BIOTECHNOLOGY

Background

Market needs related to agricultural biotechnology are addressed through market and trade facilitation, research in biotechnology and biosafety, and regulation to ensure the safe development, release, and movement of biotechnology products. In 2005, approximately 87 percent of U.S. soybean acres, 52 percent of U.S. corn acres, and 79 percent of U.S. cotton acres were planted using seeds incorporating biotechnolgy.

Marketing and Trade

Voluntary process verification services and programs to standardize testing methodology are provided by USDA. The validation of the performance of commercially available test kits and testing for biotechnology-derived seeds are offered on a fee-for-service basis.

In 2001, USDA established a biotechnology reference laboratory in Kansas City, Missouri, to facilitate the marketing of U.S. grains and oilseeds by providing standardization of sampling and testing technologies. A voluntary, fee-based process verification program for grains and oilseeds provides periodic third-party audits.

USDA advances the establishment of science- and rule-based trading systems for the products of agricultural biotechnology through bilateral, regional, and multilateral forums and implementation of capacity-building activities in important markets such as China, Mexico, Canada, and Japan. Additionally, the U.S. has filed a WTO complaint which challenges the European Union's de facto moratorium on approvals of bioengineered crops. A WTO dispute panel recently ruled in favor of the U.S.

Regulatory

In 2002, USDA established Biotechnology Regulatory Services (BRS) within the Animal and Plant Health Inspection Service to better regulate field testing, interstate movement, and importation of genetically engineered (biotechnology) organisms. BRS evaluates genetically engineered organisms to ensure they are as environmentally safe as their traditionally bred counterparts and thus can be used freely in agriculture. During 2005, over 1,400 biotech notifications were acknowledged, over 500 permits were approved, and 6 articles were deregulated. USDA is developing an environmental impact statement (EIS) and revised plant regulations under its authorities of the Plant Protection Act of 2000.

Research

USDA conducts biotech-related research in areas such as creating more specific ways to transfer only desired genes, new models for biotechnology risk assessment, and carrying out long-term monitoring. Biotechnology (DNA markers, software, genome databases, and genetic resources) to facilitate crop breeding has also been developed by USDA. USDA's Agricultural Research Service has released more than 400 new crop germplasm lines/varieties since 2000, often in partnership with university and private sector breeders. A total of 157 USDA patents to date have been issued for biotechnology products and methods. USDA spends about $220 million annually on research related to biotechnology.

General Opinions Expressed

- Participants generally commented that Europeans and some in other areas worldwide are increasingly focused on non-GMO foods and do not trust GMOs as a safe food source. They also suggested that USDA encourage the development of high-quality non-GMO products that have been demanded by other Nations to lessen our dependence on GMOs.
- Many requested mandatory labeling of all GMO products. Eating and growing GMOs should be a choice, and many Americans do not want to eat GMOs.
- Many requested strict liability for GMO contamination from GMO patent holders and manufacturers (i.e., genetic drift) to protect against economic losses because of overseas markets rejecting these GMO crops.
- Many participants warned of the dangers of GMO crops, including perceived decreased nutritional value, greater amounts of diseases in consumers only since the introduction of GMOs, and chemical harm to the environment.
- Some requested either strict monitoring (in order to have access to international markets), the scaling back of GMO use, or the banning of all GMOs.
- Several stated that GMO crops make our exports less competitive internationally.
- Several said we needed to continue our support for GMO products/exports/international acceptance.
- One said we should get GMOs either approved or disapproved worldwide.
- Many participants wanted more research and development related to organic, specialty crops, and non-GMO foods, by reducing funding for GMOs and chemically invasive research. Others mentioned increased research of biotechnology (both benefits and setbacks). Still others wanted education and promotion efforts for both foreign and domestic markets on the benefits and safety of genetically modified products.
- Some commented that large agribusinesses should not be able to monopolize, in effect forcing farmers to use their modified seed. Comments also mentioned reduction of Government funding to biotech corporations.
- One group wanted no research at all into genetically modified organisms, another group wanted more research into GMOs, and a third group stated that the risks of transgenic crops need to be adequately studied to ensure their long-term safety for plant, animal, and human health. A subset of the third group said that risk assessment work is very important to overcoming regulatory and trade restrictions.

Detailed Suggestions Expressed

- Enhance our support for non-GMO foods through funding research and trade efforts on these products.
- USDA should sponsor a hearing on biotechnology, inviting not only the biotech companies, but also other scientists from concerned groups such as the Center for Food Safety and the Union of Concerned Scientists.
- Support legislation ensuring the public's "right to know" the locations of GMO experimental field trials.
- USDA should not promote products for large biotech corporations.
- Tighten grain grading and restrict the blending of corn.
- Mitigate trade restrictions on biotech crops.
- Obtain access for biotech products, especially small crops such as papaya, into Japan.
- Use the farm bill to address the general concerns raised and lack of knowledge about agricultural biotechnology in Japan. The papaya industry is a blueprint for the use of biotechnology to overcome production problems, but now funding and specialists are needed to overcome the regulatory hurdles that obstruct commercialization.
- Develop the ability to distinguish clearly whether grain being exported is GMO or non-GMO.
- Make public the amounts of soy, corn, and cotton that are GMO crops produced in the U.S.
- Corporate seed policies (those which give a corporation leeway to determine which seeds can be used by farmers) should be abolished.
- Promote GMO farming and research of GMO products which will help us gain a competitive advantage over other World Trade Organization farmers.
- Divert funding for GMO research back to traditional plant breeding and agricultural systems research.
- Concern was expressed about anti-GMO legislation being proposed by local governments.
- Support the Biotechnology Risk Assessment Program in the 2002 farm bill especially for smaller crops, especially to help mitigate trade restrictions.
- Many new crop varieties with numerous benefits remain undeveloped due to the inordinately high regulatory compliance costs. If funded, the Specialty Crop Regulatory Initiative would help get some of these improved crops on the market.