. Farmers growing Bt corn must use integrated pest management and crop rotation, and comply with refuge requirements to prevent development of pesticide-resistant pests.

GE crops can play a positive role in the agriculture of developing countries. While GE crops are not a panacea for solving food insecurity or world hunger, they are an extremely powerful and beneficial tool scientists can use to create crop varieties helpful to farmers in developing countries. If GE crops are safe for humans and the environment, farmers in developing countries should be given the opportunity to decide for themselves whether to adopt such varieties.

For more information: www.cspinet.org/biotech



The Center for Science in the Public Interest (CSPI) is a non-profit consumer organization that focuses on food safety and nutrition. It seeks to educate the public, advocate for government policies on health and environmental issues, and counter industry’s inappropriate influences on public opinion and public policies. CSPI does not accept corporate funds or government grants.

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Agricultural Biotechnology Project

Center for Science in the Public Interest

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The CSPI Agricultural Biotechnology Project

The Agricultural Biotechnology Project

addresses scientific concerns, government policies, and corporate practices pertaining to genetically engineered (GE) plants and animals that are released into the environment or that end up in our foods.

What is Genetic Engineering?

Genetic engineering allows specific genes isolated from any organism (such as a bacterium) to be added to the genetic material of the same or a different organism (such as a corn plant). This technology differs from traditional plant and animal breeding in which the genes of only closely related organisms (such as a corn plant and its wild relatives) can be exchanged. As a result, GE foods can carry traits that were never previously in our foods.

However, GE is just one of many different methods that scientists use to create improved varieties of plants and animals. Other laboratory methods to create genetic variety include chemical mutagenesis, x-ray mutagenesis, cell fusion, and artificial insemination.



Greg Jaffe
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CSPI Agricultural Biotechnology Project

The Project's goals are to:

- educate policymakers, media, interested stakeholders, and the public about the benefits and risks associated with GE crops and animals;
- advocate for strong federal regulation that ensures safety to humans and the environment;
- press the biotechnology industry and farmers to use GE crops in a sustainable manner; and
- provide expertise to help developing countries establish their own biosafety regulations and make science-based decisions about adopting GE products.

Biotechnology Project Positions

Foods and ingredients made from currently grown GE crops are safe to eat.

That is the conclusion of the U.S. Food and Drug Administration, the National Academy of Sciences, the European Food Safety Authority, and numerous other international regulatory agencies and scientific bodies.

GE crops grown in the U.S. and around the world provide tremendous benefits to farmers and the environment. Corn and cotton engineered with their own built-in pesticide have greatly reduced the amount of chemical insecticides sprayed by farmers in the United States, India, and China. Herbicide-tolerant soybeans have allowed farmers to use an environmentally safer herbicide (glyphosate), practice conservation-till agriculture, and save time. Corn engineered with a biological insecticide has reduced insect



Going forward, the federal government needs to exercise stricter oversight of GE crops. The biotech industry and farmers must also utilize those crops in a sustainable and judicious fashion.