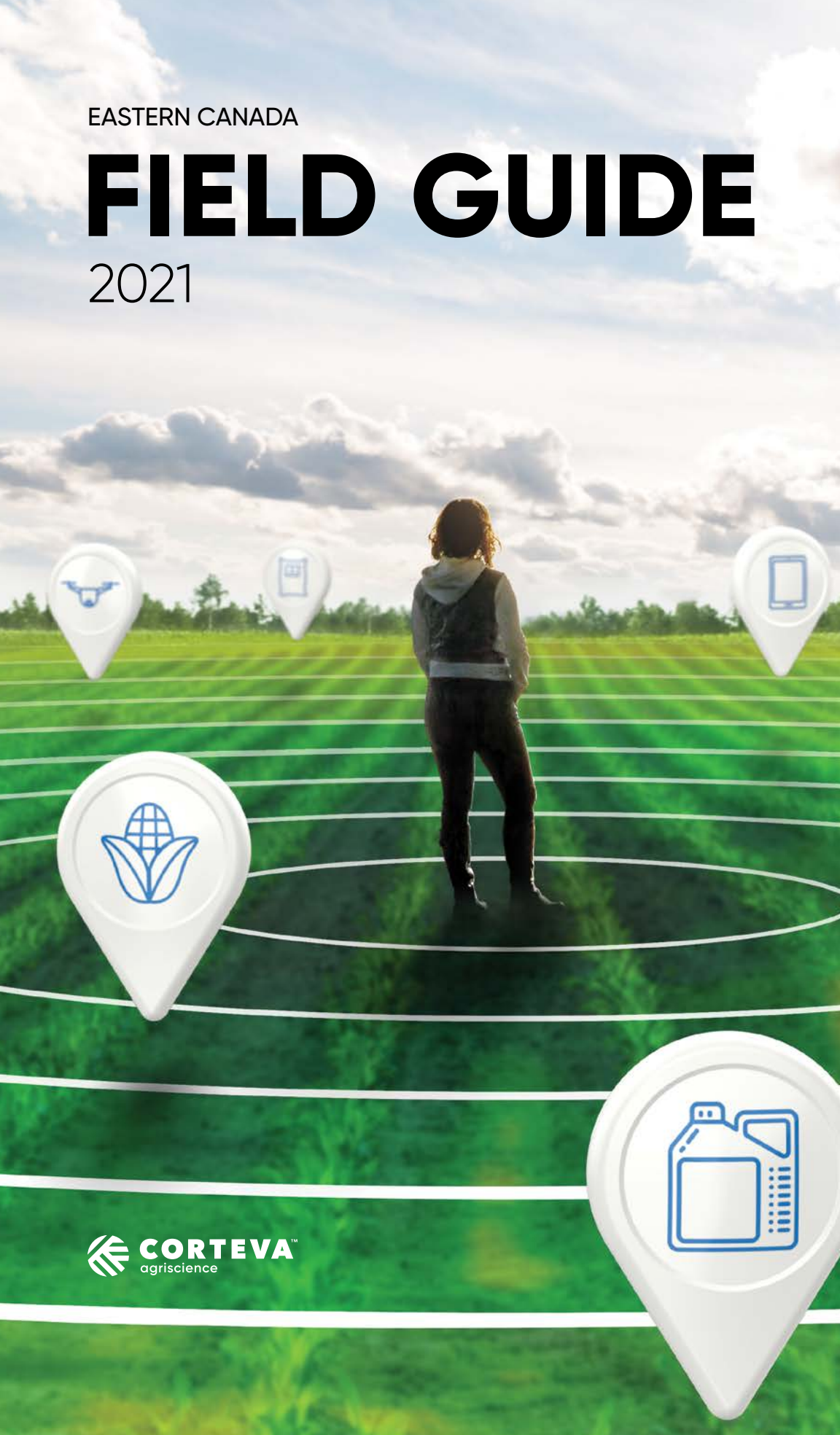


EASTERN CANADA

# FIELD GUIDE

2021



# Innovation at Corteva Agriscience

## OUR PURPOSE:

To enrich the lives of those who produce and those who consume, ensuring progress for generations to come.

Our R&D organization strives to be the best at designing, discovering and developing innovations that create value for farmers and deliver consumer benefits in planet-friendly ways.

## Key Sources of Differentiation



### Germplasm

Developed through 90-plus years of expertise, our germplasm library is unparalleled in its breadth and depth and is focused squarely on helping farmers improve their performance and profitability.



### Targeted Breeding

Targeted breeding tools such as CRISPR enable us to explore the development of improved crops in years instead of decades, both in our labs and by licensing our industry-leading intellectual property to other innovators.



### Digital Tools

We combine the latest advances in technologies, artificial intelligence, data analytics and agronomic insights to give farmers timely, actionable data they can use to make more informed decisions and make their operations less complex.



### Environmental Impact and Sustainability

With more Green Chemistry Awards than any other company, we're building on our industry leadership in natural and naturally derived products by continuing to research new ways of helping farmers conserve the land that sustains them.



### Integrated Solutions

Our industry-leading capabilities across seeds, crop protection and digital tools enable us to provide solutions that together create more value for farmers than any solution could on its own.

## QUICK FACTS

Our open and agile agriculture research organization brings together worldwide resources:



**5,000**  
scientists and researchers



**2** innovation hubs:  
• Johnston, Iowa  
• Indianapolis, Indiana



**150+** multi-platform R&D  
facilities in **32** countries



**100+** crops

## INDUSTRY LEADING CAPABILITIES

### Seed

- Genomics and breeding systems
- Biotech
- Advanced phenotyping

### Crop Protection

- Chemistry discovery
- Formulation and process chemistry
- Natural products

### Digital Tools

- Data analytics
- Predictive agriculture tools
- Farm management software

## CLEAR INNOVATION PRINCIPLES



Market driven



Disciplined and accountable



Built to differentiate



Global yet local



Focused on productivity





A large field of green crops, likely corn, with three people walking through them. The people are seen from behind, walking away from the camera. The field is vast and stretches to the horizon. In the background, there are trees and some farm structures. The sky is blue with some clouds.

# **Be in control with leading crop protection solutions**

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# Accent™

## HERBICIDE



Field Corn  
For Grain



Field Corn  
For Silage



Field Corn  
For Forage Fodder



Corn  
For Seed



Sweet Corn

Accent™ herbicide has all you need for control of tough grassy weeds in corn: excellent control, crop safety, wide window of application, and re-cropping flexibility.

### WHY USE ACCENT HERBICIDE?

- Excellent control of grass weeds
- Wide post-emergence window of application
- Crop safety and flexibility. Use Accent on low heat unit corn hybrids as well as many seed corn inbreds and sweet corn varieties

### WEEDS CONTROLLED

- Barnyard Grass
- Foxtail, Green
- Foxtail, Yellow\*
- Old Witchgrass
- Panicum, Fall
- Quackgrass
- Sandbur, Longspine

\* Suppression only.

\*\* Use only on labelled sweet corn varieties

\*\*\* Use only on seed corn inbreds approved by the seed corn company

<sup>1</sup> Recommended non-ionic surfactants include Sidekick®, Citowett Plus, Agral90® and Ag-Surf®.

<sup>2</sup> Non-ionic surfactants may be applied with 28% liquid urea ammonium nitrate (UAN) at 5 L/ha for improved performance on certain weeds.

<sup>3</sup> 1.25% v/v UAN must also be included for tank mixes with Distinct.



## CROPS

Field Corn

Sweet corn\*\*

Seed corn\*\*\*

## ACCENT APPLICATION GUIDELINES

### RATES AND ACRES TREATED

#### Rates:

- 13.5 grams/acre

#### Acres treated:

- 10 ac/pouch
- 20 ac/bottle

### PACKAGING

- 10 acre (4 ha) pouch, containing 4 x 2.5 acre (33.4 g) water soluble bags.
- New 270 gram bottle.

### WHEN TO APPLY

- **Corn (field and seed):** 1- to 8-leaf stage (6 visible collars)
- **Corn (sweet):** 1- to 6-leaf stage

### RAINFAST

- 2 hours

### HERBICIDE TANK MIXES

#### Registered:

Banvel® II  
Callisto® 480SC  
Callisto 480SC  
+ Aatrex Liquid 480  
Distinct

Marksman®  
Pardner®  
Peak® 75 WG plus either  
one of Banvel II or  
Banvel Dry

## Application information

**Annual grasses:** 1- to 6-leaf (up to early tillering, 2-leaf tillers). Annual grasses not emerged at the time of application will not be controlled.

**Quackgrass:** 3- to 6-leaf (10-20 cm in height, leaf extended). Apply when the majority of the quackgrass shoots are actively growing and in the 3- to 6-leaf stage.

**Yellow foxtail:** Apply with 28% liquid urea ammonium nitrate (UAN) at 2 L/ac (5 L/ha) plus a recommended non-ionic surfactant (NIS) or apply with Merge® at 5 L/1000 L.

**Longspine sandbur:** Apply at the 3- to 5-leaf stage.

Accent must be applied with one of the following recommended adjuvants:

NIS<sup>1</sup> plus 28% UAN<sup>2</sup> Rate: 2 L/1,000 L of spray solution + 2 L/ac (5 L/ha)

NIS<sup>1</sup> plus 28% UAN<sup>3</sup> Rate: 2 L/1,000 L of spray solution + 12.5 L/1,000 L

NIS<sup>1</sup> Rate: 2 L/1,000 L

Adapt Oil Concentrate Rate: 10 L/1,000 L

Merge® Rate: 5 L/1,000 L

Sure-Mix® Rate: 5 L/1,000 L

## Crop rotation

**4 months:** winter wheat

**10 months:** spring barley, canola, soybeans, white beans, red clover, sorghum, field corn and alfalfa

## Pre-harvest interval

- The PHI for corn (silage, fodder or grain) is 30 days.
- The PHI for sweet corn is 40 days

# Broadstrike™ RC

## HERBICIDE



Field Corn



Soybeans

Broadstrike™ RC herbicide is your soil applied broadleaf weed control solution for soybeans.

### WHY USE BROADSTRIKE RC HERBICIDE?

- Soil-applied weed control solution
- Season-long control
- Outstanding crop safety in all soybean varieties

### WEEDS CONTROLLED

#### Field corn (25 g/ac)

- Canada Fleabane<sup>1</sup>
- Chickweed, Common
- Lamb's-quarters, Common<sup>4</sup>
- Mustard, Wild
- Mustard, Wormseed
- Nightshade, Eastern Black
- Pigweed, Redroot<sup>4</sup>
- Ragweed, Common<sup>2,3</sup>
- Velvetleaf

#### Soybeans (35 g/ac)

- Canada Fleabane<sup>1</sup>
- Carrot, Wild<sup>2</sup>
- Chickweed, Common
- Cocklebur<sup>3</sup>
- Foxtail, Green<sup>2</sup>
- Horsetail, Field<sup>2</sup>
- Lady's-thumb<sup>2</sup>
- Lamb's-quarters, Common<sup>4</sup>
- Mustard, Wild
- Mustard, Wormseed
- Nightshade, Eastern Black
- Pigweed, Redroot<sup>4</sup>
- Ragweed, Common<sup>2,3</sup>
- Velvetleaf

<sup>1</sup> Populations resistant to Group 2 herbicides exist in certain areas of Eastern Canada. Broadstrike RC alone may not control all weed biotypes resistant to Group 2 herbicides.

<sup>2</sup> Suppression

<sup>3</sup> If weed pressure in soybeans is heavy, tank mix with another product that provides a different mode of action.

<sup>4</sup> Including triazine-tolerant biotypes

## CROPS

Field Corn

Soybeans

## BROADSTRIKE RC APPLICATION GUIDELINES

### RATES AND ACRES TREATED

#### Rates:

- **Soybeans:** 35 g/ac
- **Field corn:** 25 g/ac

#### Acres treated:

- **Soybeans:** 20 ac/bottle
- **Field corn:** 28 ac/bottle

**Water volume:** 10-20 US gal/ac

### PACKAGING

#### Case:

- 10 x 0.715 kg bottles

### WHEN TO APPLY

- **Soybeans:** Surface Pre-plant, pre-plant incorporated, pre-emergence
- **Field corn:** Surface Pre-plant, pre-emergence, pre-plant incorporated, early post-emergence

### RAINFAST

- 2 hours

### HERBICIDE TANK MIXES

#### Field Corn:

##### Registered:

Dual II Magnum®

##### Supported:

Atrazine  
Elevore™ herbicide  
Enlist Duo™ herbicide  
VP480™ herbicide  
Polaris™ MAX herbicide  
Other straight glyphosate products

#### Soybeans:

##### Registered:

Dual II Magnum  
Treflan™ E.C.  
Other straight  
glyphosate products

##### Supported:

Boundary®  
Elevore  
Enlist Duo  
VP480

## Application information

Apply Broadstrike RC™ in conventional, conservation tillage or no-till corn, and soybean production systems.

**Field corn:** Do not apply to areas where the soil pH is greater than 7.8 or where the soil organic matter is less than 2.0%.

**Soybeans:** Do not apply to areas where the soil pH is greater than 7.8 and organic matter is less than 2% (both apply) as this may result in decreased crop tolerance.

## Crop rotation

**4 months:** winter wheat

**10 months:** spring wheat, spring barley, oats, soybeans, common beans (dry, snap), lima beans, processing peas, field corn and seed corn

**Rotational crop restrictions:** Following an application of Broadstrike RC in a dry year, the risk of injury to rotational crops may increase in light-textured soils containing less than 2% organic matter due to a higher bioavailability of herbicide residues for plant uptake.

## Pre-harvest interval

- The PHI is 90 days.



# Canopy™ PRO



Soybeans

## HERBICIDE

Canopy™ PRO pre-emergence herbicide delivers broad-spectrum and residual activity to help maximize early-season control of tough weeds.

### WHY USE CANOPY PRO HERBICIDE?

- Powerful weed control performance
- Proactive weed resistance management
- Production system flexibility

### WEEDS CONTROLLED

#### Broadleaf weeds

- Buckwheat, Wild
- Canada Fleabane<sup>4</sup>
- Carpetweed
- Chickweed, Common
- Cocklebur<sup>1</sup>
- Corn Spurry
- Dandelion
- Hemp-nettle
- Jimsonweed<sup>1</sup>
- Lady's-thumb
- Lamb's-quarters, Common
- Mustard, Wild
- Pigweed, Prostrate
- Pigweed, Redroot
- Potato Vine, Wild
- Ragweed, Common

- Shepherd's-purse
- Smartweed, Green
- Sow-thistle, Annual<sup>5</sup>
- Thistle, Russian
- Velvetleaf
- Woodsorrel, Yellow

#### Annual grasses

- Barnyard Grass<sup>2</sup>
- Cheatgrass<sup>2</sup>
- Crabgrass<sup>2</sup>
- Foxtail, Giant<sup>2</sup>
- Foxtail, Green<sup>2</sup>
- Foxtail, Yellow<sup>2</sup>
- Johnsongrass<sup>2</sup>
- Nutsedge, Yellow<sup>3</sup>
- Panicum, Fall<sup>2</sup>
- Witchgrass<sup>2</sup>

<sup>1</sup> Large-seeded weeds that germinate deep in the soil, such as cocklebur and jimsonweed, may not be fully controlled.

<sup>2</sup> Partial control

<sup>3</sup> Suppression

<sup>4</sup> Including glyphosate-resistant biotypes. Must be tank mixed with Elevore™ or Eragon®.

For RoundupReady 2 Xtend™ soybeans, tank mix with a low volatile dicamba product such as FeXapan™ herbicide Plus VaporGrip™ Technology. For Enlist E3™ soybeans, tank mix with Enlist Duo™.

<sup>5</sup> Must be tank mixed with glyphosate

## CANOPY™ PRO APPLICATION GUIDELINES

### CROPS

Soybeans

#### RATES AND ACRES TREATED

##### Rates:

- 14.4 g/ac + 220 g/ac

##### Acres treated:

- 20 ac/case

##### Water volume:

- 10-20 US gal/ac

#### PACKAGING

##### Case:

- Classic:  
288 g bottle
- TriCor 75 DF metribuzin:  
2 x 2.2 kg jugs

#### WHEN TO APPLY

**PRE:** Apply after planting but prior to crop emergence

**Pre-Plant Burndown:** Apply up to 14 days before planting

#### RAINFAST

- 2 hours

#### HERBICIDE TANK MIXES

##### Registered:

2,4-D Ester  
Dual II Magnum®  
Enlist Duo™<sup>6</sup>  
Eragon®

Eragon® LQ  
FeXapan™ herbicide Plus  
VaporGrip™ Technology<sup>7</sup>  
Frontier® MAX  
Glyphosate

<sup>6</sup> Only for use in Enlist E3™ soybeans

<sup>7</sup> Only for use in Roundup Ready 2 Xtend® soybeans

### Application information

Formulated as a dry flowable granule to be mixed in water and applied as uniform broadcast spray. Only apply using ground equipment. This product is not registered for aerial application.

### Crop rotation

The recropping intervals are dependent on the pH of the soil, as well as the sensitivity of the specific rotational crop. Consult product labels for rotation intervals across a full range of soil pH levels.

Soil pH ≤ 7.4:

**3 months:** winter wheat

**10 months:** field corn, soybeans, white beans and alfalfa

**12 months:** tomatoes

Crops such as onions, celery, peppers, cole crops, lettuce and spinach, sugar beets, table beets and turnips, pumpkin and squash, cucumbers and melons, tobacco and non-triazine-tolerant canola are sensitive to Canopy PRO and may be injured if planted in soil treated with Canopy PRO herbicide during the year of application or the following crop year.

Fall-seeded or cover crops such as wheat, oats and rye may be injured if seeded within the same season as the application of Canopy PRO herbicide.

### Pre-harvest interval

- The PHI is 60 days.

# Classic™

HERBICIDE



Classic™ herbicide offers exceptional control of hard-to-control broadleaf weeds in soybeans.

## WHY USE CLASSIC HERBICIDE?

- **Hard-to-control weeds.** Classic helps you manage some of the toughest weeds including nutsedge, sow-thistle and dandelions
- **Convenience.** Low use rate and easy to tank-mix with PRE and POST herbicides
- **Application flexibility.** Classic has a wide window of application from 14 days pre-plant up to early post-emergence

## WEEDS CONTROLLED

Weeds controlled at 14.4 g/ac + Non-ionic surfactant at 0.2% v/v

- Bean, Adzuki<sup>1</sup>
- Carrot, Wild<sup>2</sup>
- Dandelion<sup>1</sup>
- Nutsedge, Yellow
- Pigweed, Redroot
- Ragweed, Common
- Velvetleaf

Additional weeds controlled when tank-mixed with glyphosate at 900 g ae/ha

- Annual sow-thistle
- Prickly lettuce

<sup>1</sup> Top growth control

<sup>2</sup> Suppression



## CROPS

Soybeans

## CLASSIC APPLICATION GUIDELINES

### RATES AND ACRES TREATED

**Rates:**

Classic: 14.4 g/ac

**Acres treated:**

• 20 ac/288 g bottle

• 40 ac/576 g bottle

**Water volume:**

• 15–20 US gal/ac

### PACKAGING

• 288 g bottle

• 576 g bottle

### WHEN TO APPLY

**Crop Stage:**

**Soil applied:** Apply 14 days pre-plant up to pre-emergence

**Post-emergence:** Apply from soybean emergence up to just before the initiation of flowering. For best performance apply by the 3<sup>rd</sup> trifoliate stage

### RAINFAST

• 2 hours

### HERBICIDE TANK MIXES

**Registered:**

Assure® II

Glyphosate

Metribuzin 75 DF

Imazethapyr 240 SL

**Supported:**

Elevore

Enlist Duo™<sup>3</sup>

Enlist™ 1<sup>3</sup>

FeXapan™<sup>4</sup>

<sup>3</sup> Only for use in Enlist E3™ soybeans

<sup>4</sup> Only for use in Roundup Ready 2 Xtend™ soybeans

## Application information

Add a registered NIS such as Agral 90® or Ag-Surf® at 2 L per 1,000 L of spray solution (0.2% v/v).

For more consistent control of velvetleaf, add 28% UAN at 0.8 L/ac

For tank-mixes with glyphosate, a non-ionic surfactant is not required.

Apply Classic only once per year.

## Crop rotation

The recropping intervals are dependent on the pH of the soil, as well as the sensitivity of the specific rotational crop. Consult product labels for rotation intervals across a full range of soil pH levels.

**3–4 months:** winter wheat

**10 months:** field corn, white beans, soybeans and alfalfa (soil pH value <7.4 only)

**11 months:** cabbage, garden peas and sweet corn (southern Ontario only, pH value <7.0 only)

**12 months:** tomatoes

**Rotational crop restrictions:** Warning: sweet corn varieties may vary in their sensitivity to Classic residues.

## Pre-harvest interval

• The PHI 60 days.

NEW

# Commenza™



Soybeans

## HERBICIDE

Commenza™ herbicide provides three active ingredients and residual activity for soil applied cross-spectrum broadleaf and grass control in soybeans. Multi-mode of action technology ensures robust performance against resistant and hard-to-control weeds.

### WHY USE COMMENZA HERBICIDE?

- **Soil-applied weed control solution.** Commenza is a pro-active approach to establish early season control of most major annual weeds in soybeans. For IP soybeans, this is essential to starting the growing season clean
- **Multi-mode of action.** Commenza contains 3 proven active ingredients from 3 herbicide groups for overlapping effective modes of action on key weeds such as Eastern Black nightshade
- **Convenience and confidence.** 20 acre co-pack is easy to handle and measure. A complete herbicide program from one manufacturer provides you with confidence and assurance of performance

### WEEDS CONTROLLED

- |                                   |  |  |
|-----------------------------------|--|--|
| • Barnyard Grass                  | • Horsetail, Field <sup>2</sup>                                    | • Nightshade, Eastern Black              |
| • Canada Fleabane <sup>1</sup>    | • Jimsonweed (pre-emergence only)                                  | • Nutsedge, Yellow (PPI only)            |
| • Carpetweed (pre-emergence only) | • Johnson Grass (seedling)   | • Old Witchgrass                         |
| • Carrot, Wild <sup>2</sup>       | • Lady's-thumb (suppression if pre-plant incorporated application) | • Panicum, Fall                          |
| • Cheatgrass                      | • Lamb's-quarters, Common <sup>4</sup>                             | • Pigweed, Prostrate                     |
| • Chickweed, Common               | • Mallow, Prickly (pre-emergence only)                             | • Pigweed, Redroot <sup>1,4</sup>        |
| • Cocklebur <sup>3</sup>          | • Mustard, Wild  | • Ragweed, Common <sup>1,2,3</sup>       |
| • Corn Spurry                     | • Mustard, Wormseed  | • Shepherd's-purse                       |
| • Crabgrass, Hairy                | • Nightshade, American   | • Smartweed, Green                       |
| • Crabgrass, Smooth               |  | • Thistle, Russian                       |
| • Dandelion (seedling)            |  | • Velvetleaf                             |
| • Foxtail, Giant                  |  | • Wild Potato Vine                       |
| • Foxtail, Green                  |  | • Yellow Woodsorrel (pre-emergence only) |
| • Foxtail, Yellow                 |  |  |

<sup>1</sup> Populations resistant to Group 2 herbicides exist in certain areas of Eastern Canada. Commenza alone may not control all weed biotypes resistant to Group 2 herbicides.

<sup>2</sup> Suppression

<sup>3</sup> If weed pressure in soybeans is heavy, tank mix with another product that provides a different mode of action.

<sup>4</sup> Including triazine-tolerant biotypes

## COMMENZA™ APPLICATION GUIDELINES

### CROPS

Soybeans

#### RATES AND ACRES TREATED

**Rates:**

- 35 g/ac + 225 g/ac + 525 ml/ac

**Acres treated:**

- 20 ac/case

**Water volume:**

- 10-20 US gal/ac

#### PACKAGING

**Case:**

- Broadstrike RC:  
715 g bottle
- Metribuzin Mx 75 DF:  
4.5 kg jug
- S-Metolachlor 960:  
10.5 L jug

#### WHEN TO APPLY

**Soybean Application Methods:**

Surface pre-plant, pre-emergence, pre-plant incorporated

#### RAINFAST

- 2 hours

#### HERBICIDE TANK MIXES

**Registered:**

Glyphosate

**Supported:**

Elevore™ herbicide

Enlist Duo™ herbicide<sup>5</sup>

Enlist™ 1 herbicide<sup>5</sup>

FeXapan™ herbicide Plus VaporGrip™ Technology<sup>6</sup>

<sup>5</sup> Only for use in Enlist E3™ soybeans

<sup>6</sup> Only for use in Roundup Ready 2 Xtend® soybeans

### Application information

Apply Commenza in conventional, conservation tillage or no-till soybean production systems.

**Soybeans:** Do not apply to areas where the soil pH is greater than 7.8 and organic matter is less than 2% (both apply) as this may result in decreased crop tolerance.

### Crop rotation

**4 months:** winter wheat

**10 months:** spring wheat, spring barley, oats, soybeans, common beans (dry, snap), lima beans, processing peas, field corn and seed corn.

Following an application of Commenza in a dry year, the risk of injury to rotational crops may increase in light-textured soils containing less than 2% organic matter due to a higher bioavailability of herbicide residues for plant uptake.

### Pre-harvest interval

- The PHI is 90 days.



# Destra™ IS



Field Corn

## HERBICIDE

Destra™ IS herbicide delivers convenient, one-pass, early post-emergence weed control in glyphosate-tolerant corn.

### WHY USE DESTRA IS HERBICIDE?

- **Easy to Use.** Advanced dry blend formulation and low use rate of Destra IS makes sprayer loading efficient and allows you to cover more acres
- **Wide application window.** Destra IS has both knockdown and residual activity allowing you to start as early as the 3 leaf stage and spray as late as the 8 leaf stage
- **Excellent crop safety.** Because Destra IS contains isoxadifen, a built-in safener, Destra IS provides crop safety on a wide range of hybrids including short-season corn hybrids

### WEEDS CONTROLLED

- Canola, Volunteer<sup>1</sup>
- Foxtail, Green
- Lamb's-quarters, Common
- Nightshade, Eastern Black
- Old Witchgrass
- Panicum, Fall
- Pigweed, Green
- Pigweed, Redroot
- Quackgrass\*
- Ragweed, Common\*
- Velvetleaf

\* Suppression

<sup>1</sup> Excluding Clearfield® canola

## CROPS

Field Corn

## DESTRA™ IS APPLICATION GUIDELINES

### RATES AND ACRES TREATED

**Rates:**

- Destra IS: 110 g/ac

**Acres treated:**

- 40 ac/4.4 kg jug

**Water volume:**

- 15-20 US gal/ac

### PACKAGING

**Case:**

- 2 x 4.4 kg jugs

### WHEN TO APPLY

**Crop Stage:** 3 to 8 leaf stage of corn  
(2-6 visible collars)

**Weed Stage:** Ideal application timing is when weeds are small and the extended residual activity can help to control later flushes of weeds.

### RAINFAST

- 2 hours

### HERBICIDE TANK MIXES

**Registered:**

Glyphosate (glyphosate-tolerant corn only)  
AAtrex® Liquid 480

**Supported:**

Lontrel™ XC

## Application information

For post-emergence applications, Destra IS herbicide must be tank mixed with a recommended non-ionic surfactant, either Citowett Plus, Agral® 90 or Ag-Surf® at 2 L per 1,000 L spray solution (0.2% v/v).

When Destra IS herbicide is tank mixed with a glyphosate herbicide, a non-ionic surfactant is not required.

## Crop rotation

**4 months:** winter wheat

**10 months:** field corn

**11 months:** soybeans and white beans

## Pre-harvest interval

- The PHI is 100 days.

# Diligent™



Soybeans

## HERBICIDE

Diligent™ herbicide offers flexible defense against a range of tough and resistant broadleaf weeds in soybeans, including glyphosate-resistant waterhemp.

### WHY USE DILIGENT HERBICIDE?

- **Early control for a strong start.** It can be applied from early pre-plant to pre-emergence
- **Two modes of action defend against resistance.** With a multi-mode defense against Group 2, 5 and 9 resistant broadleaf weeds, Diligent provides a proactive approach to weed resistance management
- **Flexible defense.** Diligent can be used in any production system, including Enlist E3™ soybeans, Roundup Ready 2 Xtend® soybeans or identity-preserved (IP)

### WEEDS CONTROLLED

- Amaranth, Palmer
- Chickweed, Common
- Dandelion<sup>1</sup>
- Foxtail, Green<sup>2</sup>
- Lamb's-quarters, Common
- Nightshade, Eastern Black
- Nightshade, Hairy
- Panicum, Fall<sup>2</sup>
- Pigweed, Green
- Pigweed, Redroot
- Ragweed, Common
- Waterhemp<sup>3</sup>

<sup>1</sup>Early-season control on medium-textured soils

<sup>2</sup>Suppression

<sup>3</sup>Including biotypes resistant to herbicide Groups 2, 5 and 9

## CROPS

Soybeans

## DILIGENT™ APPLICATION GUIDELINES

### RATES AND ACRES TREATED

#### Rates:

- Diligent: 70.4 g/ac

#### Acres treated:

- 40 ac/2.816 kg jug

#### Water volume:

- 10–20 US gal/ac

### PACKAGING

#### Case:

- 2 x 2.816 kg jugs

### WHEN TO APPLY

#### Soybeans:

**Pre-plant:** up to 30 days before planting

**Pre-emergence:** Up to 3 days after planting, prior to soybean emergence

### RAINFAST

- 2 hours

### HERBICIDE TANK MIXES

- Prowl® H2O
- Focus® or Zidua™

If weeds are present at the time of application, tank mix Diligent herbicide with a glyphosate herbicide for the burndown of emerged weeds.

## Application information

No-till planters that incorporate the soil during planting may result in decreased weed control in the row. When these types of planters are used, apply Diligent Herbicide within 3 days after planting and before soybeans emerge.

Moisture is necessary to activate Diligent Herbicide in soil for residual weed control.

## Crop rotation

Crop rotation varies by crop and soil pH.

**4 months:** winter wheat

**10 months:** field corn (soil pH  $\leq$  7.8 only) and soybeans (soil pH  $\leq$  7.8 only)

**11 months:** alfalfa (soil pH  $\leq$  7.4 only)

## Pre-harvest interval

- The PHI is 60 days.

**Elevore™**

Arylex™ active

**HERBICIDE**

Field Corn



Soybeans

Use Elevore™ herbicide for a clean start in field corn and soybean crops. Elevore delivers powerful pre-plant burndown of tough broadleaf weeds, including glyphosate-resistant Canada fleabane.

**WHY USE ELEVORE HERBICIDE?**

- **Weed control and resistance management.** Elevore delivers broad-spectrum control of broadleaf weeds, including group 2 and 9 resistant Canada fleabane and common ragweed
- **Flexibility.** Can be used in any soybean trait system including Enlist E3™ and Roundup Ready 2 Xtend® soybeans
- **Consistent performance.** Arylex™ active provides systemic action that gets to the root of the problem

**WEEDS CONTROLLED**

- Canada Fleabane<sup>1,2</sup>
- Cleavers
- Flax, Volunteer
- Hemp-nettle<sup>3</sup>
- Lamb's-quarters, Common
- Pigweed, Redroot<sup>3</sup>
- Ragweed, Common<sup>1</sup>

<sup>1</sup> Including Group 9 and Group 2 resistant biotypes

<sup>2</sup> Light to moderate infestations

<sup>3</sup> Suppression only

## CROPS

Field Corn  
Soybeans

## ELEVORE™ APPLICATION GUIDELINES

### RATES AND ACRES TREATED

**Rates:**

- Elevore: 29.5 ml/ac

**Acres treated:**

- 40 ac/1.18 L bottle

**Water volume:**

- 10-20 US gal/ac

### PACKAGING

**Case:**

- 4 x 1.18 L bottles

### WHEN TO APPLY

**Field corn:** 5 days pre-plant

**Soybeans:** 7 days pre-plant

Apply to actively growing weeds at the 1-8 leaf stage. Only weeds emerged at the time of application will be controlled.

### HERBICIDE TANK MIXES

Elevore™ herbicide can be tank mixed with other effective herbicide groups to target key weed species with at least two or more effective modes of action, including:

**Registered:**

Broadstrike™ RC herbicide

Glyphosate

**Supported Soybean tank-mixes:**

Canopy™ PRO

Commenza™

Diligent™

Freestyle™

Guardian™ MAX

## Application information

Elevore herbicide is a suspension concentrate. Shake bottle before using.

Elevore must be applied with a methyated seed oil (or an equivalent crop oil concentrate) at 0.5-1% v/v.

Planting depth: minimum 4 cm (1.6 inches)

## Crop rotation

**4 months:** winter wheat

**10 months:** vulgaris species (including pinto, kidney and white types), alfalfa, oats, canola, flax, Juncea canola, Abyssinian, oriental, brown and yellow mustard, field peas, sunflower, canaryseed, timothy or fields can be summer fallowed

**22 months:** lentils

## Pre-harvest interval

- The PHI for field corn is 100 days.

- The PHI for soybeans is 125 days



# Engarde™



Field Corn

## HERBICIDE

Engarde™ herbicide gives you flexibility, convenience and performance against yield-robbing weeds in corn, for clean fields from start to finish.

### WHY USE ENGARDE HERBICIDE?

- **Early knockdown and residual control of weeds.** Application flexibility from pre-emergence to the 2-leaf stage of corn allows you to keep spraying even after crop emergence
- **Two modes of action.** Engarde has 2 powerful modes of action to provide early season weed control
- **Easy to use.** Low use rate dry blend technology makes handling, sprayer loading and application easy

### WEEDS CONTROLLED

#### Broadleaf Weeds

- Canola, Volunteer
- Lamb's-quarters, Common
- Mustard, Wild
- Pigweed, Redroot (including triazine resistant)
- Ragweed, Common<sup>1</sup>
- Velvetleaf

#### Grasses

- Barnyard Grass
- Foxtail, Green
- Crabgrass, Hairy/ Large<sup>1</sup>
- Foxtail, Yellow<sup>1</sup>
- Panicum, Fall
- Quackgrass<sup>1</sup>
- Witchgrass

<sup>1</sup> Suppression only

## ENGARDE™ APPLICATION GUIDELINES

### CROPS

Field Corn

#### RATES AND ACRES TREATED

**Rates:**

- Engarde: 139.2 g/ac

**Acres treated:**

- 40 ac/5,568 kg jug

**Water volume:**

- 15-20 US gal/ac

#### PACKAGING

**Case:**

- 2 x 5,568 kg jugs

#### WHEN TO APPLY

**Field corn:**

Pre-emergence

Post-emergence up to the 2 leaf stage

#### RAINFAST

- 2 hours

#### HERBICIDE TANK MIXES

For additional residual annual weed control, tank mix Engarde with a registered, soil-applied grass herbicide

### Application information

For early post-emergence applications, Engarde herbicide must be tank mixed with a recommended non-ionic surfactant, either Agral® 90, Citowett Plus or Ag-Surf® at 2 L per 1,000 L spray solution (0.2% v/v).

When tank mixed with a glyphosate herbicide containing a built-in adjuvant system, a non-ionic surfactant is not required.

### Crop rotation

**4 months:** winter wheat

**10 months:** field corn

**11 months:** soybeans and white beans

### Pre-harvest interval

- The PHI is 100 days.



## The Enlist™ weed control system will change how you think about weed management in soybeans.

Talk to your local seed supplier about the availability of Enlist E3™ soybeans.

### Introducing the Enlist weed control system

The Enlist weed control system will help growers meet the challenge of farming today and in the future.

#### Why use the Enlist weed control system?

- A new system built for Canadian farmers starting with new traits providing herbicide tolerance in soybeans and corn
- Herbicide solutions built on 2,4-D Choline, an improved form of 2,4-D with new Colex-D™ technology
- Includes a stewardship initiative that supports the use of multiple modes of action to address resistant weeds, provides training, and promotes responsible and sustainable use

### Enlist E3™ Soybeans

Enlist E3 soybeans provide high yielding soybean genetics and industry leading multi-mode of action herbicide tolerance.

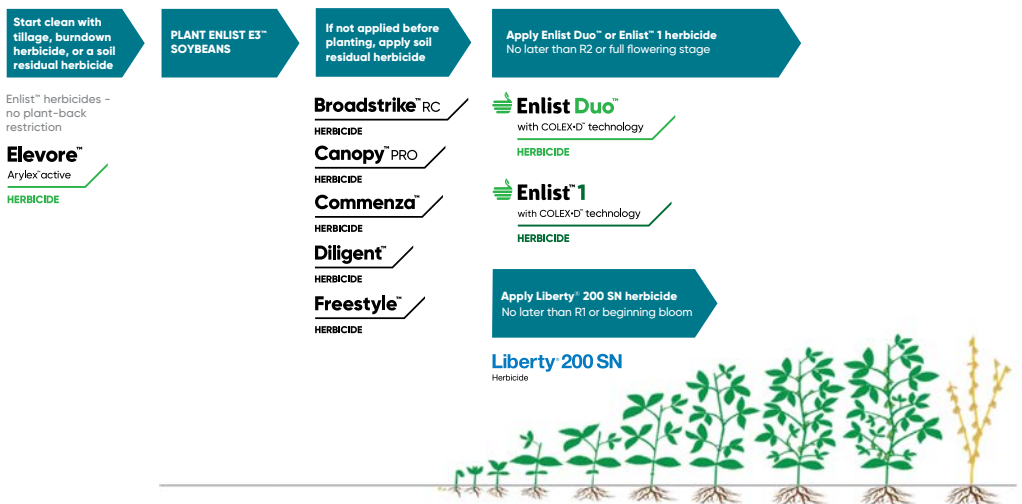
#### Why use Enlist E3 soybeans?

- Enlist E3 soybeans are tolerant to 2,4-D, glyphosate and glufosinate herbicides
- Crop tolerance to Enlist herbicides with Colex-D technology is robust, enabling applications up to the R2 growth stage
- With tolerance to 3 different herbicide modes of action, Enlist E3 soybeans are part of a strong resistance management strategy
- A program approach including other herbicide modes of action and residual herbicides provides an even more sustainable approach to weed management

# Program approach to weed control

## Why use a program approach to weed control?

- The program approach to weed control utilizes multiple tools included in integrated Pest Management (IPM) techniques to control weeds, reduce weed populations, and delay or prevent resistance
- The recommended weed control program for Enlist™ E3™ soybeans is to apply a soil residual or burn-off product with a different mode of action in addition to groups 9 and 4, followed by a post-emergence application of Enlist™ herbicides.
- If a second post application of an Enlist™ herbicide is needed, it must be made at least 12 days after the first application, per the product label.
- Additional Modes of action for in-crop weed control – Glufosinate such as Liberty 200 SN is also a valuable tool that can be incorporated into the Program Approach, allowing for another effective mode of action.
  - Liberty 200 SN (Glufosinate) is a group 10 herbicide with no known weed resistance in Canada.
- **Benefits of a Program Approach to weed control**
  - Eliminates yield-robbing early 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 when the crop is most vulnerable
  - Application window is the same as glyphosate in glyphosate cropping system





**Enlist Duo™**

with COLEX•D™ technology



Field Corn  
Enlist™



Soybeans  
Enlist E3

## HERBICIDE

Enlist Duo™ provides the convenience of both 2,4-D choline and glyphosate in one formulation for control of grasses and broadleaf weeds including hard-to-control and resistant weeds.

### WHY USE ENLIST DUO HERBICIDE?

- Enlist Duo with Colex-D™ technology is designed to land and stay on target with excellent performance on the toughest weeds
- Multiple modes of action deliver superior control: Groups 4 & 9
- Improved tank stability for a spray solution that stays mixed
- Spray solution does not adhere to sprayer components providing easy and fast sprayer cleanout

### WEEDS CONTROLLED

#### Enlist E3™ soybeans (1.74 L/ac)

- Barley, Volunteer
- Barnyard Grass
- Biennial Wormwood<sup>2</sup>
- Bindweed, Field<sup>3</sup>
- Bindweed, Hedge
- Blue Lettuce<sup>2</sup>
- Bluebur
- Buckwheat, Tartary
- Buckwheat, Wild
- Burdock (before 4-leaf)
- Burdock<sup>2</sup>
- Canola, Volunteer<sup>1</sup>
- Chickweed, Common
- Chickweed, Mouse-eared<sup>2</sup>
- Cleavers, Common
- Cocklebur
- Corn Spurry
- Cow Cockle
- Crabgrass, Large
- Crabgrass, Smooth
- Dandelion
- Fall Panicum
- False Flax
- Field Peppergrass
- Fleabane, Canada

- Fleabane, Daisy
- Flixweed
- Foxtail, Giant
- Foxtail, Green
- Goat's-beard
- Hairy Galinsoga
- Hawk's-beard, Narrow-leaf
- Hemp-nettle
- Hoary Cress
- Horsetail, Field
- Knotweed (before 4-leaf)
- Kochia
- Lady's-thumb
- Lamb's-quarters
- Leafy Spurge<sup>2</sup>
- Mallow, Roundleaf<sup>3</sup>
- Milkweed, Common<sup>3,4</sup>
- Mustard, Dog
- Mustards (except green tansy)
- Nightflowering Catchfly
- Nightshade, Eastern Black Flowering
- Nutsedge, Yellow<sup>3,6</sup>
- Oak Leaf Goosefoot
- Palmer Amaranth<sup>3</sup>

- Pigweed, Redroot
- Pigweed, Russian
- Pigweed, Smooth
- Pineappleweed
- Plantain, Common
- Proso Millet, Wild
- Purslane, Common
- Quackgrass
- Ragweed, Common
- Ragweed, Giant
- Russian Thistle
- Shepherd's Purse
- Smartweed, Green
- Smartweed, Pennsylvania
- Sow-thistle, Annual
- Sow-thistle, Perennial<sup>3,5</sup>
- Stinkweed
- Sunflower, Annual
- Sweet Clover
- Tansy, Common
- Thistle, Canada<sup>3,4</sup>
- Velvetleaf
- Vetch
- Waterhemp, Common
- Wheat, Volunteer
- Wild Oats
- Wild Radish
- Wild Tomato

<sup>1</sup> Including glyphosate-tolerant and Clearfield® canola varieties.

<sup>2</sup> Top growth control only.

<sup>3</sup> Use 2 applications for best control. The 2<sup>nd</sup> application should be no later than the R2 stage (full flowering stage) of soybeans.

<sup>4</sup> Milkweed: 15-60 cm in height and actively growing.

<sup>5</sup> Thistle, Canada and Sow-thistle, Perennial: should be from the rosette stage to 50 cm in height and actively growing.

<sup>6</sup> Nutsedge, Yellow: 5-15 cm in height and actively growing.

## ENLIST DUO™ WITH COLEX-D™ TECHNOLOGY APPLICATION GUIDELINES

### CROPS

Enlist™ corn

Enlist E3™  
soybeans

Burndown  
before field corn,  
wheat (spring,  
winter, durum),  
barley, rye

### RATES AND ACRES TREATED

#### Rates:

Enlist™ field corn and

Enlist E3™ soybeans:

• 1.18 – 1.74 L/ac

**Burndown ahead of corn and  
cereal crops:**

• 0.89 – 1.74 L/ac

**Acres treated (1.74 L/ac rate):**

• 10 ac/case

• 320 ac/tote

**Water volume:**

• 10–15 gal/ac

### PACKAGING

#### Case:

• 2 x 8.7 L

#### Tote:

• 556.8 L

### WHEN TO APPLY

Crop Stage:

Enlist corn: Up to V8 growth stage or 120 cm height

Enlist E3 soybeans: Up to R2 stage (full flowering)

Burndown before field corn, wheat (spring, winter, durum), barley, rye: Prior to planting or after planting  
(BUT BEFORE CROP EMERGENCE)

### RAINFAST

• 2 hours

### HERBICIDE TANK MIXES

Consult the Enlist Product Use Guide available at  
[EnlistCanada.ca](http://EnlistCanada.ca).

### Application information

#### On-Target Application Requirements:

**Droplet Size:** Coarse to extremely coarse (ASAE S-572 Standard) to greatly reduce drift potential.

**Boom Height:** 60 cm or less

**Spray Volume:** 10–15 gal/ac is optimum

**Wind:** 3–16 km/hr. Do not spray during a temperature inversion. Do not spray in winds that exceed 25 km/h

**Enlist corn, Enlist E3 soybeans:** Make 1 to 2 applications with a minimum of 12 days between applications.

### Crop Rotation

Any crop may be grown the year following an application of Enlist Duo

### Pre-harvest Interval

#### Enlist E3 soybeans:

Do not harvest for forage or hay. Do not graze treated Enlist E3 soybeans

#### Enlist corn:

**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.





# Enlist™ 1

with COLEX•D™ technology



Field Corn  
Enlist™



Soybeans  
Enlist E3

## HERBICIDE

Enlist™ 1, a standalone 2,4-D choline formulation provides the flexibility to tank-mix and adjust the rates of glyphosate or glufosinate for hard-to-control and resistant weeds.

### WHY USE ENLIST 1 HERBICIDE?

- Enlist 1 with Colex-D technology is designed to land and stay on target with excellent performance on the toughest weeds
- **Flexibility.** Enlist 1 allows you to customize use rates and ratios of tank-mix partners
- **Compatibility.** Enlist 1 can be tank-mixed with glyphosate (group 9), Liberty® 200 SN (glufosinate, group 10), or other approved products

### WEEDS CONTROLLED

#### Enlist E3™ soybeans (0.73 L/ac)

- Biennial Wormwood<sup>2</sup>
- Bindweed, Field<sup>2</sup>
- Bindweed, Hedge
- Blue Lettuce<sup>2</sup>
- Bluebur
- Buckwheat, Tartary
- Buckwheat, Wild
- Burdock (before 4-leaf)
- Burdock<sup>2</sup>
- Canola, Volunteer<sup>1</sup>
- Chickweed, Common
- Chickweed, Mouse-eared<sup>2</sup>
- Cocklebur
- Dandelion
- False Flax

- Field Peppergrass
- Fleabane, Daisy
- Flixweed
- Goat's-beard
- Hairy Galinsoga
- Hoary Cress
- Horsetail, Field
- Knotweed (before 4-leaf)
- Kochia
- Lady's-thumb
- Lamb's-quarters
- Leafy Spurge<sup>2</sup>
- Mustard, Dog
- Mustards (except green tansy)
- Oak Leaf Goosefoot
- Pigweed, Redroot
- Pigweed, Russian
- Pineappleweed
- Plantain, Common
- Purslane, Common
- Ragweed, Common
- Ragweed, Giant
- Russian Thistle
- Shepherd's Purse
- Smartweed, Green
- Smartweed, Pennsylvania
- Sow-thistle, Annual
- Sow-thistle, Perennial<sup>2</sup>
- Sunflower, Annual
- Sweet Clover
- Tansy, Common
- Thistle, Canada<sup>2</sup>
- Velvetleaf
- Vetch
- Wild Radish

<sup>1</sup> Including glyphosate-tolerant and Clearfield canola varieties.

<sup>2</sup> Top growth control only.

## ENLIST™ 1 WITH COLEX-D™ TECHNOLOGY APPLICATION GUIDELINES

### CROPS

Enlist™ corn

Enlist E3™  
soybeans

#### RATES AND ACRES TREATED

##### Rates:

Enlist 1: 0.3 to 0.73 L/ac

Hard-to-Control weeds: 0.73 L/ac

##### Acres treated (0.73 L/ac rate):

- 28 ac/case
- 750 acres/tote

##### Water volume:

- 10–15 gal/ac
- Do not exceed 1.46 L/ac per use season

#### PACKAGING

- 2 x 10.2 L Case
- 547 L tote

#### WHEN TO APPLY

- E3 soybeans tank-mix with glyphosate up to R2 (full flower)
- E3 soybeans tank-mix with Liberty 200 SN (glufosinate) up to R1 (beginning bloom)
- Enlist corn up to V8 or 120 cm in height

#### RAINFAST

- 2 hours

#### HERBICIDE TANK MIXES

Consult the Product Use Guide available at [EnlistCanada.ca](http://EnlistCanada.ca)

##### Registered tank-mixes:

Glyphosate at 900 gal/ha (group 9)

##### Supported tank-mixes:

Liberty 200 SN (glufosinate – group 10)

Control of volunteer Enlist corn in Enlist E3 soybeans:

Select™, Centurion®, Poast® Ultra

### Application information

#### On-Target Application Requirements:

**Droplet Size:** Coarse to extremely coarse (ASAE S-572 Standard) to greatly reduce drift potential.

**Boom Height:** 60 cm or less.

**Spray Volume:** 10–15 gal/ac is optimum.

**Wind:** 3–16 km/hr. Do not spray during a temperature inversion. Do not spray in winds that exceed 25 km/h.

**Enlist corn:** Make 1 to 2 applications with a minimum of 12 days between applications before the V8 growth stage.

**Enlist E3 soybeans:** Make 1 to 2 applications with a minimum of 12 days between applications. Apply up to R2 stage.

### Crop Rotation

Any crop may be grown the year following an application of Enlist 1.

### Pre-harvest interval

**Enlist E3 soybeans:** Do not harvest for forage or hay. Do not graze treated Enlist E3 soybeans.

**Enlist corn:** 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.

# FeXapan™

## Plus VaporGrip™ Technology



Soybeans  
Roundup Ready 2  
Xtend varieties

## HERBICIDE

FeXapan™ herbicide Plus VaporGrip™ Technology is a key component in a Roundup Ready 2 Xtend® soybean system delivering control of broadleaf weeds along with a new option to manage weed resistance.

### WHY USE FEXAPAN HERBICIDE?

- A new, low-volatile dicamba formulation featuring VaporGrip technology
- Early pre-plant or pre-emergent applications provide short term residual activity at the high rate (0.69 L/ac) on broadleaf weeds such as wild buckwheat, lamb's-quarters and redroot pigweed
- A new herbicide group for soybean growers to manage against weed resistance including glyphosate resistant biotypes

### WEEDS CONTROLLED

- |                                 |                                       |
|---------------------------------|---------------------------------------|
| • Bindweed, Field <sup>2</sup>  | • Pigweed, Smooth                     |
| • Buckwheat, Tartary            | • Ragweed, Common                     |
| • Buckwheat, Wild               | • Ragweed, False                      |
| • Cleaver                       | • Ragweed, Giant                      |
| • Cowcockle                     | • Smartweed, Green                    |
| • Fleabane, Canada <sup>1</sup> | • Sow-thistle, Perennial <sup>2</sup> |
| • Lady's-thumb                  | • Spurry, Corn                        |
| • Lamb's-quarters, Common       | • Thistle, Canada <sup>2</sup>        |
| • Mustard, Hare's-ear           | • Velvetleaf                          |
| • Mustard, Indian               |                                       |
| • Mustard, Tumble               |                                       |
| • Mustard, Wild                 |                                       |
| • Mustard, Wormseed             |                                       |
| • Pigweed, Redroot              |                                       |
| • Pigweed, Russian              |                                       |

<sup>1</sup> Control of emerged plants only.

<sup>2</sup> Apply FeXapan herbicide Plus VaporGrip™ Technology annually for three years at the flowering stage of bindweed and the budding stage of thistles.

## FEXAPAN™ APPLICATION GUIDELINES

### CROPS

#### Soybeans

*Roundup Ready 2  
Xtend® varieties*

#### RATES AND ACRES TREATED

**Rates:**

- Low rate: 0.33 L/ac  
(60 acres/case)
  - High rate: 0.69 L/ac  
(30 acres/case)
- For short term residual activity

**Water volume:**

- Minimum 10 US gal/ac

#### PACKAGING

**Case:**

- 2 X 10 L jugs

#### WHEN TO APPLY

**Roundup Ready 2 Xtend soybeans:**

Pre-plant or pre-emergence  
Post-emergence up to the early flower stage (R1)

#### RAINFAST

- 4 hours

#### HERBICIDE TANK MIXES

FeXapan may be tank mixed with a high load 540 g/l glyphosate at 0.67 L/ac - 1.89 L/ac

**Registered:**

Glyphosate  
Roundup WeatherMAX® with Transorb 2 Technology  
Liquid Herbicide

### Application information

**Wind:** 5–15 km/h. Do not apply during a temperature inversion. Temperature inversions commonly occur when winds are below 5 km/h and begin to form as the sun sets and often continue until the next morning.

**Nozzle Type:** Extremely coarse to ultra coarse droplets

**Spray Boom Height:** No more than 50 cm above the target pest or crop canopy.

**Ground Speed:** Under 25 km/h.

**Temperature:** Air temperature between 10°C and 25°C. Do not spray when the temperature is expected to exceed 30°C.

**Spray System Equipment Cleanout:** Follow the triple rinse sprayer cleanout procedure on the FeXapan label. Always use a commercial detergent, sprayer cleaner or ammonia, according to the manufacturer's directions.

Do not add acidifying buffering agents, acidic pH adjusting agents or adjuvants other than agriculturally approved NIS to the spray solution. Do not add ammonium sulfate (AMS), AMS-containing adjuvants, water conditioners or sprayable fluid fertilizers.

Do not use Crop Oil Concentrates (COC) and Methylated Seed Oils (MSO) as adjuvants when this product is applied with glyphosate-based agricultural herbicides. When FeXapan herbicide is used with another herbicide that requires the use of a COC or MSO adjuvant, follow the label instructions of that product.

### Crop rotation

Any crop not on the product label may be planted at 120 days after the final application of FeXapan. Do not count days when the ground is frozen.

Moisture is essential for the degradation of this herbicide in soil. If dry weather persists after application, crop injury may occur the following spring.

### Pre-harvest interval

7–10 days for soybean forage and 13–15 days for soybean hay.

**FirstRate™**



## HERBICIDE

FirstRate™ herbicide is your solution for effective pre- and post-emergence control of the most troublesome broadleaf weeds in soybeans.

### WHY USE FIRSTRATE HERBICIDE?

- **Broadleaf weed control.** FirstRate provides a high level of control of some of the toughest broadleaf weeds including cocklebur, horsenettle and jimsonweed
- **Wide application window.** FirstRate can be applied any time from pre-emergence up to just before flowering (R1)
- **Tank mix flexibility.** FirstRate can be tank-mixed with other herbicides and used in non-GMO or glyphosate tolerant soybeans to improve control of broadleaf weeds

### WEEDS CONTROLLED

#### Pre-emergence (8.5 g/ac)

- Ragweed, Common<sup>1</sup>
- Lamb's-quarters, Common<sup>1</sup>
- Velvetleaf
- Cocklebur, Common (4-8 leaf)
- Jimsonweed (2-4 leaf)

#### Pre-emergence (17 g/ac)

- Above weeds plus
- Cocklebur
- Lamb's-quarters (heavy infestations)

#### Post-emergence (8.5 g/ac)

- Ragweed, Common<sup>1</sup> (4-8 leaf)
- Ragweed, Giant<sup>1</sup> (4-6 leaf)
- Velvetleaf (2-4 leaf)

<sup>1</sup>Note: Group 2 resistant biotypes are known to exist and these populations will not be controlled

## CROPS

Soybeans

## FIRSTRATE™ APPLICATION GUIDELINES

### RATES AND ACRES TREATED

#### Rates:

**Pre-emergence:** 8.5–17 g/ac

**Post-emergence:** 8.5 g/ac

#### Acres treated:

**(Post-emergence rate):**

- 40 ac/bottle

- 160 ac/case

#### Water volume:

- 10–20 US gal/ac

### PACKAGING

Water soluble packaging:

10 x 17 g water soluble packets per package

New 340 g Bottle:

- 4 x 340 g/case

### WHEN TO APPLY

- Pre-emergence:

- Apply after planting but prior to crop or weed emergence

- Post-emergence:

- Any time prior to soybean flowering stage

### RAINFAST

- 2 hours

### HERBICIDE TANK MIXES

#### Registered:

Broadstrike™Dual

Pursuit®

Roundup®

Vantage®

Vantage Plus

## Application information

Application prior to full emergence of 1st trifoliate leaf may cause temporary yellowing of soybeans. This effect is transient and has no effect on yields.

Adequate soil moisture is necessary for optimal efficacy. Sufficient rainfall to moisten the soil to depth of 5cm is generally sufficient. If no rainfall within 7–10 days, a shallow cultivation or rotary hoe is recommended.

Post-emergent applications of FirstRate require the addition of a non-ionic surfactant at 0.25% v/v plus liquid fertilizer (28–0–0 or 32–0–0) at 2.5% v/v.

## Crop rotation

**0 months:** soybeans:

**4 months:** Wheat

**9 months:** Corn

## Pre-harvest interval

- The PHI is 65 days.



# Freestyle™



## HERBICIDE

Freestyle™ herbicide is a flexible solution for early-season weed control in any soybean production system. It provides enhanced residual control of grass and broadleaf weeds, including tough weeds like Eastern black nightshade.

### WHY USE FREESTYLE HERBICIDE?

- **Adds residual.** Freestyle adds residual control of broadleaf and grass weeds to your herbicide program
- **Fits any soybean production system.** Soil applied or early post-emergence, Freestyle fits conventional IP soybeans or enhances glyphosate in a GT system
- **Broad-spectrum and residual season-long weed control.** Adds control of weeds such as velvetleaf, Eastern black nightshade and nutsedge

### WEEDS CONTROLLED

#### Broadleaf weeds:

- Dandelion<sup>1</sup>
- Lady's-thumb
- Lamb's-quarters, Common
- Lettuce, Prickly<sup>1</sup>
- Mustard, Wild
- Nightshade, Eastern Black
- Pigweed, Redroot
- Smartweed
- Velvetleaf

#### Grass weeds:

- Barnyard Grass
- Foxtail, Green
- Foxtail, Yellow
- Old Witchgrass
- Nutsedge, Yellow

<sup>1</sup> Pre-plant burndown applications

## CROPS

### Soybeans

## FREESTYLE™ APPLICATION GUIDELINES

### RATES AND ACRES TREATED

#### Rates:

Pre-plant or pre-emergence:

- 14.4 g/ac + 125 ml/ac

Early post-emergence:

- 9.6 g/ac + 83 ml/ac

#### Acres treated:

Pre-plant or pre-emergence:

- 20 ac/case

Early post-emergence:

- 30 ac/case

#### Water volume:

- 10-20 US gal/ac

### PACKAGING

#### Case:

- 288 g jug of Classic® + 2.5 L/ jug of Imazethapyr 240 SL herbicide

### WHEN TO APPLY

- Glyphosate tolerant soybeans: Pre-plant or pre-emergence (20 acres/case)
- Glyphosate tolerant soybeans: Early post-emergence (30 acres/case)
- Non-GM soybeans: Early pre-plant to pre-emergence (20 acres/case)

### RAINFAST

- 4 hours

### HERBICIDE TANK MIXES

Glyphosate – burndown or Post-emergence in soybeans

Boundary® LQD – for IP soybeans

### Application information

#### Glyphosate tolerant soybeans – Pre-plant or Pre-emergence (20 acres/case)

- Apply up to 14 days before planting
- Removes early season weed pressure
- Follow up in-crop with glyphosate

#### Glyphosate tolerant soybeans – Early Post-emergence (30 acres/case)

- Apply up to the 3<sup>rd</sup> trifoliate stage
- Adds residual weed control
- Tank-mix with 0.67-1 L/ac of a 540 g/L glyphosate
- Post applications of Freestyle may shorten the internodes and stunt soybeans but will not result in yield reduction

#### Non-GM soybeans – Early pre-plant to pre-emergence (20 acres/case)

- Tank-mix with a pre-emergence grass herbicide such as Boundary LQD for additional residual and modes of action

**Adjuvants:** For control of emerged weeds add a non-ionic surfactant at 2 L/1,000 L of spray solution (0.2% v/v). When tank mixed with a glyphosate herbicide containing a built-in adjuvant system, a non-ionic surfactant is not required.

### Crop rotation

Based on soil pH of  $\leq 7.4$ :

**3 months:** winter wheat

**10 months:** field corn, soybeans and white beans

### Pre-harvest interval

- The PHI is 100 days.

# Guardian™ MAX

## HERBICIDE



### Soybeans

GT including Roundup Ready  
2 Xtend<sup>®</sup> and Enlist E3<sup>™</sup>  
burndown or in-crop



### Soybeans

Identity Preserved  
burndown only

Guardian™ MAX herbicide delivers superior convenience and protection against tough perennial weeds. Early and residual weed control provide dependable protection for your crop's yield.

### WHY USE GUARDIAN MAX HERBICIDE?

- **Long lasting burndown and residual control.** Guardian MAX helps manage hard-to-control weeds such as dandelion, yellow nutsedge and annual sow thistle
- **Systemic activity.** Ensures a lasting and thorough burndown for deep rooted perennials such as dandelion, prickly lettuce and wild carrot
- **Two modes of action.** Protects against weed shifts and weed resistance
- Convenient. Co-pack includes a high load K-salt glyphosate

### WEEDS CONTROLLED

All weeds glyphosate controls, plus:

- Bean, Adzuki<sup>1</sup>
- Carrot, Wild<sup>1</sup>
- Dandelion
- Lamb's-quarters, Common
- Lettuce, Prickly
- Nutsedge, Yellow<sup>1</sup>
- Pigweed, Redroot
- Ragweed
- Sow-thistle, Annual
- Velvetleaf

<sup>1</sup> Suppression

## GUARDIAN™ MAX APPLICATION GUIDELINES

### CROPS

Soybeans

#### RATES AND ACRES TREATED

**Rates:**

- 14.4 g/ac + 0.67 L/ac

**Acres treated:**

- 30 ac/case
- 600 ac/tote

**Water volume:**

- 10-20 US gal/ac

#### PACKAGING

**Case:**

- 2 x 216 g + 2 x 10 L

**Tote:**

- 15 x 576 g + 400 L

#### WHEN TO APPLY

**Crop Stage:**

Pre-plant or pre-emergence burndown

Post-emergence (glyphosate tolerant soybeans only)

- Apply before flowering begins

**Weed Stage:**

Wild carrot: 2 to 20 leaf stage

Volunteer adzuki beans: 1<sup>st</sup> to 3<sup>rd</sup> trifoliolate

Dandelion: burndown applications

Yellow nutsedge: Post-emergence

#### RAINFAST

- 2 hours

### Application information

Glyphosate tolerant soybeans including Roundup Ready 2 Xtend® and Enlist E3™ soybeans: Apply anytime as a pre-plant burndown right through to just before flowering. Optimum timing for post-emergence applications is before the 4<sup>th</sup> trifoliolate stage of growth.

Non-GMO soybeans including IP soybeans: Apply only as a pre-plant or pre-emergence burndown before crop emergence.

Since Guardian MAX contains a fully loaded glyphosate, additional surfactants are not required.

### Crop rotation

Depends on crop and soil pH. The following re-crop intervals are based on a soil pH of ≤ 7.4:

**3 months:** winter wheat

**10 months:** field corn, white beans, soybeans and alfalfa

**12 months:** tomatoes

### Pre-harvest interval

- The PHI is 60 days.

**Lontrel™ XC**

**HERBICIDE**



Rutabagas



Sugar Beets



Field Corn



Canola



Durum Wheat



Spring Wheat



Winter  
Wheat



Barley

Lontrel™ XC herbicide improves the control of thistles and other hard to control broadleaf weeds in field corn and other field crops.

### WHY USE LONTREL XC HERBICIDE?

- **Gets to the root of the problem.** Lontrel XC is highly systemic and moves down to the roots to help manage deep rooted perennials
- **Gets hard-to-control weeds.** Targets the toughest broadleaf weeds in corn including certain glyphosate resistant biotypes
- **Crop safety.** Lontrel XC is a different group 4 than products like dicamba. You can apply with confidence up to the 8 leaf stage without fear of injury or volatility

### WEEDS CONTROLLED

- Alfalfa, Volunteer/  
Stands
- Alsike Clover
- Buckwheat, Wild
- Chamomile, Scentless
- Daisy, Oxeye<sup>1</sup>
- Groundsel, Common
- Kudzu
- Ragweed, Common
- Sorrel, Sheep<sup>1</sup>
- Sow-thistle, Perennial
- Thistle, Canada
- Vetch

<sup>1</sup> Suppression

## LONTREL™ XC APPLICATION GUIDELINES

### CROPS

Barley  
Canola  
Durum Wheat  
Field Corn  
Rutabagas  
Spring Wheat  
Sugar Beets  
Winter Wheat

#### RATES AND ACRES TREATED

##### Rates:

- 69–202 ml/ac  
(Use rates vary by crop)

**Field corn:** 69–101 ml/ac

##### Acres treated:

**Field corn:** 26–39 ac/jug

##### Water volume:

- 10–20 US gal/ac

#### PACKAGING

##### Case:

- 4 x 2.67 L

#### WHEN TO APPLY

##### Crop Stage:

- Field corn: spike to 8 leaf (V6)
- Canola: 2–6 leaf
- Cereals: 3 leaf to flag leaf
- Sugar beets: Cotyledon to 8 leaf

##### Weed Stage:

- Canada thistle, Perennial sow thistle, Scentless chamomile – rosette to pre-bud
- Volunteer alfalfa – 5–50 cm height

#### RAINFAST

- 4 hours

#### HERBICIDE TANK MIXES

May be safely tank mixed with many other registered herbicides. Refer to the specific crop use recommendations for tank mix guidance.

### Application information

**Field Corn:** 69 mL/acre: Tank mix with glyphosate (glyphosate tolerant corn only) for enhanced control of Canada thistle, dandelions, perennial sow-thistle and wild buckwheat.

101 mL/acre: Canada thistle (top growth), vetch and alsike clover

**Do not apply to seed corn, sweet corn or popcorn**

**Cereals (spring wheat, winter wheat, durum wheat, barley):** 69–101 mL/acre: Tank mix with 2,4-D Ester or Amine, MCPA Ester or Amine

**Canola (Ontario only):** 101 mL/acre: For top growth control of Canada thistle

Apply at the 2–6 leaf stage of canola.

**Sugar Beets:** 138–202 mL/acre

**Rutabaga:** 138 mL/acre: For control of common ragweed

Lontrel XC does not require additional adjuvants or surfactants.

### Crop Rotation

Fields previously treated with Lontrel XC herbicide can be seeded the following year to wheat, oats, barley, rye (not underseeded with legumes, clover or alfalfa), forage grasses, flax, canola, mustard, soybeans\*, field peas\*, sugar beets.

\* Refer to product label for detailed information.

### Pre-harvest interval

Field corn – do not allow livestock to graze treated areas or harvest treated field corn for silage as feed within 40 days after last treatment.

Sugar beets – 90 days.

Rutabaga – 83 days.

Durum wheat – 60 days.



**Pixxaro™**

Arylex™ active



Durum  
Wheat



Spring  
Wheat



Winter  
Wheat



Barley

## HERBICIDE

Spray Pixxaro™ when you want, with confidence.

### WHY USE PIXXARO HERBICIDE?

- **Flexibility.** 95% or greater control of most labelled weeds. Whether they are small or large weeds, in early or late crop staging and even in cool or dry conditions
- **Elite performance.** Control your toughest weeds, including glyphosate resistant Canada fleabane, cleavers, chickweed and hemp-nettle and many other broadleaf weeds
- **Convenient packaging.** Comes in a convenient 40 acre co-pack

### WEEDS CONTROLLED

- Alfalfa, Volunteer (up to 25 cm in height)
- Barnyard Grass (up to the 5-leaf, 2-tiller stage)
- Buckwheat, Wild
- Burdock (before the 4-leaf stage)
- Canada Fleabane<sup>2</sup>
- Canola, Volunteer
- Chickweed, Common
- Cleavers<sup>1</sup>
- Cocklebur
- Dandelion\*\*
- Flixweed
- Hemp-nettle<sup>1</sup>
- Henbit
- Horsetail, Field (up to 15 cm in height)\*
- Kochia<sup>1</sup>
- Lady's-thumb\*
- Lamb's-quarters, Common
- Mallow, Roundleaf
- Mustard, Ball
- Mustard, Wild<sup>1</sup>
- Nightshade species, (including eastern black, hairy and cutleaf, up to the 6-leaf stage)
- Pennycress, Field
- Pigweed, Redroot
- Plantain, Common
- Prickly Lettuce
- Ragweed, Common<sup>2</sup>
- Ragweed, Giant<sup>2</sup>
- Shepherd's-purse
- Smartweed, Annual\*
- Smartweed, Green\*
- Sow-thistle, Annual
- Sow-thistle, Perennial (up to the 6-leaf stage)\*
- Stork's-bill, Long
- Thistle, Canada (up to the bolting stage, 30 cm in height)\*
- Vetch

\*Suppression.

\*\* Dandelion suppression – seedlings and over-wintered rosettes up to 30 cm in diameter.

<sup>1</sup> Including ALS resistant.

<sup>2</sup> Including ALS and glyphosate resistant.

## PIXXARO™ ARYLEX™ ACTIVE APPLICATION GUIDELINES

### CROPS

Durum Wheat  
Spring Wheat  
Winter Wheat  
Barley

#### RATES AND ACRES TREATED

**Rates:**

- Pixxaro A: 123 ml/ac
- Plus M Ester 600: 236 ml/ac

**Acres treated:**

- 40 ac/case

**Water volume:**

- 10-20 US gal/ac

#### PACKAGING

**Case:**

- Pixxaro A: 1 x 4.9 L jug
- Plus M Ester 600:  
1 x 9.45 L jug

#### WHEN TO APPLY

**Crop Stage:**

3 leaf to just prior to flag leaf emergence

**Weed Stage:**

1-8 leaf (or larger; see label)

#### RAINFAST

- 1 hour

#### HERBICIDE TANK MIXES

For grass and broadleaf weed control, tank mix with any grass herbicide registered for use in wheat or barley.

**Registered fungicides:**

Stratego®  
Tilt™

**Recommended fungicides:**

Cerefit™ fungicide

### Application information

If Plus M Ester 600 is used with Pixxaro A as intended (supplied in the Pixxaro co-pack), no surfactant is required.

### Crop rotation

**3 months:** fall rye and winter wheat

**10 months:** spring wheat, spring barley, oats, canola, corn, soybeans, sunflowers, flax, field peas, potatoes (except seed potatoes), mustard, alfalfa, dry beans (species including pinto, kidney and white types) and timothy or fields can be summer fallowed.

**22 months:** lentils

### Pre-harvest interval

- The PHI for treated crops is 60 days.
- The PHI for hay or silage is 21 days.

**Prism™ SG**



## HERBICIDE

Outstanding post-emergent control of quackgrass, pigweed and annual grasses.

### WHY USE PRISM™ SG HERBICIDE?

- Potato growers look to Prism SG herbicide for its outstanding post-emergent control of key weeds such as: quackgrass, redroot pigweed, barnyard grass, fall panicum, green foxtail, hairy nightshade, lamb's quarters (suppression), witchgrass and yellow foxtail

### WEEDS CONTROLLED

- Barnyard Grass
- Fall panicum
- Foxtail, Green
- Foxtail, Yellow
- Lamb's-Quarters\*
- Nightshade, Hairy
- Pigweed, Redroot
- Quackgrass
- Witchgrass

---

\*Suppression

## PRISM™ SG APPLICATION GUIDELINES

### CROPS

Potatoes

#### RATES AND ACRES TREATED

• 24 grams/ac (60 grams/ha)

#### PACKAGING

• 480 g bottle

#### WHEN TO APPLY

- Application to control annual grasses and quackgrass must be made before the crop canopy can interfere with spray coverage of the target weeds.
- Cultivation is NOT recommended within 7-10 days prior to or after application of Prism SG Herbicide.

#### HERBICIDE TANK MIXES

Prism SG can be tank mixed with Tricor 75DF herbicide post-emergent, plus a non-ionic surfactant i.e. Agral 90 or AgSurf at 2 L per 1000 L of spray solution (0.2% v/v).

### Crop rotation

**Anytime:** field corn

**4 months:** winter wheat

**10 months:** spring barley, spring wheat (including durum), oats, canola, soybeans, dry beans, white beans, red clover, sorghum, chickpeas, potatoes, sunflowers, corn (sweet or seed), field peas, lentils, flax and faba beans.

### Adjuvant information

Prism SG must be applied with a recommended non-ionic surfactant, either Agral 90 or Ag-Surf, at 2 L per 1000 L spray solution (0.2% v/v).

### Pre-harvest interval

- PHI: 30 days before harvest



# Simplicity™ GoDRI™

## HERBICIDE



Durum  
Wheat



Spring Wheat



Winter  
Wheat

Simplicity™ GoDRI™ herbicide delivers superior control of wild oat, annual grass and broadleaf weeds with no re-cropping restrictions. It comes in a convenient, easy-to-use, highly concentrated, low dose formulation.

### WHY USE SIMPLICITY GoDRI HERBICIDE?

- **Effective resistance management with a wide application window.**  
The only group 2 wild oat herbicide that can be applied up to the flag leaf stage
- **Exceptional flexibility.** Allows for tank mixing with many Corteva Agriscience crop protection products such as Pixxaro™
- **Convenient formulation.** GoDRI Rapid Dispersion Technology is a highly concentrated easy to use formulation

### WEEDS CONTROLLED

Group 1 resistant wild oats, and bonus broadleaf weeds in wheat.

#### Grass

- Barnyard Grass
- Brome, Downy
- Brome, Japanese
- Foxtail, Green\*
- Foxtail, Yellow
- Oat, Wild
- Hemp-nettle
- Lady's-thumb
- Mallow, Roundleaf
- Pennycress, Field
- Pigweed, Redroot
- Shepherd's-purse
- Smartweed\*

#### Broadleaf

- Buckwheat, Wild\*
- Canola, Volunteer (excluding Clearfield®)
- Chickweed, Common
- Cleavers
- Cowcockle
- Dandelion\*
- Flixweed
- Spurry, Corn
- Thistle, Canada\*
- Thistle, Russian\*

*\*Suppression. Corteva Agriscience research trials indicate that application to small stage, actively growing plants provides an increased level of control.*

## SIMPLICITY™ GoDRI™ APPLICATION GUIDELINES

### CROPS

Durum Wheat

Spring Wheat

Winter Wheat

#### RATES AND ACRES TREATED

**Rates:**

- 28 g/ac

**Acres treated:**

- 80 ac/jug (320 ac/case)

**Water volume:**

- 10-20 US gal/ac

#### PACKAGING

**Case:**

- 4 x 2.24 kg jugs

#### WHEN TO APPLY

**Crop Stage:**

3-leaf to just prior to flag leaf emergence

**Weed Stage:**

Wild oats: 1 to 6 leaf

Broadleaf weeds: 1 to 5 leaf

#### RAINFAST

- 2 hours

#### HERBICIDE TANK MIXES

**Broadleaf herbicides:**

2,4-D Ester  
Buctril™ M  
MCPA™ Ester  
Pixxaro™  
Refine™ SG

**Fungicides:**

Acapela™  
Cerefit™  
Stratego™  
Tilt™

### Application information

Simplicity GoDRI always requires the addition of a non-ionic surfactant (NIS) at 0.25% v/v such as: Agral 90 at 0.25% v/v, Sentry™ at 0.25% v/v, Ag-Surf Original at 0.25% v/v.

### Crop rotation

**10 months:** field corn, sunflower and potatoes

**11 months:** barley, brown mustard, canola, dry beans (species including pinto, kidney and white types), flax, canola, lentils, oats, field peas, chickpea, spring wheat, soybean and yellow mustard or fields can be summer fallowed

### Pre-harvest interval

- The PHI is 60 days

# Steadfast™ IS



Field Corn

## HERBICIDE

Steadfast™ IS herbicide provides robust post-emergence grass control in field corn including non-GMO hybrids

### WHY USE STEADFAST IS HERBICIDE?

- **Proven control of annual grasses.** Steadfast IS provides dependable control of key annual grasses such as green foxtail and wild oat
- **Crop safety under a wide range of conditions.** Includes a safener allowing for use on short season hybrids
- **Wide window.** Steadfast IS can be safely applied to field corn up to the 8 leaf stage (V6)

### WEEDS CONTROLLED

- Foxtail, Green
- Canola, Volunteer
- Oat, Wild
- Wheat, Volunteer

## CROPS

Field Corn

## STEADFAST™ IS APPLICATION GUIDELINES

### RATES AND ACRES TREATED

**Rates:**

- 27 g/ac

**Acres treated:**

- 20 ac/bottle

**Water volume:**

- 10–20 US gal/ac

### PACKAGING

**Case:**

- 6 x 540 g bottles

### WHEN TO APPLY

**Crop Stage:**

Spike to 8 leaf (V6)

**Weed Stage:**

Annual grasses: 1–4 leaf (up to early tillering)

Volunteer canola: cotyledon to 5 leaf

### RAINFEST

- 2 hours

### HERBICIDE TANK MIXES

**Non-GMO field corn:**

Steadfast IS can be tank-mixed with registered broadleaf herbicides to ensure cross-spectrum control of grass and broadleaf weeds

**Glyphosate Tolerant Corn:**

Glyphosate

## Application information

When using Steadfast IS herbicide in conventional corn, it must be tank mixed with a non-ionic surfactant at 2 L/1000 L (0.2% v/v).

Steadfast IS must be applied only when the temperature in the 24 hours before and after application ranges between 5°C and 30°C. Temperatures beyond this range increase the potential for crop response. Make only one application per growing season.

For maximum crop safety, Steadfast IS should only be applied to corn which has not been treated with a highly systemic organophosphorus soil insecticide, such as Lorsban™. Do not tank mix with any organophosphorus insecticide. Do not apply a foliar organophosphorus insecticide within 7 days before or after applying Steadfast IS.

## Crop rotation

**4 months:** winter wheat

**10 months:** spring wheat (including durum), oats, barley, canola, soybeans, dry beans, white beans, chickpeas, potatoes, sunflowers, corn (sweet or seed), field peas, lentils and flax

**Anytime:** field corn

## Pre-harvest interval

- 30 days for corn (silage, fodder or grain).



# **Disease Control For Healthier Crops**



# fungicides

BY CROP

## Corn



|                |    |
|----------------|----|
| Acapela™ ..... | 52 |
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## Soybeans



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## Cereals



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## Other Crops

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# Acapela™

## FUNGICIDE



Cereals



Corn  
For Seed



Dry Legumes



Sweet Corn



Field Corn



Popcorn



Soybeans

Protect your soybean and corn crops against key diseases with Acapela™ fungicide, a unique Group 11 fungicide.

### WHY USE ACAPELA FUNGICIDE?

- Unique mode of action
- Superior plant coverage and translocation
- Strengthens crops for higher yields
- Unique movement properties

### DISEASES CONTROLLED

#### Soybeans

- brown spot
- frogeye leaf spot
- rust, soybean
- white mould

#### Corn (field, sweet, seed, popcorn)

- northern corn leaf blight

#### Cereals (barley, oats, rye, triticale, wheat)

- barley scald (barley and rye)

- Crown rust (oats)
- leaf blotch (wheat, rye, barley and triticale)
- leaf rust (wheat, rye and triticale)
- net blotch
- powdery mildew
- stripe rust (cereal grains)
- tan spot

#### Dry legumes

- anthracnose (dry beans)

- mycosphaerella blight (field peas)
- rust, soybean
- white mould

#### Potatoes

- early blight
- late blight
- white mould

#### Oilseed (flax)

- pasmo



Untreated, White mould infection

Acapela

## ACAPELA™ APPLICATION GUIDELINES

### CROPS

Soybeans

Cereals

Corn

(for seed)

Dry legumes

Sweet corn

Field corn

Popcorn

### RATES AND ACRES TREATED

#### Rates:

#### Water volume

Ground: 110 L/ha (10 US gal/ac) minimum

Air: 50 L/ha (4.5 US gal/ac) minimum

#### • Soybeans:

For white mould (Sclerotinia)

– 0.35 L/ac (0.88 L/ha)

For Asian soybean rust, brown spot (Septoria) and  
frogeye leaf spot (Cercospora sojina)

– 0.18 to 0.35 L/ac (0.44 to 0.88 L/ha)

#### • Corn (field, sweet, seed, popcorn)

For northern corn leaf blight

– 0.21 to 0.32 L/ac (0.53 to 0.8 L/ha)

### PACKAGING

– Case 2x9.6 L Jugs

– Drum 115.2 L

### WHEN TO APPLY

- Acapela fungicide is registered for ground sprayer and aerial application.
- Use sufficient water to obtain thorough coverage of plants. Minimum aerial application volume is 50 L/ha and minimum ground application volume is 110 L/ha.
- Field sprayer application
- Do not apply during periods of dead calm. Avoid application of this product when winds are gusty. Do not apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE S572.1) medium classification. Boom height must be 60 cm or less above the crop or ground.

### Application information

#### Soybeans:

For white mould, make initial preventative application at R1 and R2 (beginning to full bloom) and follow up with second application 7 to 10 days later.

For Asian soybean rust, brown spot (Septoria) and frogeye leaf spot (Cercospora sojina) begin applications prior to disease development and continue on a 7 to 14 day interval. Use higher rate and shorter interval when disease pressure is high.

For foliar diseases, the optimal time for application is typically at the R2 to R3 growth stage (full bloom to beginning pod).

#### Corn (field, sweet, seed, popcorn)

For northern corn leaf blight begin applications prior to disease development and continue on a 7 to 14 day interval. Use higher rate and shorter interval when disease pressure is high.

For optimal disease control, apply at full tassel (VT) to milk stage (R3) corn.

### Crop Rotation

Any crop the following year.

### Pre-harvest interval

- The PHI in corn is 7 days, grazing, forage is 0 days.
- The PHI in soybeans is 14 days.

NEW

Cerefit™

FUNGICIDE



Durum  
Wheat



Spring  
Wheat



Winter  
Wheat



Barley



Oats

Cerefit™ fungicide is a new dual mode of action fungicide developed to be applied at herbicide timing to protect your high yielding winter wheat from yield limiting leaf diseases.

### WHY USE CEREFIT™ FUNGICIDE?

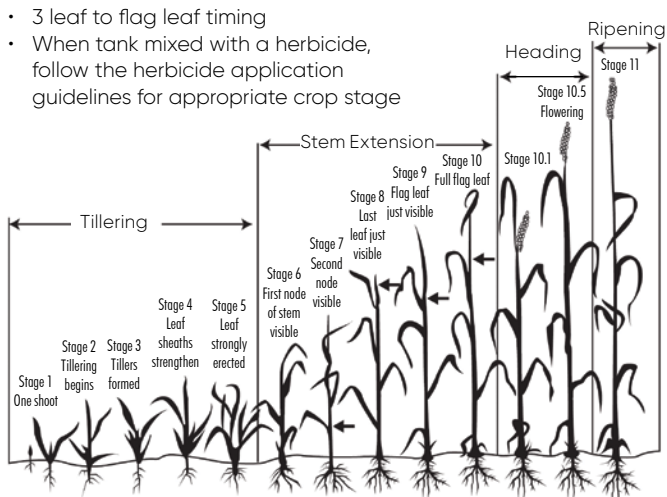
- Cerefit provides broad-spectrum control of leaf diseases in winter wheat
- The multiple modes of action in Cerefit provide a unique combination of 2 active ingredients (Group 11 and 3) each contributing to excellent disease control and resistance management
- Research authorization results show that when Pixxaro™ and Cerefit are used together, they deliver a clean and healthy winter wheat crop

### DISEASES CONTROLLED

- Stripe Rust
- Septoria Leaf Spot
- Septoria Glume Blotch
- Septoria Complex
- Powdery Mildew
- Crown Rust
- Leaf and Stem Rust
- Net Blotch
- Scald
- Spot Blotch
- Tan Spot

Apply Cerefit at 3 leaf to Flag leaf timing to protect your high yielding crops from yield-limiting leaf diseases.

Crop  
Stage



## CEREFIT™ APPLICATION GUIDELINES

### CROPS

Wheat

(Winter, Spring, Durum)

Oats

Barley

### RATES AND ACRES TREATED

**Acres treated:**

- Treats 40 acres

### PACKAGING

**Case:**

- 1 case (5.3 L + 3.5 L)

### WATER VOLUME

- Ground application is 10-20 US gal/ac

### WHEN TO APPLY

- 3 leaf to flag leaf timing

### RAINFAST

- 1 hour

### HERBICIDE TANK MIXES

Pixxaro™ herbicide

### Mixing instructions

1. Shake well before use
2. Fill clean spray tank  $\frac{1}{3}$  to  $\frac{1}{2}$  full of water
3. While agitating, add Cerefit A and then add Cerefit B, continuing agitation until the product is completely dispersed.
4. Continue filling the tank with agitation. Mix thoroughly to fully disperse the fungicide; once dispersed continued agitation is required.  
Use mechanical or hydraulic means; do not use air agitation

### Application information:

Cerefit can be applied from the 3-leaf stage up to the flag leaf stage. In Winter wheat we are targeting an application at herbicide timing tank mixed with Pixxaro for a clean and healthy crop.

### Crop rotation:

- There are no restrictions to crops that can be planted following the use of Cerefit



# For Clean & Healthy Winter wheat.

Maximize your yields with Cerefit™,  
a new dual mode of action fungicide



# Dithane™

## FUNGICIDE



Wheat



Potatoes



Alfalfa

Forty years and counting as the world's most trusted fungicide.

### WHY USE DITHANE™ RAINSHIELD™ FUNGICIDE?

- **Yield.** Protect yields by managing damaging diseases in a variety of crops
- **Economics.** Rapid control of numerous diseases at an economical price
- **Resistance management.** Unique multi-site activity explains why no fungal resistance has developed in over 40 years of use
- **Rotation option.** Contact control provides a rotation option from systemic fungicides in wheat, lentils and potatoes

### DISEASES CONTROLLED

#### Wheat

- Leaf rust
- Septoria leaf blotch
- Tan spot

#### Potatoes

- Early blight
- Late blight

#### Alfalfa

- Leaf spot
- Stem spot

## DITHANE™ RAINSHIELD™ APPLICATION GUIDELINES

### CROPS

Wheat

Potatoes

Alfalfa

*(seed production only)*

### RATES AND ACRES TREATED

- **Alfalfa:** 0.59 kg/ac
- **Potatoes:** 0.45–0.9 kg/ac  
(start with low rate, increase to maximum rate as foliage develops)
- **Wheat:** 0.45 kg/ac (early spray), 0.9 kg/ac (late spray)
- **Water volume:** 18 L/ac (aircraft), 45–80 L/ac (ground)
- **Pressure:** 345 kPa
- **Nozzles:** Hollow cones or flat fan recommended

### PACKAGING

- 20 kg bag

### WHEN TO APPLY

- **Potatoes:** When plants are 10 to 15 cm tall; repeat at 7 to 10 days intervals.
- **Wheat:** 2 to 3-leaf (early application), 2 tillers to fully headed (late application).
- **Alfalfa Grown for Seed:** apply prior to 50% bloom

### HERBICIDE TANK MIXES

- Compatible with most common pesticides
- Check mix partner labels for registered crops and additional restrictions

### Mixing instructions – ground application

1. Pour Dithane Rainshield slowly into filled spray tank while the agitator is running
2. Completely fill tank with water
3. After Dithane Rainshield has been mixed into a suspension, add other co-applied pesticides, growth regulators, micronutrients or spray adjuvants

### Mixing instructions – aerial application

1. Premix Dithane Rainshield thoroughly in a nurse tank
2. Fill spray hopper to the desired final water volume
3. Add slurry from Step 1 to spray hopper
4. Top off hopper to desired final water volume

### Crop rotation:

- Any crop the following year.

### Pre-harvest interval

- The PHI in wheat is 40 days.
- The PHI in potatoes is 1 day.

### Grazing and harvest

- Do not graze treated crops or cut for hay.



A close-up photograph of a man with a serious expression, looking down at a corn cob he is holding. He is wearing a blue denim button-down shirt over a white t-shirt. The background is a blurred field of green corn plants. The top of the image has an orange header with a white diagonal line.

# **Powerful control in one portfolio**

# insecticide

## BY CROP

### Corn



|           |    |
|-----------|----|
| Closer™   | 60 |
| Delegate™ | 62 |
| Intrepid™ | 64 |
| Lannate™  | 66 |

### Soybeans



|           |    |
|-----------|----|
| Delegate™ | 62 |
|-----------|----|

### Wheat



|           |    |
|-----------|----|
| Delegate™ | 62 |
|-----------|----|

### Other Crops

|         |    |
|---------|----|
| Closer™ | 60 |
|---------|----|

# Closer™

Isoclast™ active



Corn



Potatoes

## INSECTICIDE

Exceptional speed and control of aphids and scale in vegetable, fruit and field crops.

### WHY USE CLOSER™ INSECTICIDE?

- **Fast-acting with residual control.** Apply Closer for quick targeted control of sap feeding insects such as aphids, scales and leaf hoppers when outbreaks occur
- **Moves throughout the plant.** Excellent systemic and translaminar activity
- **Valuable rotational partner.** A unique sub-class of insecticides, Isoclast™ active is effective against both resistant and non-resistant pests
- **Virus reduction.** Closer's rapid results decrease the chance of virus transmission in seed potato production
- Closer is selective and can be used safely around beneficial populations when used according to the product label

### INSECTS CONTROLLED

#### Corn

- Aphids

#### Potatoes

- Aphids
- Leafhoppers
- Tarnished plant bug

## CLOSER™ APPLICATION GUIDELINES

### CROPS

Field corn

Popcorn

Seed corn

Sweet corn

Potatoes

### RATES AND ACRES TREATED

### PACKAGING

– 12 x 1 L jug

#### Potatoes

- Aphids: 20 to 61 mL/ac (50-150 mL/ha)
- Leafhoppers: 121 mL/ac (300 mL/ha)
- Tarnished plant bug: 121 mL/ac (300 mL/ha)

#### Corn (field, sweet, seed and popping)

- Aphids: 30 to 61 mL/ac (75-150 mL/ha)

### INSECTICIDE TANK MIXES

- No registered tank mixes.

### Application instructions:

Ground application: boom height must be 60 cm or less above the crop or ground, use a minimum of 40 L of water per acre to ensure thorough coverage of plant foliage.

Closer is registered for aerial applications – see label for specific recommendations.

### Pre-harvest interval:

- The PHI for sweet corn, forage and potatoes is 7 days.
- The PHI for grain corn and stover harvest is 14 days.



# Delegate™

INSECTICIDE



Field Corn



Popcorn



Seed Corn



Soybeans



Potatoes

Stay one step ahead of Western bean cutworm and European corn borer in corn.

## WHY USE DELEGATE™ INSECTICIDE?

- **Unique mode of action.** No other class of products affects the insect's nervous system with the same mode of action as Delegate. It is an excellent rotational product for use in an Integrated Pest Management system
- **Easy-to-use formulation.** Delegate offers low use rates delivered through a convenient dry formulation
- **Exceptional performance.** Delegate also offers quick knockdown of foliage feeding pests

## INSECTS CONTROLLED

### Corn

- European corn borer
- Western bean cutworm

### Wheat

- Armyworm

### Soybeans

- Armyworm

### Potatoes

- Colorado potato beetle
- European corn borer

## DELEGATE™ APPLICATION GUIDELINES

### CROPS

Field corn

Popcorn

Seed corn

Soybeans

Wheat

Potatoes

### RATES AND ACRES TREATED

Western bean cutworm

and European corn borer:

- 50 to 85 g/ac (120 to 210 g/ha)

Armyworm:

- 40 to 80 g/ac (100 to 200 g/ha)

Colorado potato beetle:

- 65 to 97 g/ac (160-240 g/ha)

European corn borer: 65 g/ac (160 g/ha)

### PACKAGING

Case:

- 6 x 840 g bottles

### WHEN TO APPLY

- Western bean cutworm and European corn borer: applications should be timed at egg hatch or to small larvae.
- Armyworm: treat when thresholds are reached, time the application to target small larvae.
- Colorado potato beetle: time the application for egg hatch or small larvae.

Use the higher rate for higher pest pressure or for larger larvae. Ensure sufficient water volume for complete coverage of the plant foliage.

### RAINFAST

- 2 hours

### INSECTICIDE TANK MIXES

- No registered tank mixes
- Delegate can be mixed with fungicides and micro-nutrients. Consult your Corteva Agriscience representative if you are tank mixing Delegate.

### Application information

Ground application: use spray equipment capable of thorough coverage of the crop, ensuring uniform coverage of the target pest.

Aerial application: apply only by fixed wing or rotary aircraft equipment. Use a minimum spray volume of 30 L/ha (12 L/ac).

A spray solution pH between 5 and 9 is preferred for optimal performance.

### Crop rotation

- No rotational restrictions

### Pre-harvest interval

- 1 day for sweet corn and seed corn
- 7 days for forage and potatoes
- 21 days for wheat
- 28 days for field corn, popcorn and soybeans
- Do not apply within 28 days of stover harvest



# Intrepid™



Corn

## INSECTICIDE

Performance and peace of mind. With Intrepid™ insecticide, there's no need to choose.

### WHY USE INTREPID INSECTICIDE?

- **Two-pronged attack on pests.** Intrepid has both ovicidal and larvicidal activity. Ingestion is the main source of activity on pests, causing the larvae to cease feeding within 24 hours
- **Ideal for Integrated Pest Management programs.** Intrepid controls lepidopterous pests without adversely affecting beneficial insects such as bees when used according to the product label

### INSECTS CONTROLLED

- European corn borer
- Western bean cutworm



## INTREPID™ APPLICATION GUIDELINES

### CROPS

Corn

#### RATES AND ACRES TREATED

##### Corn:

- European corn borer
  - 0.12–0.24 L/ac (0.3 – 0.6 L/ha)
- Western bean cutworm
  - 0.12 L/ac (0.6 L /ha)

#### PACKAGING

- 4X4 L jugs

#### WHEN TO APPLY

- Apply at the first signs of feeding damage. Monitoring of insect populations is key to controlling this pest. Direct application at the whorl for early season (first generation) infestations. Use the higher rate for heavy infestations, or larger crop canopies.

#### RAINFAST

- 6 hours

#### INSECTICIDE TANK MIXES

- No registered tank mixes

### Mixing instructions

Ground application: make applications of Intrepid by conventional ground application equipment.

No registered for aerial application.

### Crop rotation

- Treated field may only be rotated to labeled crops.

### Pre-harvest interval

Do not apply within 3 days of harvest for sweet corn and 21 days of harvest for field corn and popcorn.



# Lannate™



Sweet Corn

## INSECTICIDE

Use Lannate™ broad-spectrum insecticide for fast-acting control of aphids, corn earworm, and European corn borer.

### WHY USE LANNATE INSECTICIDE?

- Fast-acting control at all life stages, use Lannate to protect against adults, nymphs, larvae and eggs of many pest species.

### INSECTS CONTROLLED

#### Sweet Corn

- Aphids
- Corn earworm
- European corn borer



## LANNATE™ APPLICATION GUIDELINES

### CROPS

Sweet Corn

#### RATES AND ACRES TREATED

**Aphids:**

- 174-251 g/ac (430-620 g/ha)

**Corn Earworm:**

- 174-253 g/ac (430-625 g/ha)

**European Corn Borer:**

- 253 g/ac (625 g/ha)

#### PACKAGING

Case: 5.4kg water soluble, pre-measured Toss-N-Go bags (225g/bag x 24 bags)

#### WHEN TO APPLY

**Aphids:** apply during hot weather and threshold is reached

**Corn earworm:** application to begin when 25% of the ears show silk. Direct sprays to the silks.

**European corn borer:** application to begin when egg masses begin to hatch, but no later than when the first feeding damage is seen on leaves. Sprays should be directed into the whorl of the plant. After tassels appear, direct spray at the ear zone.

#### INSECTICIDE TANK MIXES

- Do not mix with liquid fertilizers, substances that contain boron or could release free chlorine.

### Application information

Ground application only, use sufficient water to obtain thorough uniform coverage.

### Pre-harvest interval

The PHI for sweet corn treated with Lannate is 3 days.

# | **Protect your nitrogen**



# nitrogen stabilizer BY CROP

## Corn



eNtrench NXTGEN™ ..... 70

## Canola



eNtrench NXTGEN™ ..... 70

## Wheat



eNtrench NXTGEN™ ..... 70

NEW

# eNtrench NXTGEN™

Optinyte™ technology



Corn



Canola



Wheat

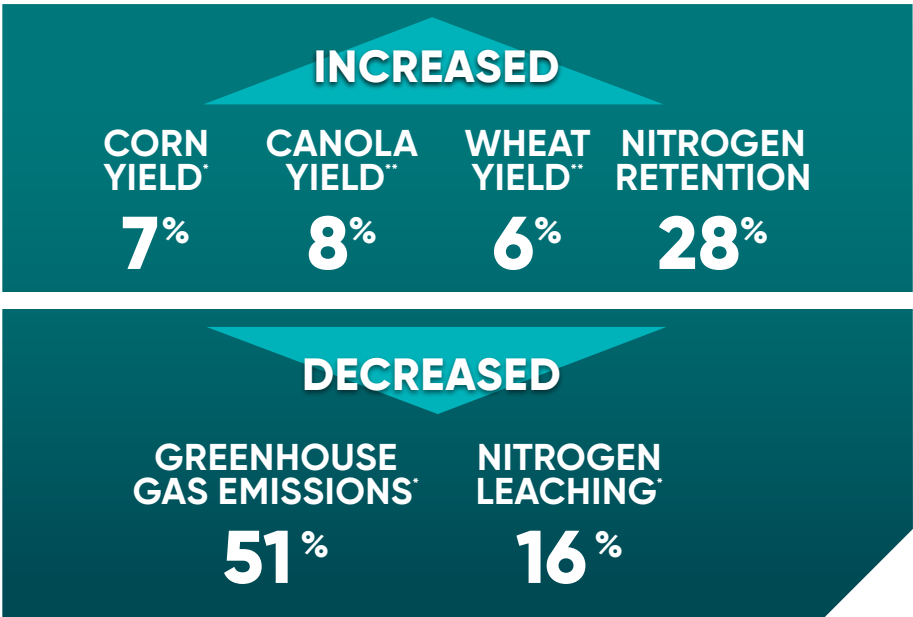
## NITROGEN STABILIZER

Protect your nitrogen for better yields. Nitrogen fertilizer is critical to achieving healthy, high-yielding crops. Protect your fertilizer investment with eNtrench NXTGEN™ nitrogen stabilizer.

### WHY USE ENTRENCH NXTGEN?

- **Optimize opportunity for yield and profit**
  - Corteva Agriscience research trials demonstrate an average yield increase of 7% in corn, 6% in wheat and 8% in canola
  - Keep 28% more positive nitrogen available in the root zone
- **Expand your application options**
  - Apply up to two weeks earlier in fall before typical anhydrous applications
  - Take advantage of reduced cost of fertilizer in the fall
- **Manage time and efficiency**
  - Fall application saves time for seeding operations in the spring
- **Reduce environmental impacts**
  - Reduces greenhouse gas emissions by 51% on average
  - Reduces leaching of nitrates by 16% on average

## BENEFITS OF USING NITROGEN STABILIZERS



\* Wolt, J.D. 2004. A meta-analysis of nitrapyrin agronomic and environmental effectiveness with emphasis on corn production in the midwestern USA.

\*\*Based on Corteva Agriscience Canada research trials.



Nitrogen stabilizers slow the conversion of ammonium to nitrates, reducing leaching and denitrification. They maximize yield potential by ensuring more of your applied nitrogen stays in the root zone in a stable, useable form until your canola, corn and wheat crops need it.

**eNtrench NXTGEN™ APPLICATION GUIDELINES**

**CROPS**

- Corn
- Wheat
- Canola

**RATE AND PACKAGING**

- 0.71 L/ac (1.75 L/ha)
- Available in 2x9.94 L case | 454.4 L Tote

**WHEN TO APPLY**

- Spring: Tank mixed with your UAN or liquid manure
- Fall: Tank mixed with your UAN or liquid manure, up to two weeks earlier than you would typically apply

**APPLICATION METHOD**

- Designed for use with liquid fertilizers, including UAN and liquid manure
- Impregnated on urea







**|| Serious seed  
protection.**

# seed treatment

BY CROP

## Soybeans



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## Corn



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| Lumivia™ ..... | 78 |
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# Lumisena™

Serious seed protection.

## FUNGICIDE SEED TREATMENT

### WHY USE LUMISENA FUNGICIDE SEED TREATMENT?

- Most advanced seed-applied technology to protect against phytophthora.
- Enhances emergence and vigour to maximize yield potential.
- Improves soybean plant stands.
- New class of chemistry for improved above and below ground disease control.

### DISEASES CONTROLLED Phytophthora

Phytophthora is the #1 disease in soybeans and can significantly reduce yields. Lumisena™ fungicide seed treatment provides the best protection against phytophthora for healthier, more vigorous soybean stands and higher yield potential.

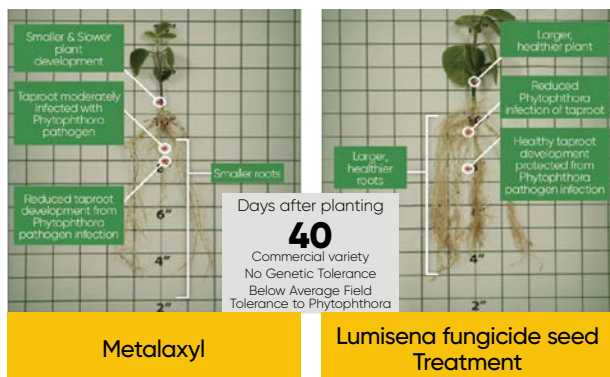
#### Look at the results

The first six weeks are important for a soybean crop's yield potential. Observe the difference in performance between two soybean plants, 40 days after planting, treated with the high rate of metalaxyl versus Lumisena when phytophthora is present.

Lumisena is the best choice for protection against phytophthora.

It is the only seed-applied technology that delivers residual protection across multiple stages of the phytophthora pathogen's life cycle:

- preventative
- curative
- eradicated
- antispore

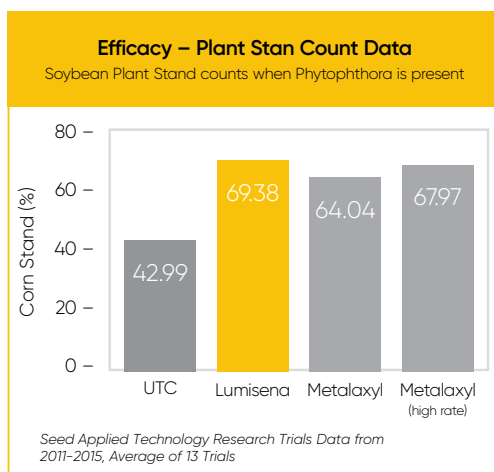
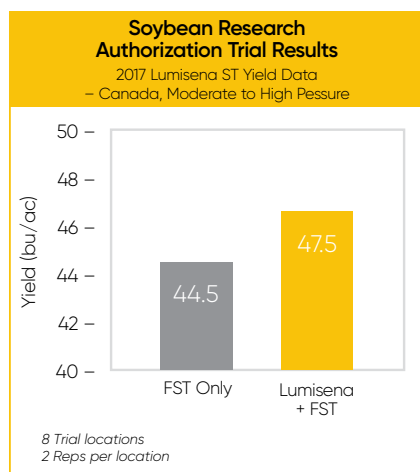


## CROPS

### Soybeans

#### Improves soybean yield potential and plant stands

Phytophthora is prevalent in North America and is shown to be wide spread in Manitoba. Growers with phytophthora pressure have suffered significant yield losses because of the limitations of existing seed treatments in soybeans. In areas with phytophthora pressure, Lumisena improves plant stands, crop vigour and yield results.

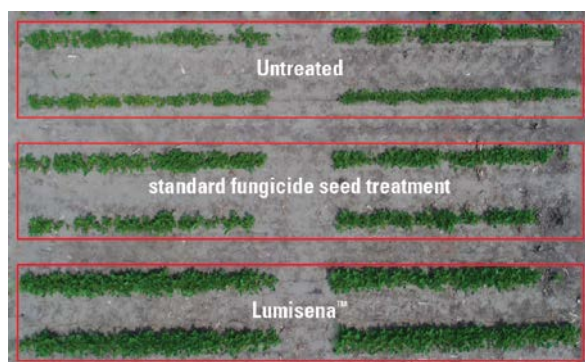


In multi-year, on-farm seed treatment research trials under phytophthora pressure, Lumisena improved plant stands by increasing the number of plants per acre versus the existing industry-standard seed treatment.

IST – Insecticide Seed Treatment  
FST – Fungicide Seed Treatment

#### New class of chemistry for improved above and below ground

Lumisena offers a new mode of action that controls phytophthora far better than previous industry-standard seed treatments. When you use Lumisena fungicide seed treatment you significantly improve your soybean plant stand, enhancing early-season plant growth and increasing yield potential. Our seed treatment research has demonstrated that Lumisena will provide greater protection against phytophthora than existing seed treatments.



# Lumiderm™

Serious seed protection.

## INSECTICIDE SEED TREATMENT

### WHY USE LUMIDERM™ INSECTICIDE SEED TREATMENT?

- Broad spectrum protection from early season insect pests including bean leaf beetle and soybean aphid
- Excellent seedling protection delivers uniform, healthy stand to maximize yield potential
- A new mode of action with a favourable environmental profile
- Simplifies your seed treatment decisions

### INSECTS CONTROLLED **Bean leaf beetle and soybean aphid**

Lumiderm contains a unique Group 28 insecticide and provides soybean seedlings with extended protection against bean leaf beetle and soybean aphids. Lumiderm simplifies seed treatment decision-making considerably by reducing administrative paperwork.

### Excellent seedling protection – uniform and healthy stands

Lumiderm delivers the latest technology for insect protection for soybean production. With Lumiderm, soybean growers can be confident that their vulnerable seedlings will be safe from bean leaf beetle and soybean aphid.

To maximize yield potential, insect and disease protection go hand in hand. Take a look at the powerful protection of Lumiderm and Lumisena™ working together.

#### Lumiderm™ and Lumisena™ Strip Trial Kelburn Farm, MB



Standard IST + FST

Lumiderm + Lumisena™  
+ FST

IST – Insecticide Seed Treatment  
FST – Fungicide Seed Treatment

**CROPS**  
**Soybeans**

Lumiderm complements a fungicide seed treatment and results in healthier more abundant soybean stands.

**Lumiderm™ Target Pest Bean Leaf Beetle: Soybean Plot Site**

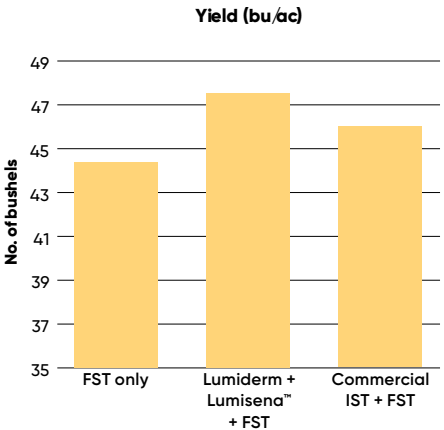


These pictures illustrate that Lumiderm is an improvement in bean leaf beetle control, compared to competitive products.

**Favourable environmental profile**

- Minimal impact on the environment
- Minimal impact on beneficial insects and pollinators when used in accordance with the label<sup>1</sup>

**Lumiderm Research Authorization Results**



Demo Strip Trials Data (Average of 8 locations, 2 Reps/location)

The issue of resistance is a growing concern. The registration of Lumiderm™ insecticide on soybeans will allow growers to protect their crops with industry-leading bean leaf beetle control and excellent protection against soybean aphids. With its unique Group 28 mode of action, it's also ideal for resistance management. Research is currently being conducted to add more soybean pests to the label.

**Lumiderm™ Soybean Seed Treatment  
Replicated Trial - Ridgetown College**



Fungicide Only

Lumiderm + FST

# Lumivia™

## INSECTICIDE SEED TREATMENT



Lumivia™ insecticide seed treatment delivers excellent broad-spectrum protection against key early-season corn insect pests, for a uniform, healthy standard higher yield potential.

### WHY USE LUMIVIA INSECTICIDE SEED TREATMENT?

- Outstanding early season insect protection
- New mode of action compared to standard insecticide seed treatments
- Offers a favourable environmental profile

### INSECTS CONTROLLED

- Cutworm
- Seedcorn maggot\*
- Wireworm
- White grubs

\**Suppression*

# LUMIVIA™ APPLICATION GUIDELINES

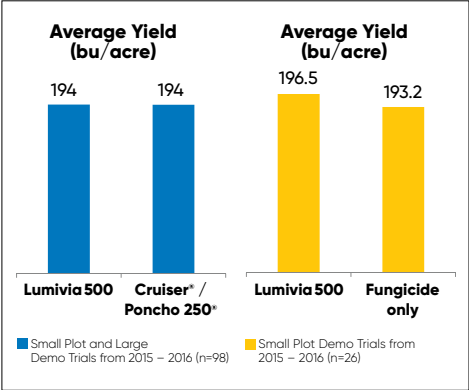
## CROPS

Corn  
(all types)

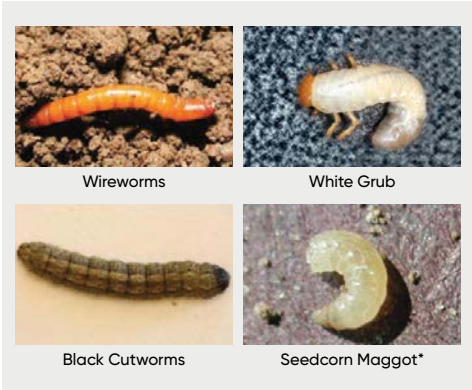
## RATES AND ACRES TREATED

- Pre-treated seed

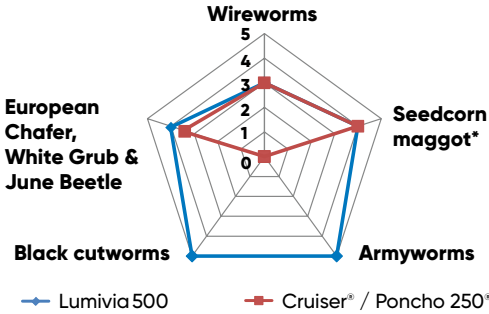
### Early Season Protection to Maximize Yield Potential¹



### Protection Against Key Early Season Insect Pests



### Lumivia™ Efficacy Comparison on Key Corn Pests



### Uniform, healthy stands & improved yield potential over fungicide only treated seed



Lumivia

Fungicide only

Source: Field trial, Shetland, ON 2016



# **Your crop protection partner**



# other information

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# PRODUCT AND RESEARCH UPDATES

Innovation is at the heart of Corteva Agriscience, which is why we take pride in collaborating with scientists, industry leaders and growers. Innovation and collaboration allow us to continually progress and better serve our clients, consumers and society as a whole.

## Product updates for the 2021 season.

### **Closer™ insecticide**

Closer delivers exceptional speed and control of aphids in corn. Closer contains Isoclast™ active, a Group 4C insecticide, ideal for controlling insects resistant to other classes. It moves quickly through the plant to control sap-feeding insects by both contact and ingestion. Closer is selective and can be used safely around beneficial populations when used according to the product label.

### **Enlist™ 1 herbicide**

Our newest addition to the Enlist™ Weed Control System, Enlist 1 provides growers a standalone 2,4-D choline formulation. Enlist 1 offers flexibility and choice – the ability to tank-mix and adjust the rates of glyphosate or Liberty 200 SN glufosinate. Enlist 1 has all the benefits of Colex-D™ technology including reduced drift, near-zero volatility, low odour and improved handling characteristics.

### **eNtrench NXTGEN™**

eNtrench NXTGEN™ nitrogen stabilizer is an enhanced formulation of eNtrench with improved handling and a lower use rate. Specific improvements include lower viscosity for better overall handling during early spring applications and a lower use rate of 710 mls per acre versus 1.1 liters per acre for better blending when mixing with urea, UAN and Manure. eNtrench NXTGEN nitrogen stabilizer contains Optinyte® technology, which assures up to eight weeks of unrivaled protection of urea, UAN and liquid manure during fall, spring and sidedress applications.

# PERFORMANCE COMMITMENT

When you purchase a Corteva Agriscience product, you're protected by our Performance Commitment Policy. We stand behind our crop protection products, our recommendations and all labeled uses. Your satisfaction is important to us; if you are not fully satisfied with a product's performance, we want to know.

## **The Corteva Agriscience performance commitment**

Product labels and Corteva Agriscience recommendations have been developed with extensive research. Labels and our recommendations create the foundation for safe and responsible use of our products and we stand behind them. Products must be applied according to the label and Corteva Agriscience recommendations.

We know weather is a significant and powerful variable every season. Corteva Agriscience is not responsible for poor performance or crop injury resulting from adverse weather conditions, resistant weed biotypes or inadequate crop competition.

We're committed to ensuring all customer inquiries are investigated fully. We will provide the most appropriate level of assistance, whether it be advice to help you move forward or replacement product.

The maximum product allowance is limited to the value of the original Corteva Agriscience product purchased and used for the area in question. Application costs will not be covered.

Growers involved in a product inquiry resolution must sign a settlement and release form.

Product cannot be substituted or returned.

Corteva Agriscience reserves the right to verify purchases through product invoices from the retailer.

To ensure appropriate resolutions, we must be notified as soon as possible when you are unsatisfied with a Corteva Agriscience product. We must be notified no later than 21 days after application and prior to July 31<sup>st</sup>. After July 31<sup>st</sup>, it's too late to confidently determine cause or remedial action so no good-will product can be provided. Crops must be standing in the field to make an adequate evaluation. Regardless of timing, we will always answer and document your calls.



# HERBICIDE RESISTANCE MANAGEMENT

**Herbicide resistance is spreading in Eastern Canada. Manage it in your fields by using multi-mode of action products and tank mixes.**

## **The value of multi-mode of action**

Managing the spread of herbicide resistance is important on all farms in Eastern Canada. Recent research shows that using multiple modes of action in one herbicide application is more effective at managing resistance than rotating between herbicide groups. Consider multi-mode of action products as an essential component of an integrated weed management strategy on your farm.

Multi-mode of action products contain two or more active ingredients with different modes of action. A multi-mode of action herbicide program can prevent and mitigate weed resistance.

It's preventative when used on weed species where no resistant weeds are present. These products deliver overlapping control on the same target weeds. To be truly multi-mode of action on a weed, it's important to ensure that the different modes of action target the same weed species. This is an effective foundation for reducing the development of weed resistance.

Using a multi-mode of action herbicide program can also help reduce the impact and spread of resistant weeds. When a weed species is already resistant to one of the two modes of action in a herbicide program, it will be controlled by the second mode of action. This reduces the likelihood that resistant weeds will survive and multiply, since they will be controlled before they go to seed and contribute to the weed seed bank. This prevents resistant plants from surviving and multiplying.

## **How weeds develop resistance**

Weeds are strong plants that are constantly evolving. Herbicide resistance develops mainly through the consistent use of one herbicide group over time. Resistant weeds within the weed population continue to grow and produce seed. This development can occur over several applications, production seasons and even while growing different crops. Each season, a weed that has herbicide resistance increases its seed as a percentage of the population relative to the controlled weeds. The cycle continues until it overtakes the field.

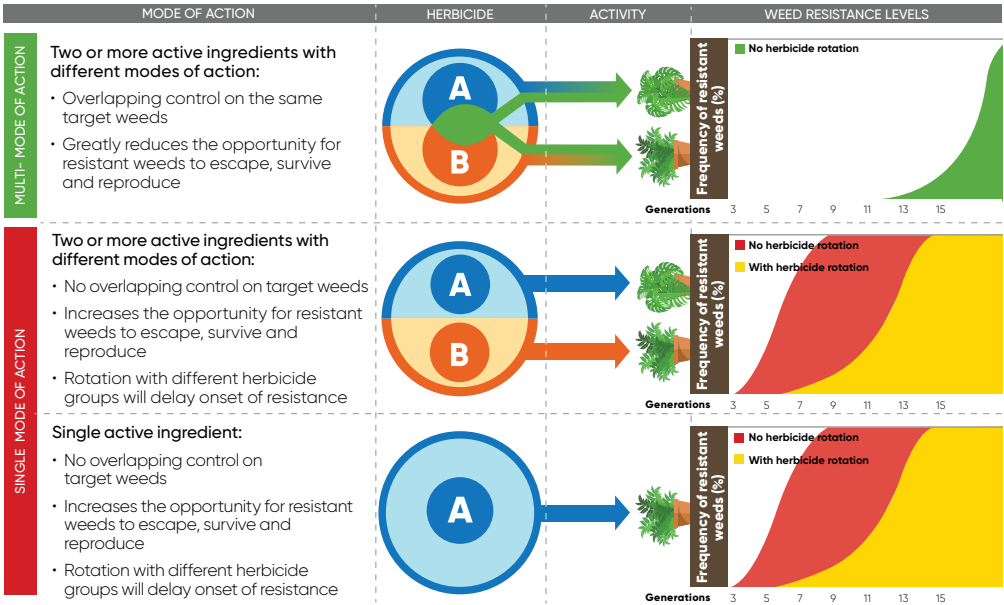
## **It's a growing problem**

Herbicide resistance continues to spread across Eastern Canada. The rapid spread of glyphosate-resistant Canada fleabane and common waterhemp are the most recent examples.

# Take action – use an integrated weed management approach

Follow these tips to help stop the spread of weed resistance and protect your farm.

- Scout your fields before and after spraying to identify individual weeds or plant patches not controlled by your herbicide program. Weed escapes can be caused by a spray application error or indicate developing resistance; monitor closely.
- Work with your retailer, crop consultant or extension service to test suspicious weeds.
- If you find resistant weed populations, manage them effectively so they do not spread.
- Remove patches or poorly or uncontrolled weeds by hand. Time spent now to remove problematic weeds can save you time in the future after the weed populations have spread.
- Use multi-mode of action herbicides.
- Rotate herbicide groups from one season to the next. Continuous use of the same active ingredient group will inevitably lead to herbicide resistance.
- Change your management strategy regularly to keep weed populations off balance.
- Some suggestions include: do a pre-plant burndown at a different time than usual, choose later or earlier maturing crops, switch to forages, grow a fall seeded crop, or use integrated practices to help crops get ahead of weeds.
- Applying a product or tank-mix with multiple modes of action helps prevent weed escapes, because any weed in a plant population that is tolerant to one mode of action will be controlled by the second mode. This reduces the likelihood that resistant plants will survive and multiply. If no resistant weeds are present, multi-mode of action herbicide use will further delay resistance development. If a weed species is already resistant to one of the two active ingredients in an herbicide mix, then multi-mode no longer applies as only one active ingredient is controlling the weed.



\*Adapted from: Powles, S.B., Preston, C., Bryan, I.B., and Jutsum, A.R., (1997) Herbicide Resistance: Impact and Management. Advances in Agronomy. Vol. 58, pp.57-93

Herbicide rotation alone will delay the onset of resistance; however, incorporating Multi-Mode of Action products in conjunction with rotation is a more effective resistance management strategy.


The graphs depicting frequency of resistant weeds over generations is a hypothetical example valid only for the modeled parameters.

Actual rates of weed resistance development and increase are dependent on a variety of conditions, including the weed species, propensity for outcrossing, seed dormancy, mode of inheritance of the resistance trait, herbicide mode of action and herbicide efficacy.



## NOTES

## Questions?

Visit your local crop protection retailer.  
Contact the Solutions Center  
at 1-800-667-3852 or  
follow us  @CortevaCA

Refer to product label for complete use instructions.

Visit us at [corteva.ca](https://corteva.ca)



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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