Addressing Insect Threats with PowerCore® Enlist® Corn

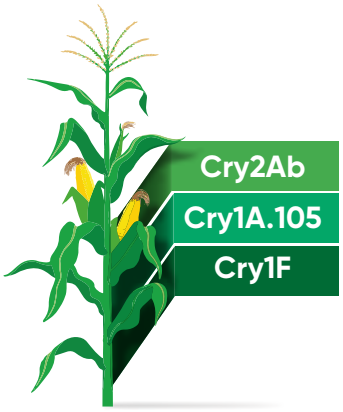
If your customers have planted PowerCore® Enlist® corn, you're probably hearing a lot of excitement about the trait package available with these top-notch genetics. And while pairing these traits with one of the deepest corn germplasm pools on the planet is most certainly a boon to growers, there are plenty of other reasons why PowerCore Enlist or PowerCore® Enlist® Refuge Advanced® corn make a smart addition to your customers' fields.

Combating above-ground pests with next-gen protection

PowerCore Enlist corn is designed specifically to combat above-ground insect pressures with an additional mode of action against European corn borer, southwestern corn borer and fall armyworm versus VT Double PRO® corn. So why bother with the additional modes of action in PowerCore Enlist corn? Clint Pilcher, Global Technical Education Team Lead at Corteva Agriscience, explains that it's about taking a longer view. "By diversifying your insect trait portfolio, you're knocking off resistant insects and giving yourself more time against pests," he says. "PowerCore traits really represent a next generation of *Bt* advancement."

Refuge-in-the-bag PowerCore Enlist corn

Pilcher also points out that the additional modes of action can be useful protection for variable insect pressures. "In some years, fall armyworm and black cutworm pressures are worse than others," he says. "For many farmers, these are secondary pests, but when they do appear, they are picked up by the Cry1F protein." PowerCore Enlist corn also protects against pests that are problematic in specific regions, including sugarcane and southwestern corn borers.



- Each protein offers a unique mode of action
- Multiple modes of action delay insect populations developing resistance to *Bt* proteins

Trait durability is also important as we look at the development of the refuge-in-the bag version of PowerCore Enlist corn that was released for the 2024 growing season. "The convenience of integrated refuge makes it hard for farmers to ever want to go back to planting block refuge," Pilcher says. "The more durable traits in PowerCore Enlist corn help maintain our ability to integrate refuge and enable the traits to still be effective."

First-generation *Bt* traits were developed to protect corn against stalk-boring insects. These single traits required large, structured refuges of 20-50%. Next-gen *Bt* traits, such as those found in PowerCore Enlist corn, provide a broader spectrum of protection from European corn borer, fall armyworm, southwestern corn borer, plus control of black cutworm. Three unique *Bt* traits are integrated into a hybrid for redundant control of the same insect pest. This increases product durability and also allows refuge to be reduced. New PowerCore Enlist Refuge Advanced corn also provides farmers the flexibility of using an integrated rather than a structured refuge. PowerCore Enlist corn requires a 5% refuge in the Corn Belt and a 20% refuge in cotton-growing areas.

Reducing resistance risk with multiple MOAs

Trait durability is vital when looking at long-term management of pests on the farm. PowerCore Enlist corn includes three proteins, which can generally be thought of as modes of action: Cry1A.105, Cry2Ab, Cry1F. Some insects are showing resistance to Cry1 traits, common to many above-ground technologies. In this case, PowerCore Enlist corn brings an additional mode of action (Cry2Ab), which slows down developing resistance. Insects that might not seem problematic in the field today could evolve to become a bigger issue in the future. Farmers can proactively address this by incorporating more modes of action now.

Primary Pest Controlled	PowerCore® Enlist® corn	VT Double PRO® corn
Black cutworm	✓	NONE
European corn borer	✓✓✓	✓✓
Fall armyworm	✓✓✓	✓✓
Southwestern corn borer	✓✓✓	✓✓

3 modes of action

✓ = Number of modes of action for control over specified pest.

Traits + genetics = superior potential

Finally, as customers express excitement around PowerCore Enlist corn genetics, it's a good time to remember that traits and genetics work together. Pilcher says, "What do traits do? They protect those genetics and allow them to maximize production levels." With PowerCore Enlist corn, that means multiple modes of action against yield-robbing, above-ground insects and highly effective weed control.

™ ® Trademarks of Corteva Agriscience and its affiliated companies. The transgenic soybean event in Enlist E3® soybeans is jointly developed and owned by Corteva Agriscience and M.S. Technologies L.L.C. Enlist Duo® and Enlist One® herbicides are not registered for sale or use in all states or counties. Contact your state pesticide regulatory agency to determine if a product is registered for sale or use in your area. Enlist Duo and Enlist One are the only 2,4-D products authorized for use with Enlist crops. Consult Enlist herbicide labels for weed species controlled. POWERCORE® is a registered trademark of Monsanto Technology LLC. POWERCORE® multi-event technology developed by Corteva Agriscience and Monsanto. Always follow IRM, grain marketing and all other stewardship practices and pesticide label directions. Bt products may not yet be registered in all states. Check with your seed representative for the registration status in your state. Product responses can vary by location, pest population, environmental conditions and agricultural practices. Please contact your Corteva Agriscience sales professional for information and suggestions specific to your operation. Individual results may vary. Various factors, including pest pressure, reduced susceptibility and insect resistance in some pest populations may affect efficacy of certain corn technology products in some regions. To help extend durability of these technologies, Corteva Agriscience recommends you implement integrated pest management (IPM) practices such as crop rotation, cultural and biological control tactics (including rotating sources of Bt-protected corn traits), pest scouting and appropriate use of pest thresholds when employing management practices such as insecticide application. You must also plant the required refuge when using these technologies. Please contact your sales professional or consult with your local university extension for more information regarding insect resistance management guidelines, best management practices and to understand whether there has been a shift in susceptibility or insect resistance with certain pests documented in your area. Liberty®, LibertyLink® and the Water Droplet Design are registered trademarks of BASF. Roundup®, Roundup Ready® and VT Double PRO® are registered trademarks of Bayer Group. Always read and follow label directions.

© 2024 Corteva.