

ENLIST[™] WEED CONTROL SYSTEM

PRODUCT USE GUIDE

Enlist[™] herbicides, used with Enlist[™] corn and Enlist E3[™] soybeans

 CANADIAN EDITION



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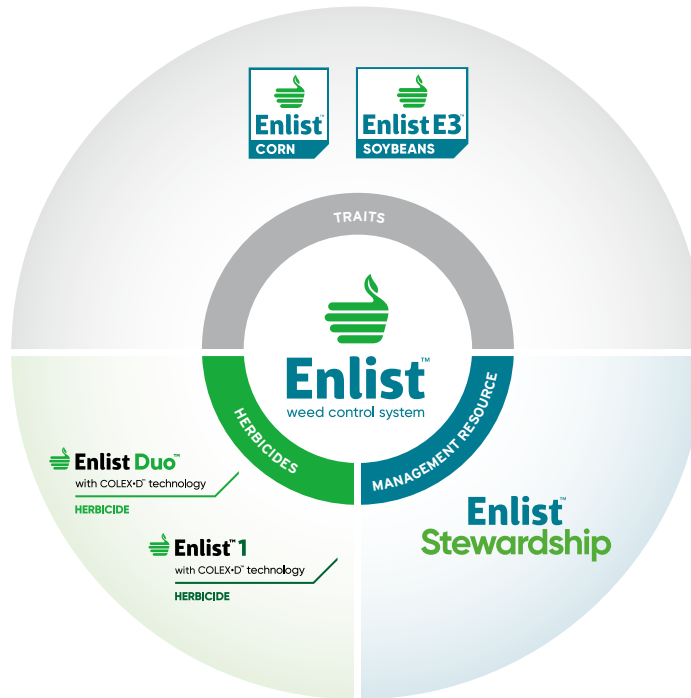
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For additional information and resources about the Enlist™ weed control system, visit EnlistCanada.ca

Introduction to the Enlist™ weed control system

Thank you for your purchase of a seed product that contains Enlist™ weed control system technology. The Enlist weed control system is composed of traits, herbicides and a Stewardship resource. The complete system is designed to work together, with Enlist herbicide-tolerant traits enabling the use of Enlist herbicides. To help get the most from the Enlist system, follow the Product label and the recommendations in this Product Use Guide.



Stewardship Overview

This Product Use Guide (Guide) details the requirements and recommendations for the planting of Enlist™ corn, Enlist E3™ soybeans and the proper use of Enlist™ herbicides featuring Colex-D™ technology. This Guide is not a pesticide product label. It is intended to provide additional information and to highlight approved uses from specific product labels.

Responsible use and stewardship of Enlist corn, Enlist E3 soybeans, and the Enlist herbicides is essential to ensuring that these tools are effective and perform for years to come on your farm. **Read and follow all precautions and directions on the product label for Enlist Duo™ and Enlist™ 1 herbicides when used on Enlist crops, as well as any other pesticide products applied to the Enlist crops.** As a grower planting Enlist corn or Enlist E3 soybeans, you must be both familiar with and follow the Technology Use Agreement (Agreement) and this associated Guide.

Always consult the specific crop Product Use Guide for corn or soybeans at <http://traitstewardship.corteva.ca> before planting, and read and understand this guide. ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS. Please direct questions about this Guide or seed that contains Corteva Agriscience technologies and traits to your seed provider or visit Corteva.ca/contact.



Enlist™ crops



Enlist™ Corn

The Enlist corn trait confers tolerance to 2,4-dichlorophenoxyacetic acid "2,4-D" and aryloxyphenoxy propionate "-fop" herbicides, and is stacked with a glyphosate tolerance trait and a glufosinate tolerance trait in Enlist corn hybrids. This provides the benefits of tolerance to in-crop applications of an Enlist™ herbicide to reduce weed competition. Enlist Duo™ and Enlist™ 1 herbicides and the use of other herbicides registered for corn provide alternate modes of action to manage hard-to-control and resistant weeds as part of the management practices for Enlist™ corn.

In addition to herbicide tolerance, some Enlist hybrids may contain *Bt* traits that confer insect protection. If you purchase hybrids that contain *Bt* traits, you must also follow applicable Insect Resistance Management requirements. Consult the Corteva Corn Product Use Guide located at <http://traitstewardship.corteva.ca/> for refuge requirements.

Herbicide Tolerance of Enlist Corn

	SMARTSTAX™ ENLIST™	POWERCORE™ ENLIST™	ENLIST™ ROUNDUP READY® 2
2,4-D CHOLINE	Tolerant	Tolerant	Tolerant
GLYPHOSATE	Tolerant	Tolerant	Tolerant
"-fop" HERBICIDES	Tolerant	Tolerant	Tolerant
GLUFOSINATE	Tolerant	Tolerant	Not Tolerant ¹
CYCLOHEXANEDIONE ("-dim") HERBICIDES	Not tolerant	Not tolerant	Not tolerant

Volunteer corn control

Enlist corn is tolerant to 2,4-D choline, glyphosate and "-fop" herbicides, such as Assure® II (quizalofop). It is recommended that to control volunteer Enlist corn in soybeans, a cyclohexanedione "-dim" herbicide must be used (e.g., Select®, Statue®, Centurion® or Arrow All-in® (clethodim) or Poast Ultra® (sethoxydim)).

¹HERBICIDE TOLERANCE

Some *Bt* corn hybrids are available with Roundup Ready® and LibertyLink® herbicide tolerance traits, making them tolerant to over-the-top applications of glyphosate and glufosinate-ammonium (Liberty® 200 SN) herbicides. Verify the weed control system before making over-the-top herbicide applications. Always read and follow label directions. Use of a herbicide over the top of a corn hybrid that does not contain the tolerance trait for the herbicide will cause crop damage.

Coexistence

Corn is a naturally cross-pollinated crop, and a small amount of corn pollen movement to nearby fields is not uncommon. You can take steps to reduce undesired pollen movement, including:

- Maintaining a non-corn buffer between corn fields containing biotechnology traits and conventional corn fields
- Not growing corn with biotechnology traits upwind (based on the prevailing wind directions) of other corn fields
- Discussing your cropping plans with your neighbours in advance

Authorized herbicides with Enlist™ corn

Enlist corn contains the patented gene that provides tolerance to 2,4-D and “-fop” herbicides. The Enlist™ trait is also stacked with the glyphosate trait in Enlist corn hybrids.

Following burndown, Enlist Duo™ and Enlist™ 1 herbicides with Colex-D™ technology are the only herbicides containing 2,4-D that are labeled for pre-emergence and post-emergence use with Enlist corn. Assure® II herbicide (quizalofop) is the only -fop herbicide expressly labeled for pre-emergence and post-emergence use with Enlist corn.

Growers should use Enlist herbicides as part of a Program Approach to weed control in Enlist corn. Applying non-Group 4 pre-emergence and post-emergence herbicides labeled for use in field corn will help to delay weed resistance. Refer to the Resistance Management Section of this Product Use Guide and product labels.





Enlist E3™ Soybeans

Enlist E3 soybeans offer robust tolerance to 2,4-D choline, glufosinate and glyphosate.

Enlist E3 soybeans allow farmers to use multiple modes of actions to obtain effective weed control while minimizing the potential for the development of resistant weeds. Enlist E3 soybeans provide the benefits of tolerance to pre-plant and in-crop applications of Enlist herbicides and other herbicide products to reduce weed

competition. Enlist E3 soybeans allow growers to use alternate modes of action to manage hard-to-control and resistant weeds as part of the management practices for Enlist E3 soybeans.

Herbicide Tolerance of Enlist E3 soybeans

	ENLIST E3
2,4-D CHOLINE	Tolerant
GLUFOSINATE	Tolerant
GLYPHOSATE	Tolerant

Coexistence

Soybeans are a naturally self-pollinated crop with very low risk of mixing by cross-pollination. If you wish to use or market Enlist E3 soybeans separately from general commodity use or identity preserved soybeans, fields should be planted far enough away from other crops to prevent mechanical mixture during harvest.

Authorized herbicides with Enlist E3™ soybeans

Enlist E3™ soybeans contain the patented gene that provides tolerance to 2,4-D choline, glyphosate and glufosinate herbicides.

Following burndown, Enlist Duo™ and Enlist™ 1 with Colex-D™ technology are the only herbicides containing 2,4-D that are labeled for pre-emergence and post-emergence use with Enlist E3 soybeans.

Growers should use Enlist herbicides as part of a Program Approach to weed control in Enlist E3 soybeans. Applying non-Group 4 pre-emergence and post-emergence herbicides labeled for use in soybeans will help to delay weed resistance. Refer to the Resistance Management Section of this Product Use Guide and product labels.

Seed Coat Colour Variation in Enlist E3 Soybeans

In addition to ease of use, exceptional weed control and high yield potential with Enlist E3 soybeans, farmers may occasionally see a seed coat colour variation. This colour variation in Enlist E3 soybeans is from naturally occurring substances found in soybeans. It typically appears as a light brown band connecting ends of the hilum and/or light brown shadows on each side of the hilum. It can range from very slight to a darker tint and varies in frequency, geography, growing season (year-to-year) and position on the plant or within pods. The seed coat colour variation is not due to application of herbicides.

Based on our years of study and experience, we're confident in the performance and grain quality of Enlist E3 soybeans.

To learn more about seed coat colour variation in Enlist E3 soybeans, visit <https://www.enlist.com/ca-en/experience-enlist/stewardship.html>.



Enlist Herbicides



Convenient proprietary blend of 2,4-D choline and glyphosate

Stand-alone 2,4-D choline with tank-mix flexibility.

Enlist Duo™ herbicide with Colex-D™ technology combines the proven performance of 2,4-D choline and glyphosate in a convenient, proprietary blend. Enlist™ 1 herbicide is a stand-alone 2,4-D choline product with Colex-D technology that provides additional tank-mix flexibility giving you the freedom to tank-mix with your glyphosate of choice, Liberty® 200 SN glufosinate or other registered soybean herbicides.

Following burndown, Enlist Duo and Enlist 1 with Colex-D technology are the only herbicides containing 2,4-D that are labeled for pre-emergence and post-emergence use on Enlist™ crops.

Take control of tough weeds with Enlist Duo™ and Enlist™ 1 herbicides

Use Enlist™ herbicides as the cornerstone of a season-long program approach for weed management on crops with Enlist traits.

Enlist herbicides manage hard-to-control and herbicide resistant weeds, including:

- ✔ Canada fleabane
- ✔ Common ragweed
- ✔ Dandelion
- ✔ Giant ragweed
- ✔ Kochia
- ✔ Pigweed species (including Palmer amaranth²)
- ✔ Volunteer canola
- ✔ Velvetleaf
- ✔ Waterhemp
- ✔ Wild Buckwheat

For a full listing of weeds controlled, reference the labels for Enlist 1 and Enlist Duo herbicides.

On-target characteristics of 2,4-D choline with Colex-D™ technology

Enlist herbicides are different from 2,4-D ester, amine and other traditional formulations:

- Near-zero volatility
- Reduced physical drift potential
- Better handling characteristics



Use the right application rate

Apply 1.74 L of Enlist Duo herbicide or 0.73 L of Enlist 1 herbicide per acre to young, actively growing annual weeds, according to the product label directions.^{3,4}

Key practices to remember for best weed management:

- Only use labeled rates.
- Spray when weeds are small and actively growing.

The product labels for Enlist Duo and Enlist 1 also contain important information about application equipment requirements, restrictions and precautions, and weed management.

APPLICATION RATE ⁴ FOR ENLIST CORN AND ENLIST E3 SOYBEANS		
	LABEL RATES	RECOMMENDED RATE (RESISTANT AND HARD-TO-CONTROL WEEDS)
Enlist Duo herbicide	1.18 - 1.74 L/ac	1.74 L/ac
Enlist 1 herbicide	0.3 - 0.73 L/ac	0.73 L/ac

²May require a program approach including timely application and use of a soil residual herbicide.

³Always read and follow the product label.

⁴Recommended rates for managing resistant and hard-to-control weeds.

Post-emergence applications on Enlist™ crops

Enlist™ traits enable multiple options for post-emergence herbicide sprays, allowing design of a program approach that fits every acre. Consider your weed pressure, weather conditions and agronomic situation when assessing which program approach and Enlist herbicide and tank-mix partners will work best in your fields.

ENLIST DUO™ HERBICIDE	ENLIST™ 1 HERBICIDE + LIBERTY® 200 SN HERBICIDE ⁵	ENLIST™ 1 HERBICIDE + GLYPHOSATE
Enlist Duo herbicide @ 1.74 L/ac	Enlist 1 herbicide @ 0.73 L/ac	Enlist 1 herbicide @ 0.73 L/ac
	<div style="text-align: center;">+</div> Liberty 200 SN herbicide @ 1.0 L/ac	<div style="text-align: center;">+</div> Glyphosate @ 900 g ae/ha Enlist 1 can be tank-mixed with a number of registered glyphosate products. A minimum of 0.67 L/ac application rate for a 540 g/L formulation is recommended

⁵HERBICIDE TOLERANCE

Some Bt corn hybrids are available with Roundup Ready® and LibertyLink® herbicide tolerance traits, making them tolerant to over-the-top applications of glyphosate and glufosinate-ammonium (Liberty 200 SN) herbicides. Verify the weed control system before making over-the-top herbicide applications. Always read and follow label directions. Use of a herbicide over the top of a corn hybrid that does not contain the tolerance trait for the herbicide will cause crop damage.





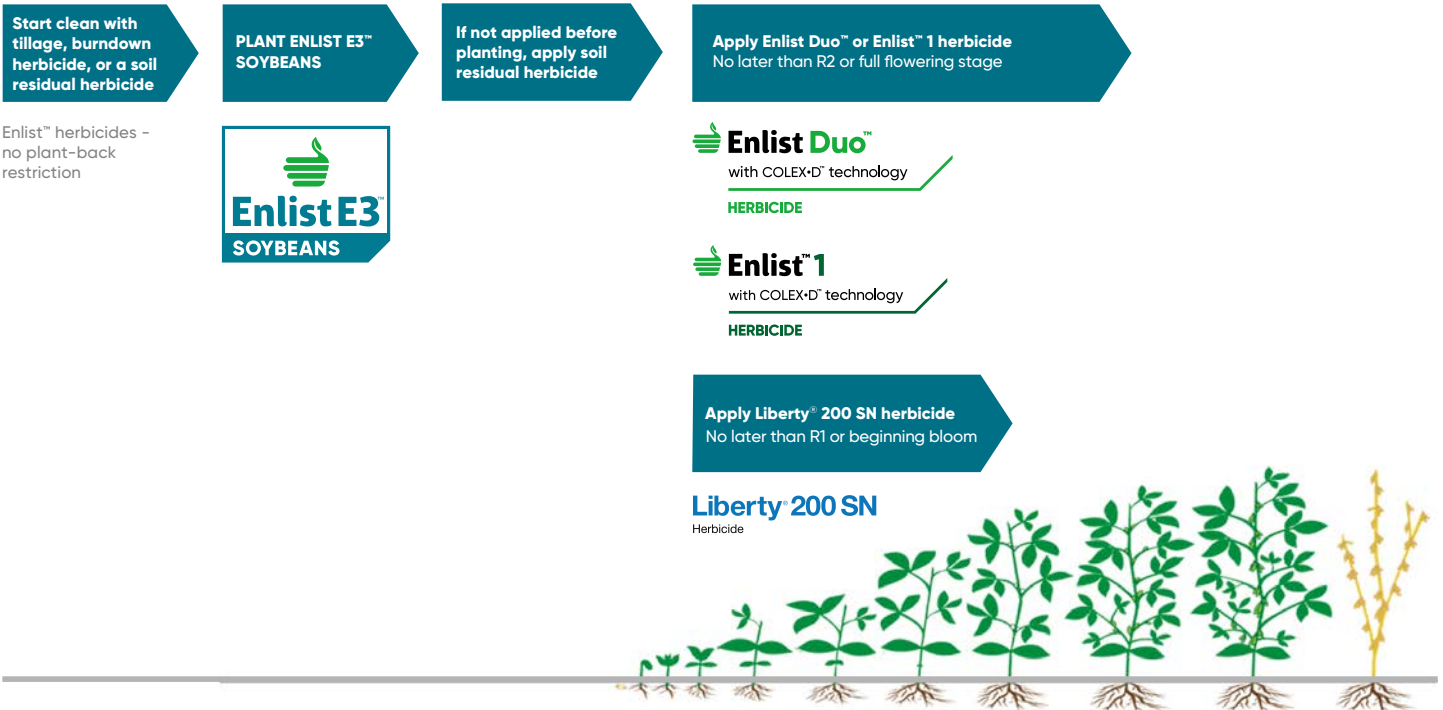
Program approach to weed control

You'll have the greatest success in weed management if you use an Enlist herbicide as part of a program approach for weed control in Enlist crops. This improves weed control, reduces weed competition during key stages of crop growth and helps manage herbicide resistance.

Key items to remember:

- Enlist herbicides can be used in burndown, pre-emergence and post-emergence applications on crops with the Enlist trait.
- Follow label instructions for maximum use rates per season:
 - Do not apply more than 3.5 L/ac of Enlist Duo™ or 1.46 L/ac of Enlist™ 1 per use season.
 - Do not apply more than 2 post-emergence applications per use season.
 - Ensure a minimum of 12 days between post-emergence applications.

Include broad spectrum soil residual herbicides where possible to reduce the selection pressure for herbicide resistant weeds.⁶



⁶Talk with your retailer for recommendations on pre-emergence herbicides for your farm.

Start clean with tillage, burndown herbicide, or a soil residual herbicide

PLANT ENLIST™ CORN

If not applied before planting, apply soil residual herbicide

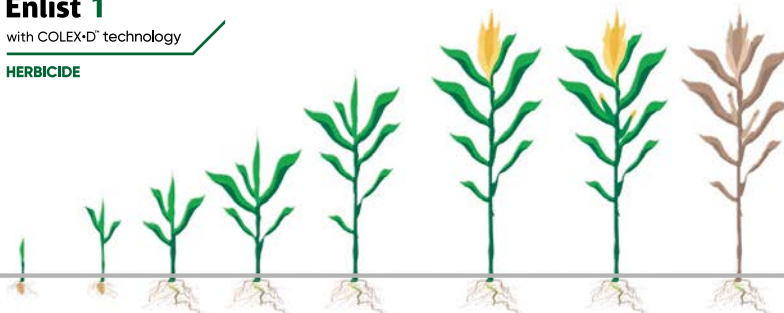
Apply Enlist Duo™ or Enlist™ 1 herbicide
No later than V8 growth stage or 120 cm.

Enlist™ herbicides – no plant-back restriction



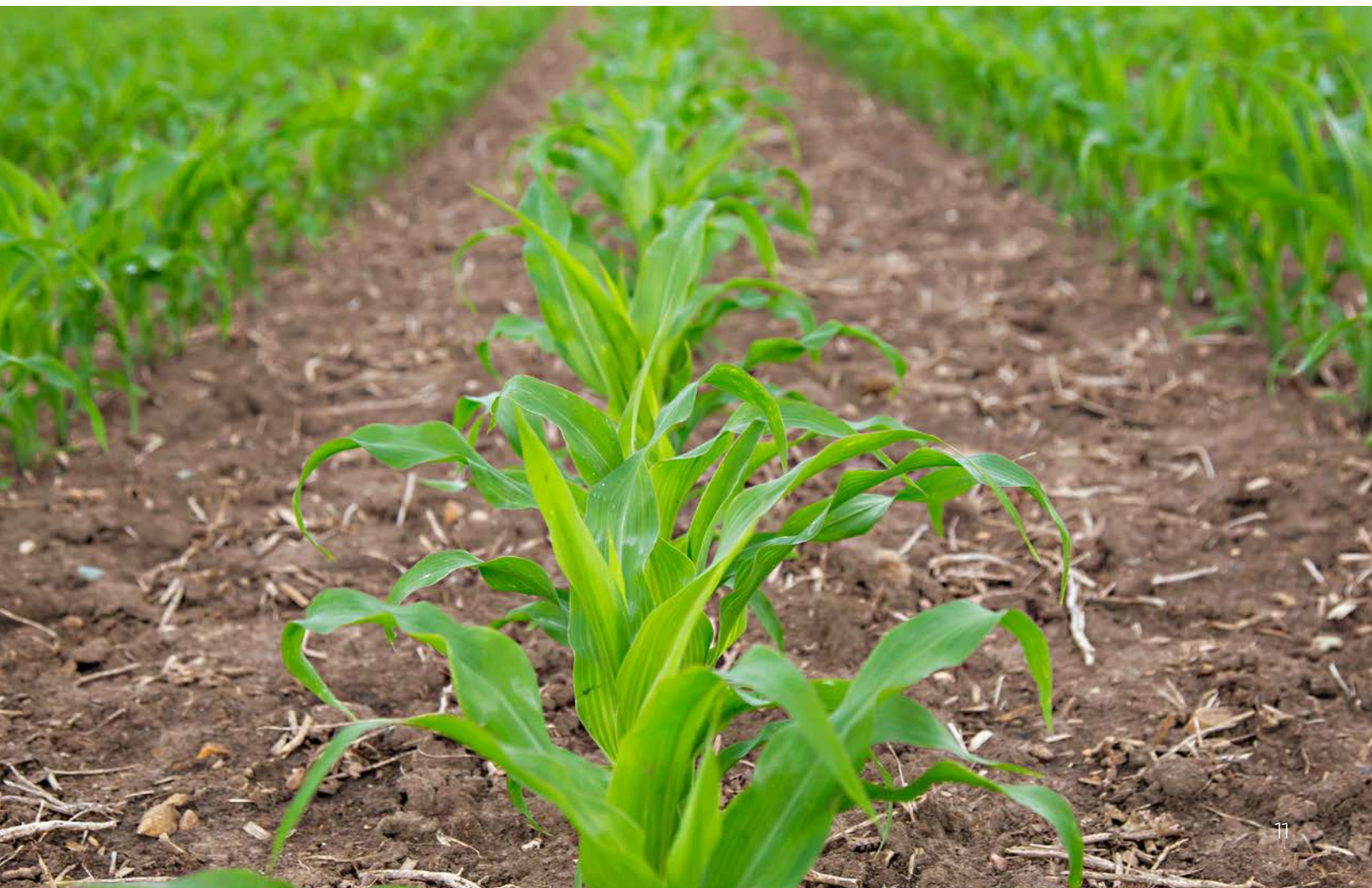
Enlist Duo™
with COLEX-D™ technology
HERBICIDE

Enlist™ 1
with COLEX-D™ technology
HERBICIDE



The Benefits of a Program Approach Including Enlist herbicides:

- Eliminates competition from a broad spectrum of early-season grass and broadleaf weeds
- Multiple modes of action for resistance management
- Timely post-emergent herbicide applications for optimum weed control and reduced weed competition to protect yield potential



 **Enlist Duo™**
with COLEX•D™ technology
HERBICIDE

 **Enlist™ 1**
with COLEX•D™ technology
HERBICIDE

Application

Read and follow product labels, as well as follow provincial and local requirements related to application of pesticides. Apply Enlist herbicides only with properly calibrated ground application equipment using water as a carrier.



Field Sprayers

As per the label, a boom type field sprayer is required for application of Enlist™ herbicides.

An accurate and effective herbicide application can be made with a field sprayer when:

1. A **uniform** pressure is delivered across the whole boom
2. All nozzles have the **same output and a good spray pattern**
3. A **consistent and appropriate** forward **speed** is maintained in actual field conditions
4. The boom height can be adjusted to the required nozzle-to-target height, and maintained during actual field conditions to ensure proper overlap of the nozzle-tip patterns

Boom Height

To minimize spray drift potential, use the optimum nozzle height recommended by the nozzle manufacturer based on configuration of the spray boom and spray angle of the nozzle tip, provided boom height is 60 cm or less above the crop or ground.

Spray Volume

Use a spray volume of 50 L/ha to 200 L/ha or 5 GPA to 20 GPA for ground equipment and apply with calibrated spray equipment. Corteva Agriscience recommends 100 – 150 L/ha (10 - 15 GPA) to ensure thorough coverage. Spray at low pressures (200 to 275 Kpa) (30 to 40 Psi) when the weeds are actively growing.

In general, increase spray volume as crop canopy, height and weed density increase to obtain adequate spray coverage.

Nozzle Selection

Proper spray nozzle selection plays an important role in minimizing the potential for physical drift. When selecting a nozzle many variables need to be considered, such as; pressure, water volume, speed and nozzle spacing on the boom. The droplet size from a nozzle becomes very important when the efficacy of a particular crop protection chemical is dependent on coverage, or the prevention of spray leaving the target area is a priority.

The majority of the nozzles used in agriculture can be classified as producing droplets in the range of extremely fine to ultra coarse droplets, as defined by the American Society of Agriculture Engineers (ASAE). Nozzles that produce droplets in the finer to middle portion of the range generally produce good coverage, but are more prone to drift off target. Nozzles producing droplets from the middle to coarser end of the range can still provide thorough surface coverage and provide significantly improved drift control. The following classification system is used to define nozzle output (Table 1).

Helpful Links:

- Tee Jet Technologies: www.teejet.com
- Pentair: www.hypropumps.com
- Greenleaf Technologies: www.turbodrop.com
- Hardi International: www.hardi-international.com
- Wilger: www.wilger.net
- www.sprayers101.com

Droplet Size Distribution Classification

Table 1

* To measure the range of droplets produced by a nozzle, the term volume median diameter, or VMD, is used. The VMD represents the droplet diameter, in microns, where half of the spray volume is contained in droplets larger than the VMD, and half of the volume is in droplets smaller than the VMD.



Source: The American Society of Agricultural Engineers

CATEGORY	SYMBOL	COLOUR CODE	APPROXIMATE DVO.5 (VMD)(MICRONS)
Extremely Fine	XF	Purple	~50
Very Fine	VF	Red	<136
Fine	F	Orange	136-177
Medium	M	Yellow	177-218
Coarse	C	Blue	218-349
Very Coarse	VC	Green	349-428
Extremely Coarse	XC	White	428-622
Ultra Coarse	UC	Black	>622

Nozzle manufacturers use this standardized system to indicate the droplet size of their nozzles for different size and pressure combinations (Please note that the colour code identifies an industry standard droplet size and NOT the colour of the nozzle). Many pesticide product labels, including Enlist Duo™ and Enlist™ 1 herbicides, recommend appropriate droplet sizes to be used for the product. The labels require using a nozzle producing **Coarse** to **Extremely Coarse** sized droplets. From the nozzle manufacturer charts (Table 2 and Table 3), a number of different options are available to provide the nozzle and pressure combination that result in a spray droplet with a size of **Coarse**, **(blue) Very Coarse (green)** or **Extremely Coarse (white)** classification. This system allows the use of many different combinations of nozzles and pressure settings, to achieve the desired droplet size, reduce drift, and provide adequate coverage required for control of the pest.

Table 2

	PSI										
	15	20	25	30	35	40	50	60	70	80	90
AIXR110015	XC	XC	VC	C	C	C	C	M	M	M	M
AIXR11002	XC	XC	XC	VC	VC	C	C	C	C	M	M
AIXR110025	XC	XC	XC	XC	VC	VC	C	C	C	C	C
AIXR11003	XC	XC	XC	XC	VC	VC	C	C	C	C	C
AIXR11004	UC	XC	XC	XC	XC	VC	VC	C	C	C	C
AIXR11005	UC	XC	XC	XC	XC	VC	VC	C	C	C	C
AIXR11006	UC	XC	XC	XC	XC	VC	VC	VC	C	C	C

Source: Table 2 - TeeJet Technologies

Table 3

	15 PSI	20 PSI	30 PSI	40 PSI	50 PSI	60 PSI	70 PSI	80 PSI	90 PSI	100 PSI	115 PSI
ULD120-015	VC	C	C	C	C	M	M	M	M	F	F
ULD120-02	VC	VC	C	C	C	C	M	M	M	M	F
ULD120-025	VC	VC	C	C	C	C	M	M	M	M	M
ULD120-03	VC	VC	VC	C	C	C	C	M	M	M	M
ULD120-04	VC	VC	VC	C	C	C	C	M	M	M	M
ULD120-05	XC	XC	VC	VC	VC	C	C	C	C	M	M
ULD120-06	XC	XC	XC	VC	VC	VC	C	C	C	C	M
ULD120-08	XC	XC	XC	VC	VC	VC	C	C	C	C	M

Source: Table 3 Source SpraySmarter.com

An important point to remember when choosing a spray nozzle that produces a droplet size in one of the eight categories is that one nozzle can produce different droplet size classifications at different pressures. A nozzle might produce medium droplets at low pressures, while producing fine droplets as pressure is increased.

Nozzle selection is the most important factor in reducing pesticide drift. Take time to match application needs to the nozzle best suited to the situation. Most nozzles can be used under different conditions to reduce drift. They also can be used improperly. Be sure to pay attention to pressure, product, water volumes and pest before you spray. Enlist herbicide applications require a **Coarse** to **Extremely Coarse** spray droplet. Ultra coarse droplet sizes may result in decreased weed control and increased crop injury. Ensure that the nozzle you have selected is capable of delivering the required droplet size at the determined pressure and spray volume combination. For further guidance on selecting the correct nozzle, check with your sprayer manufacturer/dealer.

Spray Drift Management

Wind

DO NOT apply during periods of dead calm. Avoid applications of Enlist Duo™ or Enlist™ 1 herbicides when winds are gusty. Drift potential is lowest at wind speeds less than 16 km/h. Target applications at wind speeds greater than 3 km/h but less than 16 km/h. Do not apply at wind speeds greater than 25 km/h.

Local terrain can influence wind patterns. The applicator should be familiar with local wind patterns and how they affect drift.

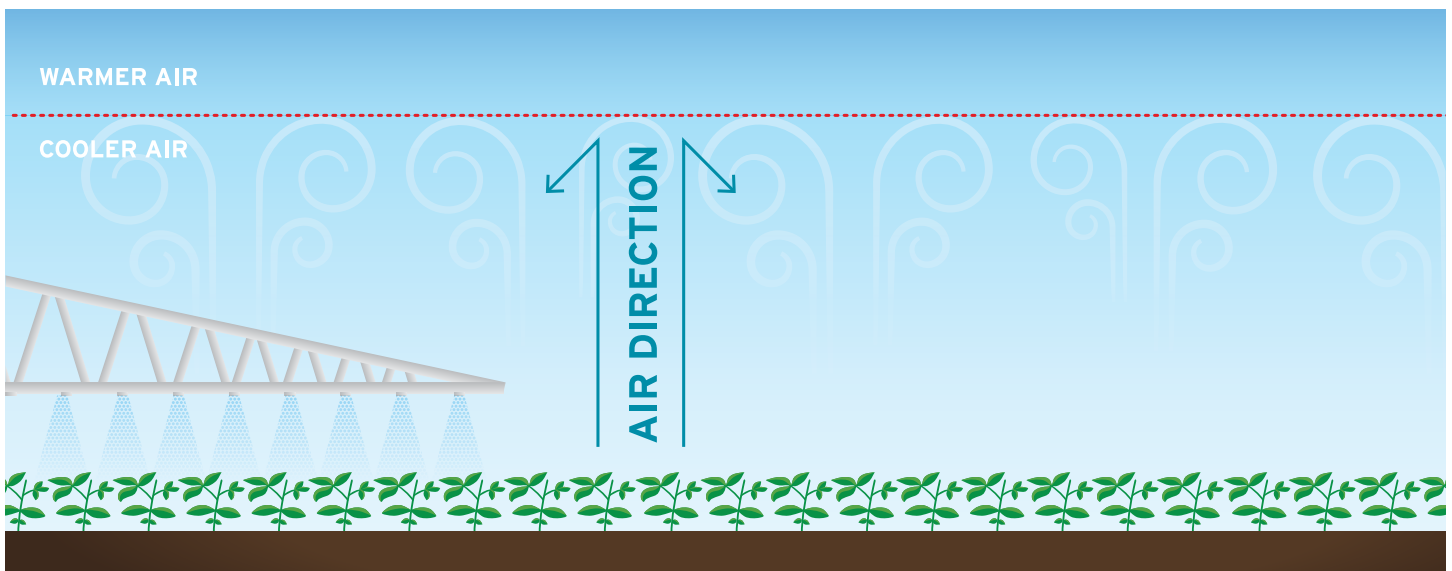
Temperature and humidity

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry. NOTE – there are no temperature restrictions for the application of Enlist Duo or Enlist 1. Apply when weeds are actively growing.

Check for a temperature inversion before every application

A temperature inversion occurs when a layer of warm air covers a layer of cooler air and acts like a lid, preventing the cooler air from rising and dissipating into the upper atmosphere. During a temperature inversion, spray particles can become trapped in the warmer layer of air and stay suspended until wind movement increases, resulting in off-target movement. Never spray if you suspect a temperature inversion. You run the risk of damaging susceptible plants in nearby fields, lawns and gardens. Wait until later in the day and check again for a more favourable application environment.

Don't Spray During Temperature Inversions



Before every herbicide application, use steps like these to make sure a temperature inversion is not occurring:

- Monitor temperatures using weather apps for your smart phone when planning an application, and always check conditions in the field. If temperature is within 3 degrees Celsius of the overnight low, closely check wind speed and particle movement in the field.
- Measure wind speed using an anemometer. If wind is less than 3 km/h, do not spray.
- Use smoke or powder, to indicate particle movement. The smoke or powder should drift gently with the wind. If it gathers in a stationary, suspended cloud, that indicates a temperature inversion – do not spray.
- Measure the temperature at ground level (approximately 1 metre or 3 feet) and at 2 metres or 7 feet above ground.

If the difference is more than a few degrees, it is considered an inversion.

Susceptible plants

Do not apply under circumstances where spray drift may occur to food, forage or other plantings that might be damaged, or crop production rendered unfit for sale, use or consumption. Vegetables, flowers, grapes, fruit trees and other desirable plants are sensitive to 2,4-D and glyphosate, even in minute quantities. Care should be taken to avoid spraying these types of plants or allowing spray mist to drift onto these plants during both their growing and dormant periods. Coarse sprays are less likely to drift.

Buffer zones to protect sensitive habitats

A one metre buffer is required between the point of direct application and the closest downwind edge of sensitive terrestrial habitats (such as grasslands, forested areas, shelter belts, woodlots, hedgerows, riparian areas and shrublands), sensitive freshwater habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs and wetlands) and estuarine/marine habitats.

When a tank mixture is used, consult the labels of the tank-mix partners and observe the largest (most restrictive) buffer zone of the products involved in the tank mixture.

Drift control

Enlist herbicides with Colex-D™ technology contain drift control technology. Using adjuvants and drift control additives with Enlist herbicides may have a negative impact on spray stability and application performance. The addition of some adjuvants may also result in increased crop injury, decreased weed control, and/or increased potential for spray drift. When a drift control additive is used, read and carefully observe the precautionary statements and all other information appearing on the product label.





Tank-mixing with Enlist™ herbicides



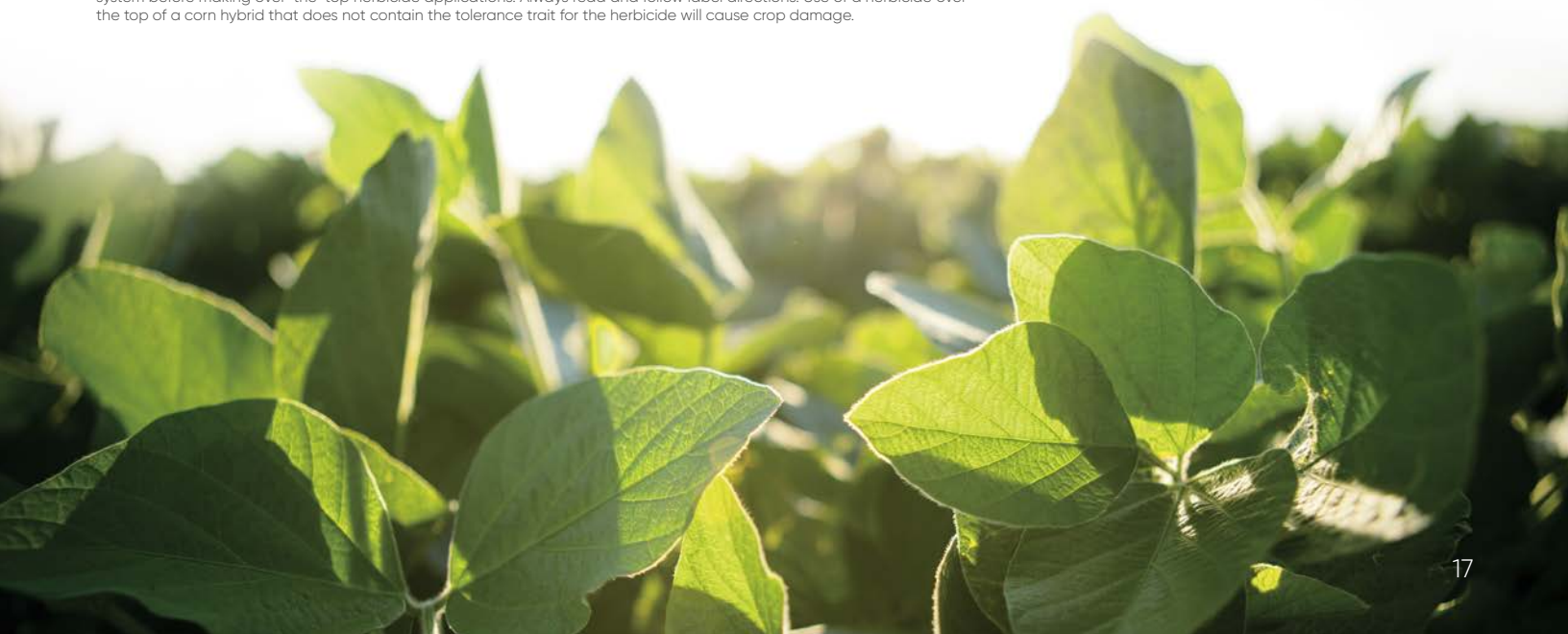
Applying an Enlist™ herbicide in a tank mix with other products

The wide application window for Enlist herbicides offers opportunities for tank mixes with other registered products, such as other herbicides, insecticides, fungicides, micronutrients and adjuvants.

Key items to remember:

- A tank mix of an Enlist herbicide and other registered herbicides allows applicators to spray multiple modes of action for control of resistant weeds.
- For hard-to-control weeds and fields that have glyphosate resistant biotypes present, a tank-mix of Enlist™ 1 and Liberty® 200 SN should be considered.⁷
- For heavy grass pressure, and glyphosate susceptible broadleaves, farmers can either use Enlist Duo herbicide, a convenient blend of 2,4-D choline and glyphosate, or a tank-mix of Enlist 1 + glyphosate.

⁷Some Bt corn hybrids are available with Roundup Ready® and LibertyLink® herbicide tolerance traits, making them tolerant to over-the-top applications of glyphosate and glufosinate-ammonium (Liberty® 200 SN) herbicides. Verify the weed control system before making over-the-top herbicide applications. Always read and follow label directions. Use of a herbicide over the top of a corn hybrid that does not contain the tolerance trait for the herbicide will cause crop damage.



Tank-mix sequence procedures

- Start with a clean sprayer before mixing a load with Enlist™ 1 or Enlist Duo™ herbicide.
- Recommended water carrier volume with Enlist™ herbicides is 10 to 15 gallons per acre.
- Use qualified nozzles and corresponding pressure ranges. See Pages 13 and 14.

Begin with half-full tank of water carrier.

Begin agitation and continue throughout mixing process.

Add products one at a time, in the following order:

1. Pre-slurry water-soluble packets	5. Emulsifiable concentrates (EC)
2. Wettable powders/dry flowables	6. Soluble liquids (SL) <ul style="list-style-type: none">• Glyphosate products,• Glufosinate products, including Liberty® 200 SN herbicide• Enlist Duo herbicide or Enlist 1 herbicide
3. Liquid flowables	7. Crop oil concentrate (COC), NIS, other adjuvants
4. Capsule suspension (CS) or suspension emulsion (SE)	8. Top off with water carrier



Note on mixing with glyphosate products:

When mixing with Enlist 1, do not pour glyphosate products into the tank at the same time as Enlist 1 and do not allow concentrated products to come into contact. Add products one at a time, allowing enough time for recirculation between additions of each separate product. Failure to add products one at a time, lack of sufficient water during mixing or not allowing sufficient agitation may result in salting out. The minimum recommended water volume for a tank-mix of Enlist 1 and high load glyphosate (480–540 grams/Litre) is 10 gallons per acre.

Tank mixtures

In some cases, tank mixing a pest control product with another pest control product or a fertilizer can result in biological effects that could include, but are not limited to, reduced pest efficacy or increased host crop injury. Contact us at Corteva.ca/contact for information before mixing any pesticide or fertilizer that is not specifically recommended on the Enlist Duo or Enlist 1 herbicides label. The user assumes the risk of losses that result from the use of tank mixes that do not appear on the label or that are not specifically recommended in this Product Use Guide.

Tank mixing with other products

Some herbicides, fungicides, micronutrients and insecticide products may require drift management and application settings that differ from Enlist herbicides. Additionally, the formulation components of some products may contain inert ingredients that negatively affect the low-drift properties offered with Enlist herbicides with Colex-D™ Technology. Tank mix to the most restrictive product label. If the most restrictive label reduces the agronomic benefit of the tank mix partner to an unacceptable level (i.e. a fungicide being applied in a coarse droplet), these products should not be tank-mixed with Enlist Duo or Enlist 1 Herbicides. Read and follow label directions of all products in the tank mixture.

Restrictions

- Do not apply Enlist Duo™ or Enlist™ 1 herbicide by air or by a boomless ground sprayer
- Do not apply more than two post-emergent applications per use season
- For Enlist Duo, do not apply more than 8.6 L/ha (3.5 L/ac) per use season. For Enlist 1, do not apply more than 3.6 L/ha (1.46 L/ac) per use season.
- Heavy rainfall immediately after application may wash the chemical off the foliage and a repeat treatment may be required. Enlist Duo or Enlist 1 should not be applied when rainfall is expected within 2 hours of completion of the application

Pre-Harvest Interval

- Do not permit lactating dairy animals to graze fields within 7 days after application
- Do not harvest forage or cut hay within 30 days after application
- Withdraw meat animals from treated fields at least 3 days before slaughter
- Do not graze treated Enlist E3 soybeans
- Do not harvest Enlist E3 soybeans for forage or hay

Recropping

- Following an Enlist Duo or Enlist 1 herbicide application
 - There are no crop rotational restrictions in the following season (10 months after applications)
 - During the growing season if replanting is required following application of Enlist Duo or Enlist 1 herbicide, observe all planting restrictions for 2,4-D pre-plant applications (i.e. delay planting a crop sensitive to 2,4-D)

Record Keeping

As part of good farm management practices, maintain detailed spray records, including:

- Field location and number of acres sprayed
- Crop sprayed and stage of growth
- Date of application, start time, and finish time
- Herbicide sprayed and application rate
- Nozzles used and operating pressure
- Travel speed and application rate
- Air temperature and relative humidity
- Wind speed and direction
- Sprayer and boom clean out



Sprayer and Equipment Clean Out

To avoid injury to desirable plants, thoroughly clean equipment used to apply this product before re-use or using it to apply other chemicals.

STEP 1

Immediately after spraying, completely drain the sprayer tank. Any contamination on the outside of the spraying equipment should be removed by washing with clean water.

STEP 2

First rinse:

- Spray the inside of tank with clean water and fill the sprayer with at least one tenth of the spray tank volume
- Agitate and circulate for 15 minutes, and flush through booms and hoses
- Remove end caps or open ball valves on the ends of each boom section, and flush solution through the boom ends to ensure there is no spray solution trapped between the boom end and the nozzles
- Drain tank completely

STEP 3

Second rinse:

- Fill the tank with clean water
- Add All Clear Spray Tank Decontaminator, or Clean-Out Spray Tank Cleaner, or 1 L of household ammonia (containing a minimum of 3 % ammonia) per 100 L of water, or similar tank cleaning agent as per manufacturer's recommendations while filling the tank with clean water
- Agitate and then flush the boom and hoses with the cleaning solution. Top up with water making sure the tank is completely full. Allow to stand for 15 minutes with agitation. Flush the solution out of the spray tank through the spray booms.

- Remove end caps or open ball valves on the ends of each boom section, and flush solution through the boom ends to ensure there is no spray solution trapped between the boom end and the nozzles
- If possible, let the solution stand in the sprayer tank and booms for an extended period of time, overnight if possible
- After flushing the boom and hoses, drain tank completely
- Remove nozzles and screens and clean separately with a cleaning agent or an ammonia solution (100 mL in 10 L water)

STEP 4

Third rinse:

- Rinse the tank with clean water and flush through the boom and hoses using at least one tenth of the spray tank volume
- Remove end caps or open ball valves on the ends of each boom section, and flush solution through the boom ends to ensure there is no spray solution trapped between the boom end and the nozzles
- Drain tank completely

Do not use ammonia with chlorine bleach. Using ammonia with chlorine bleach will release a gas with a musty odour which may cause eye, nose, throat and lung irritation. Do not clean equipment in an enclosed area.

Application summary

Apply with confidence

Successful use of Enlist™ herbicides begins with proper application. Below is a summary of best management practices for applying an Enlist herbicide. Always read and follow label requirements.

BEFORE SPRAYING



Application window

Apply Enlist herbicides within the appropriate growth stage windows.

Enlist E3™ soybean: No later than R2 or full flowering stage

Enlist™ corn: No later than V8 growth stage or 120 cm (48 inches) tall, whichever happens first



Tank-mixing

Follow Enlist Duo™ or Enlist™ 1 label recommendations. Tank-mixes must always be used in accordance with the most restrictive label restrictions and precautions.⁸



Nozzles

Use only nozzle and pressure combinations that will produce **Coarse to Extremely Coarse** spray droplets.⁹



Sprayer contamination

Clean your sprayer before using Enlist herbicides to avoid contamination from a prior application.

PAY SPECIAL ATTENTION TO WIND AND WEATHER CONDITIONS



Wind speed, weather

Wind speed: Drift potential is lowest at wind speeds less than 16 km/h. Target applications at wind speeds greater than 3 km/h but less than 16 km/h. If wind is less than 3 km/h, do not spray.

Caution: Do not apply at wind speeds greater than 25 km/h.

Temperature inversions: Do not spray during a temperature inversion.

Caution: Inversions are more common between dusk and dawn



Susceptible crops

Spray when wind is blowing away from susceptible crops or sensitive habitats.

This includes: tomatoes, fruiting vegetables, cucurbits, grapes, tobacco or sensitive habitats.

Caution: Do not spray if wind is blowing toward an adjacent susceptible crop.

⁸Products listed in this guide have not been tested for crop response. Listing in this guide does not imply agronomic recommendation or endorsement of use.
⁹Always read and follow the product label as well as Provincial and local requirements.

APPLICATION



Spray volume

Use a spray volume of 100 - 150 L/ha (10 to 15 GPA) for ground equipment and apply with calibrated ground equipment.

Do not apply less than 50 L/ha (5 GPA) of total spray volume. In general, increase spray volume as crop canopy, height and weed density increase to obtain adequate spray coverage.¹⁰



Spray rate

Use spray rates from the product label when weeds are shorter than 15 cm (6 inches) and crops are within the appropriate growth stage window.

Enlist Duo™ herbicide: Spray 2.9 – 4.3 L/ha (1.18 L/ac to 1.74 L/ac) depending on the weeds present.

Enlist 1 herbicide: Spray 0.73 – 1.8 L/ha (0.3 to 0.73 L/ac) depending on the weeds present.



Spray pressure

Use an appropriate spray pressure based on product label requirements and conditions. Ground speed, product volume and nozzle selection all factor into the appropriate spray pressure.



Boom height

To minimize spray drift potential, maintain a boom height as specified by the nozzle manufacturer, and must be 60 centimeters or less above crop canopy.¹⁰

AFTER SPRAYING



Cleanout

After applying an Enlist herbicide, follow the proper steps to clean out your sprayer. A triple rinse cleaning procedure is required as outlined on page 20 of this Product Use Guide.

¹⁰Always read and follow the product label as well as Provincial and local requirements.



Using the Enlist™ weed control system to help prevent herbicide resistance development

Glyphosate technology became the farm industry standard for weed control for many farmers. But using glyphosate as the primary, or only, herbicide mode of action has resulted in an increase in glyphosate-resistant and hard-to-control weeds, including waterhemp, Canada fleabane, volunteer glyphosate tolerant canola, giant ragweed and others. Repeated use of any single herbicide may reduce its effectiveness for weed control.

You can help manage weed resistance with an understanding of herbicide resistance and taking steps to prevent it.

How weed resistance spreads

For the first few years you use a herbicide, **targeted** weeds are controlled. However, if you repeatedly apply the same herbicide – or herbicides with the same mode of action – a few naturally occurring **resistant** weeds can remain in the field each year. As time goes on and resistant weeds thrive, the weed population starts to contain an even larger number of resistant weeds. Over time, the resistant weeds become the dominant population – rendering the herbicide no longer effective on that species.

The Enlist™ weed control system provides an effective tool to use against these herbicide-resistant weeds including glyphosate, ALS- and HPPD-resistant weeds. Use the Enlist system as part of an integrated weed management program to deliver the exceptional performance you need.



Take advantage of different herbicide modes of action

It is a best practice to minimize selection for herbicide-resistant weed populations by proactively diversifying weed control strategies. A diversified weed management program may include the use of multiple herbicides with different modes of action and an overlapping weed control spectrum in combination with other practices, such as tillage operations and/or other cultural practices where appropriate. Using the labeled rate for herbicides and following directions for use is important to help prevent the onset of resistance.

The Weed Science Society of America (WSSA) classifies 2,4-D as a Group 4 herbicide (synthetic auxin) and glyphosate as a Group 9 herbicide (inhibitor of EPSP synthase). As with some herbicides, some naturally occurring weed biotypes that are resistant to 2,4-D or glyphosate may exist due to genetic variability in a weed population.

Steps to help prevent weed resistance

Implementing a successful weed resistance management program will help ensure the continued efficacy of the Enlist™ weed control system. These steps are important to the ongoing success of your program.

1 Use a herbicide PROGRAM APPROACH – with multiple modes of action

- Start with a clean field, using either a burndown herbicide application or tillage. Use a broad-spectrum soil residual herbicide with different modes of action in a weed control program, followed by a timely post-emergence application of an Enlist herbicide.
- If resistance is suspected, treat weed escapes with a herbicide that has a mode of action other than Group 4 or 9 (if Enlist Duo™ herbicide was used) or Group 4 (if Enlist™ 1 herbicide was used) and/or use nonchemical methods to remove escapes, as practical, with the goal of preventing seed, root or tuber production.
- Utilize sequential applications of herbicides with alternative modes of action.
- Rotate the use of an Enlist herbicide with non-Group 4 and non-Group 9 herbicides (when using Enlist Duo) or non-group 4 (when using Enlist 1).
- Never use Enlist 1 alone. Always plan a program approach with Enlist 1 plus additional qualified tank-mix partners containing non-group 4 herbicides or sequential post-emergence applications of non-Group 4 herbicides.
- Do not apply more than two post-emergent applications per use season of an Enlist herbicide.

2 Make TIMELY APPLICATIONS of herbicides

- Apply full labeled rates of an Enlist herbicide for the most difficult-to-control weed in the field at the specified time (correct weed size) to minimize weed escapes.

3 SCOUT WEEDS before and after application

- Scout fields before application to ensure herbicides and use rates will be appropriate for the weed spectrum and weed size present.
- Scout fields after application to detect weed escapes or shifts in weed spectrum.
- Early detection of possible resistant species can limit the spread of these weed populations and allow for the implementation of alternate weed management practices.

4 SEE THE BIG PICTURE, beyond the field and the herbicide

- Incorporate non-chemical weed control practices, such as mechanical cultivation, crop rotation, cover crops and weed-free crop seeds, as part of an integrated weed management plan.
- Manage weeds in and around fields, during and after harvest, to reduce weed seed production.
- Thoroughly clean soil and plant residues from equipment before leaving fields suspected to contain resistant weeds.

5 Agronomic and cultural PRACTICES

- Rotate crops and cultural practices to allow for a wider range of weed control practices.
- Use only certified commercial, weed-free crop seed.

Report any incidence of non-performance of an Enlist™ herbicide against a particular weed species to a Corteva Agriscience representative or contact us at [Corteva.ca/contact](https://www.corteva.com/contact).

Patent Statement

Seed containing Enlist technology is protected under one or more patents. Growers are provided a limited license under the Technology Use Agreement to purchase Seed from Seed Seller and to plant Purchased Seed to produce a single commercial crop in Canada. Growers are NOT permitted: (1) to supply, transfer, license or sublicense any Seed or Corteva Agriscience Sourced Technology to any other person, entity or other third party for planting or any other purposes; (2) to save or use any seed produced from Seed for planting by the purchasing Grower, or any other third party; or (3) to use or allow others to use Seed or any plant material produced from Seed for crop breeding, seed production, research (including, without limitation, agronomic testing or generation of comparative data against seed containing Third-Party Trait Technology), or generation of regulatory approval data.

Technology Use Agreement

You must have a valid, executed Corteva Agriscience™ Technology Use Agreement to legally obtain, plant, and grow Enlist™ corn hybrids and Enlist E3™ soybean varieties containing the Enlist technology.

Failure to comply with the terms of the Agreement or this Guide can result in your losing the privilege to grow seed containing the Enlist technology. You must communicate all applicable terms, conditions and restrictions on your Enlist corn and Enlist E3™ soybeans to all persons and entities possessing or taking an interest in your Enlist™ crop and/or the grain produced from the seed containing the Enlist Technology. You may complete the Agreement online at <https://www.agcelerate.ca/>. More information is available at <http://traitstewardship.corteva.ca/>, by visiting Corteva.ca/contact, or by contacting your seed provider.

By signing the Agreement, you receive a limited, non-transferable, revocable, non-exclusive license under the Licensed Rights to purchase Seed from Seed Seller and to plant Purchased Seed to produce a single commercial crop in Canada. In addition, when you purchase Seed and plant Purchased Seed containing Enlist Technology, you shall receive a limited license to apply Enlist™ Herbicide Products in Enlist crops grown from such Purchased Seed. Any modifications to the Licensed Rights will be set forth in an Annual Technology Notification.

By signing the Agreement, you will also receive an annual, updated Product Use Guide and other important updates relating to Enlist corn, Enlist E3 soybeans, Enlist Duo™ and Enlist™ 1 herbicides, and corn insect protection traits.

By purchasing and using technologies and traits under the Agreement, you reaffirm your commitment to the Agreement you signed, and to follow applicable Guide(s) and herbicide product labels. The seed you purchase is for your use and cannot be given, sold or otherwise transferred to others.

Compliance Monitoring

Corteva Agriscience will monitor compliance with the Technology Use Agreement and Product Use Guide(s) through surveys and on-farm assessments. You may receive a request to provide information about the location of fields planted with Enlist™ crops and the herbicides applied to these fields. Failure to follow these stewardship requirements will result in action by Corteva, which may include additional education and training, monitoring, and/or loss of access to the technology.

Crop and grain marketing stewardship

Corteva Agriscience is a member of Excellence Through Stewardship® (ETS). Products are commercialized in accordance with ETS product launch stewardship guidance and Corteva Agriscience's Product Launch Stewardship Policy.

Grain produced from these crops should be shipped to appropriate markets as necessary. Any crop or material produced from these products can only be exported to, used in, processed in, or sold in countries where all necessary regulatory approvals have been granted. It is a violation of national and international law to move material containing biotechnology traits across boundaries into nations where import is not permitted. Talk to your grain handler or product purchaser to confirm their buying position for this product

For further information about your crop marketing options, contact Corteva Agriscience at Corteva.ca/contact. Information regarding the regulatory and market status of agricultural biotechnology products can be found at: www.biotradestatus.com.

Resources

- Enlist website: www.EnlistCanada.ca
- www.corteva.ca
- Corteva Agriscience
 - Corteva.ca/contact
- Trait and Regulatory and market Status: www.biotradestatus.com
- Trait Stewardship: www.TraitStewardship.Corteva.ca
- Canadian Weed Science Society: www.weedscience.ca
- Weed Science Society of America: www.wssa.net
- Herbicide Resistance Action Committee: www.hracglobal.com
- Technology Use Agreement: www.AgCelerate.ca
- International Herbicide-Resistant Weed Database: www.weedscience.org
- CropLife Canada Manage Resistance Now: manageresistancenow.ca

Contact Us

If you have questions about the use of these or any other Corteva Agriscience™ products, proper handling and use of these products or if you become aware of potential misuse or incidents involving these products, visit Corteva.ca/contact.

**MANAGE
RESISTANCE** *Now*
Protect your land, one field at a time


**EXCELLENCE THROUGH
STEWARDSHIP®**
Advancing Best Practices in Agricultural Biotechnology


RESPONSIBLE CARE®
OUR COMMITMENT TO SUSTAINABILITY

CropLife
CANADA 

For additional information and resources about the Enlist weed control system, please visit enlistcanada.ca.





Regulatory approvals are pending in other geographies for crops containing Enlist herbicide tolerance traits. Roundup Ready is a registered trademark of Monsanto Technology LLC. Always follow weed resistance management, insect resistance management, grain marketing and all other stewardship practices and pesticide label directions. Enlist™ corn contains genes that confer tolerance to 2,4-D, glyphosate, and quizalofop. Enlist E3™ soybeans contain genes that confer tolerance to 2,4-D, glyphosate and glufosinate. Roundup Ready crops contain genes that confer tolerance to glyphosate herbicides. Glyphosate herbicides will kill crops that are not tolerant to glyphosate. ®Excellence Through Stewardship is a registered trademark of Excellence Through Stewardship. Always read and follow label directions.

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The transgenic soybean event in Enlist E3™ soybeans is jointly developed and owned by Dow AgroSciences LLC and M.S. Technologies, L.L.C. The Enlist weed control system is owned and developed by Dow AgroSciences LLC.

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