



RE: Docket No. APHIS-2019-0050, Environmental Assessment for Nonregulated Status

To Whom it May Concern:

The National Cotton States Arthropod Pest Management Working Group (NCSAPMWG) is a group of entomologists from Land-Grant Universities across the southern U.S. from California to Virginia where cotton is produced. The members of the NCSAPMWG specialize in Integrated Pest Management (IPM) of insect pests affecting agronomic crops in their respective states. Several members of the group have conducted research on MON 88702 evaluating its performance against target pests. The primary targets of MON 88702 include *Lygus* spp. (*lineolaris* and *hesperus*), thrips spp. (*Frankliniella* spp.), and cotton fleahopper (*Pseudatomoscelis seriatus*). Thrips species are important pests of cotton across the U.S. *Lygus lineolaris* is the most important pest of cotton in the midsouthern states (AR, MS, LA, TN, and MO) and an emerging pest in several states in the southeastern region (AL to VA). *Lygus hesperus* is an important pest in the western U.S. (AZ, CA, NM, western TX). Cotton fleahopper is an important pest of cotton in Texas and an occasional pest in other states.

Insecticides are important means of control for all these pests. Thrips control is primarily achieved through the use of at-planting insecticides (either seed treatments or in-furrow applications), but foliar sprays are also often needed to prevent yield losses. *Lygus* spp. and cotton fleahopper are controlled with foliar applied insecticides, many of which have broad activity that flare other pests. The economic and environmental costs of foliar insecticide use are limiting the profitability of cotton production in many areas of the U.S. and new IPM practices are needed to combat insecticide resistant populations.

In our research across the cotton belt, thrips numbers and injury were significantly reduced in MON 88702 cotton expressing the Cry51Aa2 protein. The reductions in thrips numbers and injury will likely be great enough to minimize the need for insecticide seed treatments and supplemental foliar sprays in most situations. Although not as dramatic, research has shown reductions in the numbers of foliar sprays needed for *Lygus* spp. and significant yield protection has been observed.

Insect-protected cotton and corn varieties that express genes from *Bacillus thuringiensis* (Bt) have been commercially available since 1996. They have included genes that provide protection against insects in the orders Lepidoptera and Coleoptera. These genes produce proteins toxic to insects with remarkable and well-characterized safety to humans and other non-target organisms. Growers have planted Bt varieties with no known adverse effects since that time. Varieties expressing Bt proteins have revolutionized IPM of insect pests in corn and cotton and in many cases have reduced the reliance on foliar insecticide sprays. As such, it is expected that the genes used in MON 88702 to control hemipteran and thysanopteran pests will improve IPM programs in cotton and further reduce the use of foliar and soil applied insecticides in many areas of the U.S.

Finally, the cotton varieties evaluated in our testing that express the Cry51Aa2 protein do not appear to have any adverse effects on the plants. In other words, the plants look like normal cotton plants and are managed the same as non-transformed cotton plants. In short, this new Bt cotton is not and has no potential to become a plant pest. We also assert that MON 88702 cotton varieties provide net benefits to human and environmental health, and we therefore support the deregulation of MON 88702 in cotton.

Sincerely,

NCSAPWG Members