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Federal report on genetically modified foods

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Abstract

The debate on the safety of genetically modified crops has intensified in the last year. This article should be of interest to most people directly, or indirectly, involved with agriculture. It has been edited for space; the entire article may be found at http://www.house.gov/science/smithreportpressrelease_041300.htm. On April 13, Congressman Nick Smith (Republican-Michigan) and Chair of the Committee on Science Subcommittee on Basic Research released a report assessing the benefits and risks of genetically modified plants and plant-derived foods, and recommending changes in federal regulation.

Keywords

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Disciplines

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INTEGRATED CROP MANAGEMENT



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On April 13, Congressman Nick Smith (Republican-Michigan) and Chair of the Committee on Science Subcommittee on Basic Research released a report assessing the benefits and risks of genetically modified plants and plant-derived foods, and recommending changes in federal regulation. The report, *Seeds of Opportunity*, concludes that there is no significant difference between plant varieties created using agricultural biotechnology and similar plants created using traditional crossbreeding. It recommends that regulations at U.S. Department of Agriculture (USDA) and proposed regulations at the Environmental Protection Agency (EPA) targeting biotechnology products be changed to focus on the characteristics of a plant, not the process used to develop it.

The report addresses many of the concerns surrounding agricultural biotechnology, including the monarch butterfly, allergens, toxins, antibiotic resistance, and outcrossing. It concludes that plants and foods produced using agricultural biotechnology pose risks no greater than those for plants and foods developed using traditional methods. The report lists the following findings in an appendix.

Plant genome research

The plant genome program represents a sound use of federal research funding.

Chemical inputs

The current generation of pest-resistant and herbicide-tolerant agricultural plants produced using biotechnology has reduced chemical inputs and improved yields for American farmers. Future adoption of new varieties will continue this trend and will solve intractable pest problems, help protect the environment, and lower costs to consumers.

Consumer benefits and global food production

The promise of agricultural biotechnology is immense. Advances in this technology will result in crops with a wide range of desirable traits that will directly benefit farmers, consumers, and the environment and increase global food production and quality.

Assessing risks

There is no evidence that transferring genes from unrelated organisms to plants poses unique risks. The risks associated with plant varieties developed using agricultural biotechnology are the same as those for similar varieties developed using classical breeding methods. Because the new methods are more precise and allow for better characterization of the changes being made, plant developers and food producers are in a better position to assess safety than when using classical breeding methods.

Outcrossing

The risks that new plant varieties developed using agricultural biotechnology will become weedy or outcross are the same as those for similar varieties developed using classical breeding methods and for introduced species.

Pest-resistant crops and potential for pesticide-resistant insects

Widespread use of pest-resistant crop varieties developed using agricultural biotechnology is unlikely to accelerate the emergence of pesticide-resistant insect strains and may actually be more effective in preventing their emergence compared with spray applications of similar pesticides.

Monarch butterfly

The threat posed by pest-resistant crop varieties developed using agricultural biotechnology to the monarch butterfly and other nontarget species has been vastly overblown and is probably insignificant.

Allergens and toxins

The risks of introducing an allergen or toxin into the food supply are the same for plant varieties developed using agricultural biotechnology as those for similar varieties developed using classical breeding methods.

Antibiotic resistance

The risk that a health hazard will be created through the use of antibiotic resistance markers in the development of new plant varieties using agricultural biotechnology is insignificant.

Substantial equivalence

The concept of "substantial equivalence" in the regulation of foods developed using agricultural biotechnology is scientifically sound and provides a useful historical baseline for judging safety.

Labeling

There is no scientific justification for labeling foods based on the method by which they are

produced. Labeling of agricultural biotechnology products would confuse, not inform, consumers and send a misleading message on safety.

Oversight

Federal regulations should focus on the characteristics of the plant, its intended use, and the environment into which it will be introduced, not on the method used to produce it. Regulations that capture selectively the products of agricultural biotechnology do not reflect the scientific consensus on risk, are overly burdensome, and stifle scientific research.

Politically motivated opposition

Much of the opposition to agricultural biotechnology is politically motivated, not scientifically based.

The report makes the following recommendations:

Plant genome research. Congress should ensure adequate levels of funding for the National Plant Genome Initiative. Efforts to link basic research in plant genomics with local plant breeding programs at agricultural experiment stations and with cooperative extension should be increased.

Regulation. Federal regulatory oversight of agricultural biotechnology should be risk based and guided by the characteristics of the plant, its intended use, and the environment into which it is to be introduced, not by the method used to produce it. Existing regulations at the USDA and proposed regulations at the EPA targeting the products of biotechnology do not conform to the scientific consensus and should be revised to stay current with advances in scientific knowledge.

Voluntary consultation at Food and Drug Administration (FDA). FDA should maintain its current science-based policy of equating foods developed using biotechnology and classical plant breeding methods, and it should maintain its policy of voluntary consultation with companies developing foods with genetic modification, regardless of the method used.

Labeling. FDA should maintain its current science-based policy on labeling of foods created using biotechnology as described in its 1992 Statement of Policy. There is no scientific justification for special labeling of food products developed using agricultural biotechnology, as a class.

International agreements. The administration should work to ensure that markets for products of agricultural biotechnology products are not restricted by scientifically unsound measures. The United States should not accept any international agreements that violate scientific principles and limit trade in, or mandate labeling of, a plant or food product based on the method used to develop it.

Public education. The administration, industry, and scientific community have a responsibility to educate the public and improve the availability of information on the long record of safe use of agricultural biotechnology products and research activities.

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