

# Herbicide technology stewardship prevents weed resistance

## Weed resistance is an ongoing, serious problem that that should be considered when planning a weed management strategy.

Herbicide resistance occurs when weeds adapt to survive herbicide application at a rate that would normally kill the weed. Corteva Agriscience offers many technologies that provide effective weed control, but long-term use of any single herbicide mode of action (MOA) can lead to the development of weeds resistant to that MOA. Corteva is committed to effective stewardship of our herbicide technologies to help prevent the development of resistance, ensuring that these technologies will work for many years to come.

So how can farmers help prevent herbicide resistance? By taking stewardship seriously and using best practices to protect herbicide technologies and keep them effective for years to come.

The Enlist® weed control system—available for corn, soybeans and cotton—is designed to prevent herbicide resistance, protecting the efficacy of the technology. This can be done by using a program approach, practicing good field management and finding the right partner products to meet weed management needs.

### PROGRAM APPROACH

Enlist® herbicides can be used as the cornerstone of a program approach to weed management in Enlist® crops to improve weed control, reduce weed competition during key stages of crop growth and help manage herbicide resistance. A program approach offers options for preemergent, residual and postemergent herbicide applications. Corteva offers a variety of products that work together to help keep fields clean.

An effective weed control program starts with the seed. All Enlist crops—corn, soybeans and cotton—have tolerance to 2,4-D choline, glyphosate and glufosinate, and PowerCore® Enlist® corn is tolerant to FOP herbicide as well. Multiple herbicide tolerances provide more weed control options for resistant and hard-to-control weeds.

### MULTIPLE MOAS

Planting crops that enable use of multiple herbicide modes of action—like those in the Enlist weed control system—can help farmers achieve consistent, effective weed control while reducing the potential for resistance development. The herbicide tolerances in Enlist crops mean Enlist herbicides can be used on those fields. Enlist Duo® herbicide and Enlist One® herbicide with Colex-D® technology are the only herbicides containing 2,4-D that are authorized for preemergence and postemergence use on Enlist E3® soybeans and Enlist® corn. 2,4-D choline is a systemic herbicide that may provide more consistent performance than some contact herbicides. The addition of the first-ever 2,4-D and FOP trait tolerances for Enlist corn provide additional modes of action to control broadleaf weeds and grasses. Assure® II herbicide (quizalofop) is the only FOP herbicide expressly authorized for preemergence and postemergence use on Enlist corn.

### HERBICIDE PARTNERS

It can take an integrated approach to keep weeds at bay throughout the growing season. The Enlist weed control system allows growers to incorporate Corteva's industry-leading residual herbicide portfolio for season-long control. In addition to Corteva products such as Kyber®, Sonic®, Trivence® and EverpreX® herbicides, the Enlist weed control system has hundreds of approved tank-mix partners, including AMS products and glufosinate, that growers can choose for more effective weed control. A tank-mix of an Enlist herbicide and other qualified herbicides lets farmers spray multiple sites of action on tough weeds. Layering residual herbicides as part of a tank-mix with Enlist herbicides helps provide season-long control of tough broadleaf weeds and grasses.

To ensure the use of multiple sites of action for broadleaf control, growers should include a broad-spectrum tank-mix partner or a sequential post pass in their weed control program. They should always use a true broad-spectrum soil residual herbicide (not Group 4 or Group 9) in any weed management plan and consider using a layered residual such as S-metolachlor in post passes for longer-lasting weed control.

*Assure® II herbicide use in PowerCore® Enlist® corn was under review when this was printed. Please confirm this use is registered prior to using Assure II herbicide on PowerCore® Enlist® corn.*



## BEST PRACTICES

Using the Enlist weed control system and sound agronomic practices, growers can “start clean, keep clean, leave clean”—making sure fields remain clean before, during and after the growing season.

**Start clean** with a clear field, using a burndown herbicide application or tillage. Scout fields before application to determine appropriate herbicides and use rates, and after application to detect weed escapes.

**Keep clean** by choosing appropriate herbicides, application rates and timing. Use a broad-spectrum soil residual herbicide with different sites of action, followed by postemergence application of an Enlist herbicide at full labeled rates once weeds reach 3 to 6 inches in height. If you suspect resistance, treat weed escapes with a herbicide that has a site of action other than Group 4 or 9. Keep accurate records of tactics and results, including changes in difficult-to-control weeds. Incorporate agronomic practices to improve your crop's ability to compete effectively with weeds, such as crop rotation or cover crops.

**Leave clean** by controlling weed escapes before, during and after harvest to limit weed seed production. Be sure to thoroughly clean equipment to avoid field to field weed spread.

We all have a role to play in the stewardship and protection of weed control technology. By encouraging a program approach with multiple MOAs, effective tank-mix partners and good agronomic practices, we can help prevent weed resistance.

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