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November 25, 2019

Regulatory Analysis and Development, PPD, APHIS
Station 3A-03.8
4700 River Road, Unit 118
Riverdale, MD 20737-1238

RE: Docket No. APHIS-2019-0050. Monsanto Company: Availability of Petition for Determination of Nonregulated Status of Cotton Genetically Engineered for Insect Resistance

The National Cotton Council (NCC) appreciates the opportunity to provide comments on this issue. Genetically engineered cotton remains critically important to U.S. cotton production. The NCC welcomes the actions taken by APHIS to ensure data support for deregulation of regulated materials. The NCC strongly supports the deregulation of MON 88702 -- a cotton plant genetically engineered for resistance to certain insects, primarily *Lygus* spp. The data presented sufficiently documents the utility of the trait, while supporting safety for Non-Target Organisms (NTO).

The NCC is the central organization of the United States cotton industry. Its members include producers, ginner, cottonseed processors and merchandizers, merchants, cooperatives, warehouses 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 are used as an ingredient in food products, as well as being a premium cooking oil.

As described in the petition, MON 88702 cotton was generated using *Agrobacterium*-mediated transformation with plasmid PV-GHIR508523 containing the *mCry5IAa2* expression cassette. The coding sequence *mCry5IAa2* produces a modified Cry5IAa2 insecticidal crystal (Cry) protein derived from *Bacillus thuringiensis* (*Bt*) that protects cotton against feeding damage caused by targeted hemipteran (*Lygus hesperus* and *Lygus lineolaris*) and thysanopteran (*Frankliniella* spp.) insect pests. MON 88702 cotton has been field tested in the continental

United States and Puerto Rico over 8 years as authorized under APHIS permits and notifications. Field tests conducted under APHIS oversight allowed for evaluation in a natural agricultural setting while imposing measures to minimize the likelihood of persistence in the environment after completion of the tests. Data are gathered on multiple parameters and used by the applicant to evaluate agronomic characteristics and product performance. These and other data are used by APHIS to determine if the new variety poses a plant pest risk.

MON 88702 is a unique cotton product featuring the industry's first biotech trait to protect against Lygus (*Lygus hesperus*, *L. lineolaris*) and thrips (*Frankliniella* spp.). This product provides cotton growers an additional tool to minimize plant damage caused by these insect pests.

In laboratory and field tests, the mCry51Aa2 protein as expressed in MON 88702 showed activity against the target species Lygus (*Lygus hesperus*, *L. lineolaris*) and thrips (*Frankliniella* spp.). Therefore, MON 88702 should provide producers an additional tool to protect cotton from feeding damage caused by Lygus and thrips. In recent years there has been an increasing need for additional Lygus and thrips management tools in cotton as resistance to multiple pesticide Modes of Action (MOA) increases. The availability of the MON 88702 trait will reduce foliar applications of pesticides targeting Lygus and thrips and aid in preservation of other MOA.

The USDA and EPA tiered approach to assess the impact on NTO has been completed. The Tier 1 tests are highly conservative in screening any potential concerns for NTO. Tier 1 tests for multiple beneficial Hemipteran showed no effects. These data are encouraging to the cotton industry suggesting that the utilization of this tool in the Lygus/thrips management system may preserve natural biological control organisms. The Tier 1 test did show potential risks to *Orius insidiosus*, but the higher Tier studies show no differences in nymph and adult abundance. The Hemipteran data show no adverse effect to tested species. The NCC appreciates the cautious, data driven process utilized to ensure sufficient scientific information is available to support the deregulation status. The NCC believes the data overwhelmingly supports the deregulation of MON 88702. Due to extensive damage that can be caused by Lygus and thrips and the lack of many suitable control methods, the NCC supports the deregulation of MON 88702 and compliments APHIS for concluding this process.

Thank you for the opportunity to comment and please don't hesitate to contact me if you have any questions.

Regards,

A handwritten signature in black ink that reads "Steve Hensley". The signature is written in a cursive, flowing style.

Steve Hensley
Senior Scientist, Regulatory and Environmental Issues
National Cotton Council