

Testimony of Patrick Johnson  
on *Agriculture Innovation and the Federal Biotechnology Regulatory Framework*  
Committee on Agriculture, Nutrition, and Forestry  
United States Senate  
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Mr. Chairman, ranking member, and members of the committee, thank you for the opportunity to testify today on this important issue. My name is Patrick Johnson and I'm a cotton, rice, corn and soybean grower in Tunica, Mississippi. I have been the Chairman of the National Cotton Council's Environmental Task Force since 2016. I was a member of EPA's Farm Ranch and Rural Communities Committee from 2012 to 2017 and I was recently notified of my acceptance to EPA's Pesticide Policy Dialogue Committee for their new term. I have been and continue to serve in leadership roles of several farming, environmental and conservation groups in the Mississippi Delta region.

The National Cotton Council (NCC) is the central organization of the United States cotton industry. Its members include producers, ginner, cottonseed processors and merchandizers, merchants, cooperatives, warehousemen and textile manufacturers. A majority of the industry is concentrated in 17 cotton-producing states stretching from California to Virginia. U.S. cotton producers cultivate between 10 and 14 million acres of cotton with production averaging 12 to 20 million 480-lb bales annually. The downstream manufacturers of cotton apparel and home furnishings are located in virtually every state. Farms and businesses directly involved in the production, distribution and processing of cotton employ more than 125,000 workers and produce direct business revenue of more than \$21 billion. Annual cotton production is valued at more than \$5.5 billion at the farm gate, the point at which the producer markets the crop. Accounting for the ripple effect of cotton through the broader economy, direct and indirect employment surpasses 280,000 workers with economic activity of almost \$75 billion. In addition to the cotton fiber, cottonseed products are used for livestock feed and cottonseed oil is used as an ingredient in food products as well as being a premium cooking oil.

Biotech cotton was first introduced in 1996 and U.S. cotton farmers rapidly adopted the new technology. In 2018, USDA's Economic Research Service reported approximately 94% of U.S. cotton acreage, 94% of soybean acreage and 92% of U.S. corn acreage was planted with varieties that encompassed either insect resistant, herbicide tolerant, drought tolerant, or stacked combinations of these genetic enhancements. All sugar beet acreage in the U.S. is planted with herbicide tolerant varieties and canola is at 90%. For cotton production in the U.S., the latest estimates of the benefits of these insect resistant varieties are 185 million lbs/year increase in production; 1.9 million lbs/year decrease in insecticide use; and \$103 million/year increase in net revenue for U.S. cotton farmers. The benefits of herbicide tolerant biotech cotton in the U.S. include a 6.2 million lbs/year decrease in herbicide active ingredients applied and \$133 million/year savings in weed control costs. Overall, in the 20 years of commercialization of biotech crops (1996-2015), the United States accrued the highest benefits at \$72.9 billion with \$6.9 billion for 2015 alone.

Over the last 35 years, cotton producers, researchers, and industry organizations working together led to dramatic reductions in land use, soil loss, water use, energy use and greenhouse gas emissions. Innovation in technologies, managements systems, and conservation practices created opportunities for advancements in yield while taking stewardship of the land and environment for cotton production to the highest level of the world. The availability and adoption of biotechnology has been a key driver in these industry gains of productivity and sustainability.

In another positive technological development for cotton and the world, in 2019 the Food and Drug Administration (FDA) approved ultra-low gossypol cottonseed to be utilized as human food and in animal feed. In cooperation and support from Cotton Incorporated, it took a team at Texas A&M close to 25 years to develop, test and obtain deregulation for the transgenic cotton plant, TAM66274. This plant has ultra-low gossypol levels in the seed, which makes the protein from the seeds safe to consume. However, the variety still maintains normal levels of plant-protecting gossypol in the remainder of the plant, meaning that it is still a practical choice for farmers to grow. In many cotton-producing countries of the world, protein-rich cottonseed from this plant can now be used for human food, offering oil, flour and kernels as some of the products that could be made available to ease hunger. There will also be animal feed uses such as for poultry and aquaculture.

U.S. cotton farmers have a vested interest in the continued availability of new biotechnology products under a regulatory system that is efficient and streamlined while protecting the health and safety of the public and environment. Regulations have a large impact on the number of products being brought to market and a key issue is open and transparent coordination among the United States Department of Agriculture (USDA), the Environmental Protection Agency (EPA), and the Food and Drug Administration (FDA) as they each work to regulate new technologies within the guidelines of the Federal Coordinated Framework. NCC and others within the industry have consistently commented on past proposals, including those regarding the Coordinated Framework and Part 340 regulations.

The mission of the U.S. Department of Agriculture's Animal and Plant Health Inspection Service (APHIS) as derived from the Plant Protection Act (PPA) is to protect U.S. agriculture by preventing the introduction and dissemination of plant pests and noxious weeds into the U.S. APHIS has authority within PPA to protect U.S. agriculture from these potential risks. Additionally, under the Coordinated Framework, agency review is shared among USDA, FDA and EPA, depending on the product use, ensuring thorough regulatory oversight. With the President's June 2019 Executive Order, "**Modernizing the Regulatory Framework for Agricultural Biotechnology Products**", calling for increased transparency and coordination within the agencies, we had hopes for a swift update to the Coordinated Framework to face the challenges of the newer technologies coming to the forefront. Recently though, we have again become concerned at the apparent lack of policy coordination between the three federal agencies involved in the Coordinated Framework. This is not a new issue. For example, in 2016, USDA published a notice in the Federal Register announcing plans to update its biotechnology

regulations at CFR part 340. This action was taken independently of the then-ongoing review of the Coordinated Framework.

In fact, the agencies attempted to clarify EPA's regulation of the plant incorporated protectant (PIP) molecule produced by a GE plant. The distinction lies between regulating the pesticidal substance while not regulating the GE plant. At the same time they attempted to clarify that FDA's regulatory authority was over the recombinant DNA construct inserted into "GE animals" and not the animal itself.

APHIS' new regulatory approach is intended to prepare the Agency for future advances in the genetic modification of plants. It is important to our industry, and to agriculture as a whole, that the three agencies work together as seamlessly as possible to regulate both older and newer technologies.

Recently we have seen reports that suggest an apparent lack of coordination between USDA and EPA on the "plant side" of new technologies. This is concerning to the cotton industry as it may suggest an absence of communication between those two agencies. It is our understanding that the USDA's revised rule has reached the Office of Management and Budget (OMB), and therefore may soon be final. We do not know the status of the companion, proposed revision from EPA. As a result, the industry is worried about the future of new technologies if the Coordinated Framework is not working at its most efficient level. The U.S. cotton industry needs the Framework to operate at peak efficiency across all the agencies. Currently, it takes 20 to 40 years to bring new traits from diploid cottons into Upland or Pima cotton varieties through traditional breeding. Newer biotechnology techniques can perform the same function in 2 years, but that is only if the process is allowed to work free of the delays and road blocks created by misunderstandings in the public arena and a slow regulatory regime. In the U.S., wild cotton relatives have valuable alleles (for resistance to drought, disease, etc.) that the industry hopes to exchange with Upland alleles using technology such as gene editing. These alleles contain traits needed to insure the continuation of fiber, food, feed and fuel for the growing population. They can be edited into Upland and Pima cotton in a timely fashion if the U.S. regulatory agencies can work together within a streamlined Coordinated Framework.

NCC would like to point out that consistent policies globally for products of plant breeding innovation are essential to avoid trade disruptions. The U.S. cotton industry exports more than 85% of our annual fiber production, and exports of cottonseed to key markets are an important component of the economic health for the cottonseed segment of our industry. Therefore, U.S. government agencies should be encouraged to actively engage with our trading partners around these policies as soon as possible to work toward consistent, science-based policies across countries to ensure synchronous approvals of traits in export markets.

NCC would like to commend the agencies for their attempt to improve the regulatory system for agriculture biotechnology as well as for recognizing the long history of scientific evidence that supports the safety of products developed using these methods. U.S. cotton farmers have a vested interest in the continued availability of new biotechnology products under a regulatory system

that is transparent, efficient and streamlined while protecting the health and safety of the public and environment.

The current regulatory system has operated quite successfully for decades and has resulted in no adverse plant health impacts to U.S. agriculture. In the end, we believe that making strategic improvements to the current regulatory system in terms of speed, efficiency, transparency and coordination will engender broader public support, prove easier to implement, and have a much more immediate impact with fewer unintended consequences.

Thank you again for the opportunity to present this testimony.