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April 30, 2018

Office of Pesticide Programs  
Regulatory Public Docket (7502P)  
U.S. Environmental Protection Agency  
1200 Pennsylvania Ave.,  
NW Washington, DC 20460

**RE: Docket ID Number EPA-HQ-OPP-2013-0368**

Dear Ms. Mannix:

The National Cotton Council (NCC) appreciates the opportunity to comment on the U.S. Environmental Protection Agency's (EPA) notice "Registration Review: Draft Human Health and/or Ecological Risk Assessments for Several Pesticides." The Notice included Pymetrozine, a unique Mode of Action (MOA) that has long been a crop protection tool available for producers' Integrated Pest Management (IPM) programs and Insect Resistance Management (IRM) programs.

The NCC urges EPA to recognize the long history of this mode of action (MOA) to control insects that damage our crops and its importance for resistance management scenarios. As EPA urges producers to recognize the value of rotating chemical MOA's for resistance management purposes, EPA must recognize rotation is not possible unless there are multiple MOA's available. The Insecticide Resistance Action Committee (IRAC) MOA Group 9B Chordotonal organ TRPV channel modulators, (Mode of Action Classification Scheme, July 2017, Version 8.3), only has 2 active ingredients in the group and has a long history of safe use when used according to labels.

The NCC is the central organization of the United States cotton industry. Its members include producers, ginnery, 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 9 and 12 million acres of cotton, with production averaging 12 to 18 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 \$100 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.

The NCC acknowledges this product is not frequently applied to cotton fields. However, the product does serve an important niche in management of cotton aphids and whiteflies. The NCC would like to clarify that aphids and whiteflies are a concern in every cotton region, and are typically present but do not always reach treatment criteria. Many factors must be considered in aphid and whitefly management in each region. Drought stress, presence of honey dew, stage of the cotton crop, diversity and proximity of other crops (for example as row crops and vegetable crops in CA, AZ, and GA must consider resistance selection from each other) and many other factors (including reports of natural aphid fungus in some regions) complicate the decision to invest more money for aphid control and/or whitefly control. For aphids, producers can wait for the fungal epizootic too long and suffer yield loss. At times, producers make the aphid treatment and the epizootic occurs within a few days. The producer's treatment decision is complex. Extensive research efforts have attempted to develop cost savings for cotton producers by monitoring and alerting growers of indications that the aphid fungal epizootic may occur (Steinkraus and Hollingsworth 1994, Hollingsworth et al. 1995, Steinkraus and Slaymaker 1994, Steinkraus et al. 2002). Unfortunately, aphid populations may occur at any stage of cotton production and the fungal epizootic is not always a reliable control, especially late season.

The NCC urges EPA to better understand the economic impact of honey dew and “sticky cotton” resulting from aphids and whiteflies. The potential occurrence of sticky cotton is a severe concern to the entire cotton industry production chain. The NCC believes the EPA does not fully recognize the potential impact of sticky cotton for producers who do not have the tools to manage aphids and whiteflies. The rapid population increase (sometimes at a field level or area level, sometimes at a larger level) and the stage of plant development can result in honeydew on lint, termed “sticky cotton”. Henneberry et al. 2001 (<http://arizona.openrepository.com/arizona/handle/10150/211301>) showed the association of aphids and honeydew resulting in sticky lint. Hector and Hodkinson (1989) reported over 80% of sticky cotton at textile mills was associated with aphids and whiteflies.

The research literature has numerous papers discussing the challenges to control aphid and whitefly outbreaks, and the extreme need for multiple modes of action (MOA) in rotation to avoid uncontrollable populations (Hequet et al., 2007, Sticky Cotton: Causes, Effects, and Prevention, USDA ARS Tech. Bull. No. 1915, 210pp; Nichols et. al. Management of White Fly Resistance to Key Insecticide in Arizona (<http://www.cottoninc.com/fiber/AgriculturalDisciplines/Entomology/Whitefly/WhiteFlyResistance/Whiteflies:%20Cotton%20Insect%20Management%20Guide>)), (<https://cottonbugs.tamu.edu/foilage-feeding-pests/whiteflies/>). The biology and rapid population growth of aphids and whiteflies requires the availability of critical IRM tools. The loss of pymetrozine could force additional applications of other MOA's that would not provide the control benefits and would limit producer's availability to rotate MOA's. Ellsworth et al. (1999, The University of Arizona, Cooperative Extension IPM Series No. 13, Sticky Cotton Sources & Solutions) reported “insecticide treatment to specifically prevent stickiness has cost Southwestern cotton growers \$47 million for aphids and \$154 million for whiteflies from 1994-1998.” The development and implementation of a new integrated system of whitefly

management greatly reduced the cost, but optional management tools must remain available to comply with IRM recommendations.

Aphids and whiteflies do more than just reduce yield. The sugars they excrete impacts the entire cotton production chain – from producer yield losses, slowing the ginning process by up to 25% (Ellsworth et al., 1999), lowering grade and value \$0.03/lb – \$0.05/lb (Ellsworth et al. 1999), requiring extra efforts to spin fibers, requiring frequent shutdown of processing equipment to clean gumming of sugars, and potential reduction in final product due to staining and fiber grade. The seriousness of sticky cotton can impact entire regions as textile mills attempt to avoid the purchase of sticky cotton.

Aphids also present a problem in scouting for caterpillar eggs and neonate larvae. When aphid populations reach a density that begins to show the shiny leaves (honeydew), it is difficult to determine the number of aphids present. A mere walk through the field will cover clothing with gummy residue from thousands of aphids brushed from the underside of leaves. The terminal of the cotton plant will most often be covered with aphids making it practically impossible for professional crop consultants to monitor for bollworm/budworm larvae. Often the producer/crop consultant will make a control treatment for aphids, not just for the concerns raised above, but also in fear of greater losses resulting from inability to monitor for bollworm/budworm eggs and larvae.

The NCC appreciates the opportunity to comment on “Registration Review: Draft Human Health and/or Ecological Risk Assessments for Several Pesticides”, among which is the product pymetrozine. The NCC urges EPA to engage stakeholders to preserve the safe use of this product.

Respectfully,

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