

Statement of Charles Conner
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Subcommittee on Rural Development, Research, Biotechnology and Foreign Affairs
Committee on Agriculture
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Chairman Johnson, Ranking Member Costa, and members of the Subcommittee, thank you for holding today's hearing on the benefits of agricultural biotechnology products.

I am Chuck Conner, President and Chief Executive Officer of the National Council of Farmer Cooperatives (NCFC). Since 1929, NCFC has been the voice of America's farmer cooperatives. Our members are regional and national farmer cooperatives, which are in turn composed of over 2,500 local farmer cooperatives across the country. NCFC members also include 26 state and regional councils of cooperatives.

Additionally, the American Farm Bureau Federation, American Soybean Association, American Sugarbeet Growers Association, National Association of Wheat Growers, National Corn Growers Association and National Cotton Council support the remarks I am making today. Also included in my statement for the record is information from one of our members, Land O'Lakes, regarding the status of Roundup Ready alfalfa.

Farmer cooperatives – businesses owned, governed and controlled by farmers and ranchers – are an important part of the success of American agriculture. Like many in production agriculture, our members have had long and direct experience with biotechnology crops and have realized the many benefits they provide, including improvements in production efficiency while lessening the environmental impacts of food production.

We support policies that enhance the ability of producers to use new practices and technologies to produce their crops, so long as the practices are based on proven science, are economically and environmentally sound and ensure food safety. Additionally, we strongly support the safety and science-based risk assessments conducted as part of the regulation of biotechnology crops. As stakeholders in the development, deregulation and commercialization of biotechnology crops, the actions taken by government agencies on these crops have a direct and indirect impact on timely access to future traits now under development.

As part of my statement, I will highlight the key benefits that plant biotechnology has provided to U.S. agriculture, including production gains that will improve global food security and reduce the impact on our natural resources. I also will revisit several issues I raised at the Committee's forum on biotechnology in January.

Additional crop-specific statistics along with other benefits of biotechnology crops are provided in the appendix of this testimony.

Improved Production Capabilities

The benefits of biotechnology in agriculture are most readily demonstrated by the response from U.S. farmers in adopting biotechnology-derived crops. The first generation of biotech crops engineered to be herbicide tolerant (HT) and insect resistant using a *Bacillus thuringiensis* (BT) soil gene were introduced in 1996. By 2010, 86 percent of U.S. producers had adopted HT and BT technology. For example, HT (glyphosate-resistant) soybeans grew from 17 percent of production in 1997 to 68 percent in 2001 to 93 percent in 2010. During the same period, U.S. farmers increased adoption of HT and BT technologies to 86 percent of all U.S. corn acreage.

Biotechnology crops have improved the ability of producers to meet market demand, both domestic and international, while supporting their rural economies. Furthermore, production efficiencies gained by utilizing biotechnology crops have resulted in higher yields, more efficient use of cropland, reduced labor and reduced crop rotation requirements.

Meeting Global Demand

In the words of Dr. Norman Borlaug, “civilization as it is known today could not have evolved, nor can it survive, without an adequate food supply.”

American agriculture has long been at the forefront in meeting the world’s ever-expanding needs for food, feed and fiber. The availability of corn, cotton, soybean, sugarbeet, canola, alfalfa, and other crops enhanced through biotechnology will continue to assist the U.S. farmer in providing for the world’s growing population. The development and adoption of these products, and the promise of new products, make possible the continued availability of abundant food, feed and fiber to consumers in the U.S. and worldwide. It is imperative that the U.S. agriculture industry continue to lead the way with innovation, product development and acceptance of biotechnology crops.

Incredible strides have been made with the adoption of biotechnology. For example, in 2010 93 percent of U.S. cotton was genetically engineered, and cotton yields have increased approximately 33 percent as compared to the average cotton yields prior to the introduction of biotech cotton in 1996. Without a doubt, the next generation of biotechnology crops will continue to increase crop yields, enabling U.S. producers to meet growing world demand for food, feed, and fiber.

An example of future potential for biotechnology is wheat. According to the Food and Agriculture Organization (FAO) of the United Nations (UN), 20 percent of the calories consumed by the human race are derived from wheat. In recent years, droughts in Russia and Australia made global supplies uncertain, and this year U.S. farmers in some states are experiencing drought while other states are experiencing flooding. Innovation will be the key to the U.S.’s ability to improve wheat production, keep up with a growing global population and adapt to changing climatic conditions around the world.

By now, we are all aware of the estimates made by the UN predicting the world population will reach 9.3 billion people by 2050. With only 3 percent of the Earth’s surface suitable for food production, there will be intensified pressure for farmers to feed and clothe a growing population using the same amount of land with fewer energy and water resources.

Doing More with Less

Biotechnology providers and seed companies, in partnership with grower groups and their farmer cooperatives, were at the forefront of creating valuable agriculture biotechnology products that benefit farmers, consumers and the environment. For instance, biotechnology products have helped increase corn yields by 40 percent per acre in the last 20 years. Such yields are produced on 37 percent less land, significantly decreasing fixed costs for producers. It now takes 37 percent less energy and 25 percent less water to produce a bushel of corn than it did two decades ago.

Farmers have rapidly adopted the new technology and have enjoyed more convenient and flexible crop management, lower cost of production, higher productivity and/or net returns per acre and numerous environmental benefits. Biotechnology developments have reduced pesticide use, improved conservation practices and afforded a more sustainable way for farmers to provide us with food, feed and fiber.

For example, adoption of biotechnology products has encouraged the expansion of no-till cultivation. The increased use of no-till reduces herbicide costs by 20 to 50 percent, erosion by 90 percent, greenhouse gas emissions by 88 percent, and fuel use by 20 to 50 percent, while enhancing habitat for beneficial insects and birdlife. These benefits, in turn, reduce farm production costs, improve soil and water quality and conservation, increase carbon retention in the soil, and reduce fuel use and emissions.

Regulatory Certainty

The need to support this technology is not in question. The question is how to enable biotechnology to move forward to meet future needs. Legal decisions not based in science put the U.S. at risk of not being able to capitalize on the opportunities and benefits provided by biotechnology. They also represent an unnecessary drain on the resources of the federal government, commodity organizations and biotechnology companies.

In addition to the first generation crops, sugarbeet and alfalfa Roundup Ready products have been approved. After extensive environmental, health and human safety reviews, USDA determined these products were safe for commercialization. However, these crops were subsequently challenged in court on procedural National Environmental Policy Act (NEPA) issues. In the case of alfalfa, the U.S. Supreme Court concluded in a 7-1 decision that USDA had performed due diligence in making its non-regulated status decision on alfalfa. Although both crops were planted this year, under conditions imposed by USDA due to judicial rulings, the time and resources expended to litigate these needless legal challenges has been debilitating to USDA's efforts to review and approve new products.

There are many other new products U.S. growers would like to utilize. For example, wheat farmers want technologies that will allow them to address multiple production challenges and improve yields and quality while using less water, fertilizer and pesticides. Other new traits in the pipeline for commodities, fruits and vegetables will provide additional benefits to consumers and farmers. With over twenty biotechnology traits pending regulatory decisions, it is important that USDA continue its science and safety-based regulatory process. USDA's Animal and Plant Health Inspection Service (APHIS) should make timely, safety- and science-based decisions on biotechnology crops.

Another important issue is “coexistence.” At the forum in January, I spoke about the regulatory options proposed by USDA on Roundup Ready alfalfa. I stressed that the U.S. government’s definition of “coexistence” is critical to continued growth and expansion of new biotechnology-derived products. However, the understanding and scope of “coexistence” remains unclear.

I am hopeful that robust discussions regarding the issue will take place as part of USDA’s newly reorganized AC-21 advisory committee. We are all committed to the principle of ensuring that all U.S. farmers are able to choose cropping systems based on their individual operations and situations.

Farmer cooperatives and their producer members continue to support commercial decisions that are voluntary and determined in the marketplace. It is our view that marketing decisions should not be included as part of the government’s safety- and science-based assessment of biotechnology-derived agricultural products.

In closing, we urge the administration and members of this committee to maintain the integrity of the regulatory process with respect to biotechnology crops. I look forward to working with this committee on common sense approaches that allow for availability and future development and adoption of these tools to ensure we can meet the demands of our expanding population.

Thank you again for the opportunity to testify. I am pleased to respond to your questions.

Appendix – Additional Statistics and Benefits

Soybeans

- Biotech soybeans currently account for 92 percent of total U.S. soybean production. Since their introduction in 1996, the vast majority of biotech soybeans have been genetically modified to resist specific weed control products, including glyphosate. Better weed control improves production efficiencies by allowing narrower row planting, reducing the number of field trips, and reducing the volume of foreign material, including toxic weed seeds, by 33 percent.
- The next generation of biotech products includes soybeans with improved fatty acid profiles, including high oleic, low saturated fat, higher omega-3 levels, and high stearic acid content. New varieties will also be resistant to alternative herbicides, allowing rotating usage of different chemistries, and will include stacks of traits in the same seeds that are resistant to herbicides, insects, diseases and nematodes.
- The next generation of biotech products will also increase soybean yields to enable U.S. producers to meet growing world demand for food and feed.

Sugarbeets

- Sugarbeets are raised on 1.2 million acres in 11 states and processed by 22 farmer-owned facilities. The crop is typically rotated with other crops over a three to four year period. In 2010, 60 percent of the sugar produced in the U.S. was from sugarbeets.
- Weeds are one of the biggest problems in raising this crop. With conventional sugar beets, multiple applications of multiple herbicides are required at precise times. Even then, weed pressure often continues to exist, requiring scarce and costly hand labor, or reduced yields due to weed competition for soil nutrients and water.
- Roundup Ready sugarbeets were deregulated in March 2005 and growers anxiously awaited variety approvals and commercial seed production produced by independent seed producers. By 2009, the beet industry planted 95 percent of the acreage with the Roundup Ready technology. It was the fastest adoption rate of any biotech crop worldwide.
- A Roundup Ready sugarbeet system requires less soil disturbance for seed bed preparation and fewer herbicide applications, which means fewer trips across the field. These innovations result in reduced greenhouse gas emissions, soil erosion and soil compaction, and enhanced water conservation.

Corn

- Corn growers adopted biotechnology readily, growing from a 25 percent market share in 2000, to over 85 percent in 2010.
- The yield-preserving benefits of biotechnology traits helped limit production declines in extreme weather years such as 2009 and 2010.
- The 35-year trend line projects corn farmers harvesting 170 bushels per acre by 2020, while the improvements seen in the last 12 years indicate that farmers could be harvesting 180 bushels an acre by 2020, resulting in an extra 800 million bushels of corn per year. While these are only estimates, when taking into consideration what is in the biotechnology pipeline yields could near 205 bushels per acre, with total production exceeding 16.4 billion bushels.
- Herbicide tolerance has allowed growers to use fewer pesticides per acre in their weed management programs, enabling greater adoption of no-till practices. As a result, soil loss has been reduced by 69 percent while herbicide and insecticides applications per acre have been reduced 20 percent and 65 percent respectively. In 2006, that amounted to approximately 110 million pounds of pesticide use displaced due to biotechnology.

Cotton

- Biotechnology cotton has resulted in a decreased in pesticide usage by as much as 75 percent.

- As of 2010, 93 percent of U.S. cotton was genetically engineered, and cotton yields have increased approximately 33 percent as compared to the average cotton yields prior to the introduction of biotech cotton in 1996.

Alfalfa

- Alfalfa (forage) is the fourth largest crop in the United States and a key component of the diet of dairy cows – alfalfa acres have been declining over the past 20 years, due in part to weed and quality issues. However, those issues can be addressed by Roundup Ready alfalfa.
- While most of the focus has been on ways to improve milk prices and provide dairy farmers with additional revenues, we also are concerned about how to help dairy farmers avoid being squeezed by low prices and high costs in the future. A Land O'Lakes survey suggests that farmers who utilize Roundup Ready alfalfa enjoy a \$100 to \$110 per acre financial benefit.
- Roundup Ready alfalfa was approved for sale in June 2005. In June 2007, a federal district court in California issued an injunction halting sales of Roundup Ready alfalfa, instructing USDA to issue an Environmental Impact Statement (EIS)—a process estimated to take 18-24 months. The district court's decision was upheld by the Ninth Circuit in September 2008.
- The process took much longer than estimated, with the final EIS issued in January 2011. As a result of procedural delays in completing the EIS, farmer investment in this new technology was put at risk.

Papaya

- Until 1992, Hawaii enjoyed steady production of papaya with greater than 80 percent of the crop being exported. However, in 1992 the papaya ringspot virus (PRSV) wiped out much of the crop.
- By 1995, PRSV was widespread and decimated the industry. Production went from 53 million pounds in 1992 to 26 million pounds in 1998.
- Thanks to the development of a transgenic (biotechnology) PRSV-resistant papaya developed by Cornell University and approved by USDA, production has recovered to its previous levels.
- Biotechnology saved the Hawaiian papaya industry. Today, it is the state's second-largest fruit crop, valued at \$18 million.