



# Comparing Corn Rootworm Trait Platforms

## Trial Objective

- The corn rootworm complex, (Western corn rootworm, Northern corn rootworm, and Mexican corn rootworm) is commonly referred to as the ‘billion-dollar pest complex’ due to its potential to adversely affect yield.
- Various companies offer several choices of corn products that contain *Bacillus thuringiensis* (Bt) proteins to control corn rootworm.
- With this in mind, the Bayer Learning Center at Monmouth, IL conducted a demonstration to compare the effectiveness of several competing pyramided corn products containing more than one Bt protein active against corn rootworm.

## Research Site Details

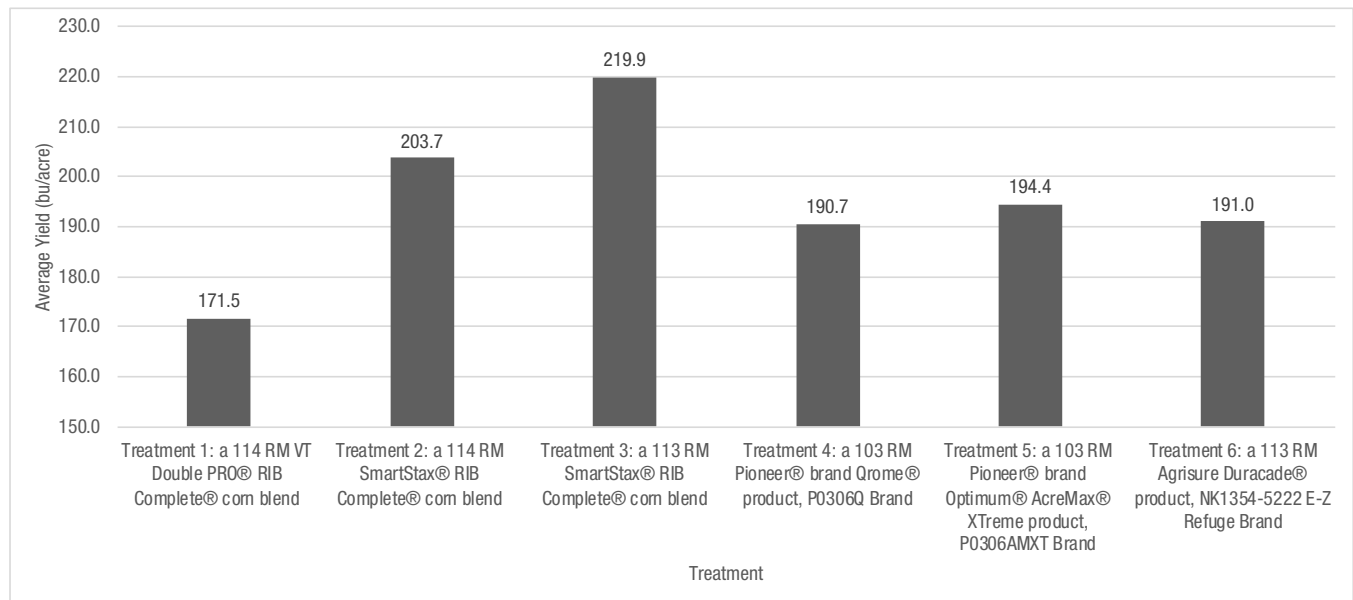
Location	Soil Type	Previous Crop	Tillage Type	Planting Date	Harvest Date	Potential Yield (bu/acre)	Seeding Rate (seeds/acre)
Monmouth, IL	Silt loam	Corn	Conventional tillage	6/4/20	10/27/20	250	36K

- This demonstration consisted of six total treatments including three different competitive trait platforms, each containing a 5% refuge blend of a non-Bt corn product:
  - Treatment 1: a 114 RM VT Double PRO® RIB Complete® corn blend
  - Treatment 2: a 114 RM SmartStax® RIB Complete® corn blend (same genetic background as Treatment 1)
  - Treatment 3: a 113 RM SmartStax® RIB Complete® corn blend
  - Treatment 4: a 103 RM Pioneer® brand Qrome® product, P0306Q Brand
  - Treatment 5: a 103 RM Pioneer® brand Optimum® AcreMax® XTreme product, P0306AMXT Brand (same genetic background as Treatment 4)
  - Treatment 6: a 113 RM Agrisure Duracade® product, NK1354-5222 E-Z Refuge Brand
- Each treatment had two replications.
- This trial was conducted in a field area that was in its third year of corn with a prior history of rootworm feeding.



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## Understanding the Results



**Figure 1. Average yield (bu/acre) per treatment.**

- All products with CRW trait protection yielded higher than Treatment 1, which contained no trait protection for CRW.
- There are many variables affecting yield, such as genetics and RM, but in this trial both SmartStax® RIB Complete® corn blend products (Treatment 2 and Treatment 3) yielded higher than the competitive trait platforms (Treatments 4, 5, and 6).

## Key Learnings

- SmartStax® RIB Complete® corn blend products contain two proteins for corn rootworm control to help maximize yield potential.
- An effective corn rootworm management program should consist of multiple best management practices. This could include an effective pyramided trait corn product such as SmartStax® Technology.
- Consult with your local Field Sales Representative or Technical Agronomist for custom tailored recommendations to fit your specific needs.



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## Legal Statements

The information discussed in this report is from a single site, replicated demonstration. This informational piece is designed to report the results of this demonstration and is not intended to infer any confirmed trends. Please use this information accordingly.

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ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS. SmartStax® PRO RIB Complete® corn blend is not currently available for commercial sale or commercial planting. Commercialization is dependent on multiple factors, including successful conclusion of the regulatory process. The information presented herein is provided for educational purposes only, and is not and shall not be construed as an offer to sell.

B.t. products may not yet be registered in all states. Check with your seed brand representative for the registration status in your state.

IMPORTANT IRM INFORMATION: RIB Complete® corn blend products do not require the planting of a structured refuge except in the Cotton-Growing Area where corn earworm is a significant pest. See the IRM/Grower Guide for additional information. Always read and follow IRM requirements.

Performance may vary, from location to location and from year to year, as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible and should consider the impacts of these conditions on the grower's fields.

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