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U.S. Environmental Protection Agency
Office of Pesticide Programs/BPPD (7511P)
One Potomac Yard
2777 Crystal Drive
Arlington, VA 22202

Attn: Mike Mendelsohn, Branch Chief
Biopesticides and Pollution Prevention Division

Subject: Syngenta comments related to the recommendations from the 2018 Scientific Advisory Panel (SAP) on “Resistance of Lepidopteran Pests to *Bacillus thuringiensis* (Bt) Plant Incorporated Protectants (PIPs) in the United States” (Docket No: EPA-HQ-OPP-2017-0617)

Dear Mr. Mendelsohn,

As the trait developer and registrant for the plant incorporated protectant Vip3A (contained in Event MIR162), Syngenta appreciates the opportunity to provide EPA these written comments. Specifically, Syngenta would like to address the SAP response to charge question number four including its recommendation for “prohibition of sales and use of field corn cultivars which produce Vip3A insecticidal proteins in the south.”

Syngenta respectfully disagrees with this SAP recommendation, for the reasons noted below.

First, Syngenta would like to confirm alignment with the Agricultural Biotechnology Stewardship & Technical Committee (ABSTC) comments on the SAP recommendations that were submitted to EPA on April 18, 2019. With regards to charge question number four, we agree with ABSTC’s comments that the use of existing Bt traits will be important in the US given their continued effectiveness against lepidopteran corn and cotton pests such as European corn borer, southwestern corn borer and tobacco budworm. These Bt traits, combined with appropriate best management practices such as crop scouting and the practical use of insecticide applications, will continue to be important tools for managing these crop pests and mitigating any Bt resistant insect populations. ABSTC’s comments also provided modeling data showing that resistance to Bt traits can be managed with overlapping traits in corn and cotton provided there is sufficient refuge available, either through structured refuge or through the adoption of an alternative refuge option such as a seed blends containing a higher percentage of refuge seed. As presented in the seed blend data and modeling studies incorporated in the ABSTC response, coupled with the low refuge compliance in the south, seed blends are a sustainable strategy that ensures refuge in the southern US and will allow both Vip3A corn and cotton products as viable

options for southern growers. Growers would then be able to benefit from the yield protection in cotton and corn due to the season-long reduction of lepidopteran pests. While the higher refuge seed blends show promise for Vip3A corn products, Syngenta also believes that seed blends containing higher refuge seed percentages should be used for Bt products that do not contain Vip3A but are still effective against corn borers. Deploying these higher refuge seed blends across the different Bt products would increase the amount of non-Bt refuge and create a level playing field amongst the registrants.

Corn hybrids that contain the Vip3A trait have been shown to be effective against lepidopteran ear feeding pests such as corn earworm and western bean cutworm. As such, these Vip3A hybrids are effective at reducing secondary mold infestations that may occur as a result of feeding damage to the ear. As presented in Syngenta's written comments (EPA-HQ-OPP-2017-0617-0073) at the time of the SAP specific to charge question number five, we cited a Bowers et al. (2013) study which evaluated the efficacy of Cry1Ab and Cry1A x Vip3A hybrids against mixed populations of European corn borer, corn earworm, and western bean cutworm under conditions of natural and artificial infestations. Only the Cry1Ab x Vip3A hybrid remained free of insect feeding and subsequent Fusarium ear rot symptoms. The pyramided hybrid significantly suppressed injury from all three species compared to the Cry1Ab single event.

To protect their corn crop from lepidopteran pests, southern corn growers value the added insect protection for several above ground insects that Vip3A provides when stacked with other above ground insect protection traits. With the insect control spectrum it provides, demand in the southern US for corn hybrids containing Vip3A has been consistent in recent years and is expected to grow in the future. Due to increasing grower demand for corn hybrids offered with Vip3A protection, several suppliers have introduced new trait stacks in recent years which requires significant investments in product development and regulatory registrations.

Syngenta respectfully disagrees with the SAP recommendation to EPA regarding the "prohibition of sales and use of field corn cultivars which produce Vip3A insecticidal proteins in the south." Syngenta maintains that the use of Bt technologies in the southern US is one of many effective and useful tools for managing lepidopteran pests. In summary:

- Syngenta is aligned with the Agricultural Biotechnology Stewardship & Technical Committee (ABSTC) comments on the SAP recommendations that were submitted to EPA on April 18, 2019.
- Higher refuge seed blends are a sustainable strategy that ensures refuge in the southern US and will allow both Vip3A corn and cotton products as viable options for southern growers.
- Vip3A hybrids were tested against mixed populations of European corn borer, corn earworm, and western bean cutworm and have shown to resist insect feeding and subsequent Fusarium ear rot symptoms resulting in better grain quality.
- Because of increased grower demand for corn hybrids offered with Vip3A protection, several suppliers have introduced new trait stacks in recent years.

Sincerely,

A handwritten signature in black ink that reads "Paul Miles". The signature is written in a cursive style with a large, prominent "P" and "M".

Paul Miles
Seeds and Traits Regulatory– US Country Lead

References Cited

Bowers, E., Hellmich R., and Munkvold G. 2013. Vip3Aa and Cry1Ab proteins in maize reduce Fusarium ear rot and fumonisins by deterring kernel injury from multiple Lepidopteran pests. *World Mycotoxin J.* 6: 127–135.