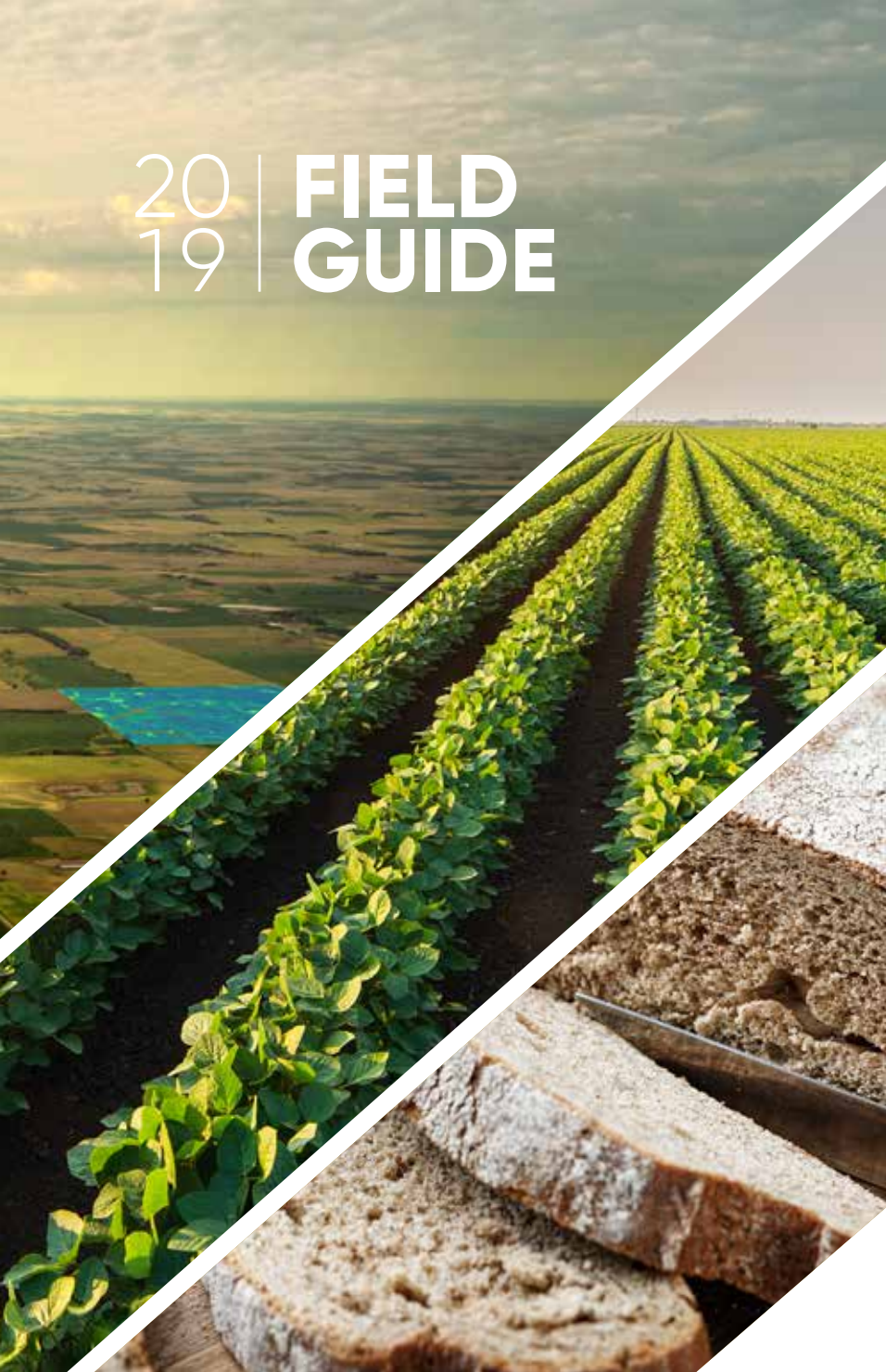


2019 | FIELD GUIDE



Agriculture Division of DowDuPont

2019 IS A BIG YEAR FOR US

In a world with changing food needs, we are an industry leader who will work closely with you to play a crucial role in feeding the world.

WHO WE ARE



Corteva means *"at the heart of everything nature."*

And with the new company we've built, we truly are. It's our aim to bring you, the producer, closer to those who consume.

Integration is at our core.

We're proud to bring you end-to-end solutions for your farm business.

CROP PROTECTION



SEED



DIGITAL SERVICES



In this 2019 Corteva Agriscience™, Agriculture Division of DowDuPont, crop protection field guide you will find the most comprehensive and effective suite of products on the market. We're confident your business will feel the benefits.

Thank you for choosing **Corteva Agriscience** as your crop protection partner for 2019



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Row Crop Products

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Guardian™ MAX herbicide

Lannate™ insecticide

Pixxaro™ herbicide

Simplicity™ GoDRI™ herbicide

Ultim™ herbicide





Acapela™

FUNGICIDE

Acapela™ fungicide provides more complete coverage and protection against key diseases like white mould (sclerotinia), anthracnose, stripe rust, septoria leaf blotch, crown rust, Northern corn leaf blight, and many more.

CROPS

Soybeans, corn (field, seed, sweet, popcorn), cereals (barley, oats, rye, triticale, wheat) and dry edible beans.

CROP ROTATION

Any crop the following year.

APPLICATION INFORMATION

Packaging: One (1) case = 2x9.6 L jugs or 115.2 L drum.

Minimum Water Volumes:

Ground: 110 L/ha = 10 gal/ac.

Air: 50 L/ha = 4.5 gal/ac.

Aerial Application: Acapela is registered for aerial application.

- Acapela is an innovative tool and proven solution for the **management of white mould** (sclerotinia), a devastating disease of soybeans and dry edible beans.
- Acapela has **one-of-a-kind movement properties** that help provide superior coverage to deliver reliable disease control under a variety of conditions:
 - Rapid uptake, excellent xylem systemic movement and redistribution over the leaf surface
- Acapela provides **broad-spectrum** control of important foliar diseases including Northern leaf blight, Septoria, Cercospora, rust and powdery mildew.
- Acapela helps deliver **healthier crops** and **higher yield potential**.

Acapela™ is a proven solution for white mould

Untreated, White mould infestation

Acapela™



DISEASES CONTROLLED AND APPLICATION INFORMATION

Crop	Diseases	Rate	Application Information
Soybeans	Asian soybean rust Brown spot (Septoria) Frogeye leafspot (Cercospora)	0.18 to 0.35 L/ac (0.44 to 0.88 L/ha)	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).
	Sclerotinia stem rot ¹ (white mould)	0.35 L/ac (0.88 L/ha)	For white mould, make initial preventative application at R1 to R2 (beginning to full bloom) and follow up with 2 nd application 7 to 10 days later.
Corn (Field, Sweet, Seed, Popcorn)	Northern corn leaf blight	0.21 to 0.32 L/ac (0.53 to 0.8 L/ha)	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.
Cereals (Barley, Oats, Rye, Triticale, Wheat, Flax)	Crown rust (oats) Leaf rust (wheat, rye and triticale) Net blotch (barley) Powdery mildew Scald (barley and rye) Septoria leaf blotch (wheat, rye, barley and triticale) Stripe rust (cereal grains) Tan spot (wheat) Pasm (flax)	0.18 to 0.35 L/ac (0.44 to 0.88 L/ha)	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. To optimize yields in cereals, it is important to protect the flag leaf from foliar diseases. For optimizing yield and flag leaf disease control, apply Acapela™ at Feeke's 9, 'flag leaf out'. Do not apply after flowering (Feeke's 10.5).
Dry Legumes (Adzuki bean, Blackeyed pea, Broad bean (dry), Catjang, Chickpea, Cowpea, Crowder pea, Field bean, Field pea, Grain lupin, Guar, Kidney bean, Lablab bean, Lentil, Lima bean, Moth bean, Mung bean, Navy bean, Pigeon pea, Pinto bean, Rice bean, Southern pea, Sweet lupin, Tepary bean, Urd bean, White lupin, White sweet lupin)	Mycosphaerella ¹ blight (field peas) Asian soybean rust Anthracnose (lentils and dry beans) Ascochyta blight (lentils)	0.24 to 0.35 L/ac (0.6 to 0.88 L/ha)	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.
	Sclerotinia rot ¹ (white mould)	0.35 L/ac (0.88 L/ha)	For white mould, make initial preventive application at beginning bloom and follow with 2 nd application 7 to 10 days later at full bloom.

¹ Suppression.

Refer to the Acapela™ fungicide label for complete use instructions.

Accent™

HERBICIDE

Apply Accent™ herbicide from the 1-leaf to 8-leaf stage of corn. It's safe on low heat unit hybrids, and many seed corn and sweet corn varieties. Also provides excellent re-cropping flexibility the following year.

- Wide window of application: 1-leaf to 8-leaf stage of corn
 - Safe on low heat unit hybrids, seed corn and many sweet corn varieties
 - Excellent re-cropping flexibility
- 🌿 **CROPS** Field corn, seed corn, sweet corn (approved varieties only).
 - 📦 **PACKAGING** Available in a 10 acre (4 ha) pouch, containing 4 x 2.5 acre water soluble bags.
 - 🔄 **CROP ROTATION** **Four (4) months:** Winter wheat. **Ten (10) months:** Spring barley, canola, soybeans, white beans, red clover, sorghum, field corn and alfalfa.

WEEDS CONTROLLED AND APPLICATION INFORMATION

Crop	Weeds	Rate	Window of Application	Application Information
Field corn Seed corn Sweet corn (approved varieties only)	Barnyard grass Fall panicum Green foxtail Long-spined sandbur Old witchgrass Quackgrass Yellow foxtail	One (1) pouch treats 10 acres (4 ha). Add a registered nonionic surfactant (NIS) such as Agral® 90 or Ag-Surf® at 2 L per 1000 L of spray solution (0.2% v/v).	1-leaf to 8-leaf stage of field and seed corn 1-leaf to 6-leaf stage of sweet corn	Quackgrass – Apply when the majority of the quackgrass shoots are actively growing and in the 3-leaf to 6-leaf stage. Annual grasses not emerged at the time of application will not be controlled. For the control of yellow foxtail, apply with 28% liquid urea ammonium nitrate (UAN) at 2 L/ac (5 L/ha) plus a recommended non-ionic surfactant (NIS). For control of long-spined sandbur, apply Accent at the 3-leaf to 5-leaf stage.

GROUP

1

Assure™ II

HERBICIDE

Assure™ II herbicide is the premium grass herbicide for managing grassy weeds in a wide range of crops. With a flexible application window and Sure-Mix™ surfactant included, Assure II provides best-in-class control of volunteer corn and annual grasses in crops.

- Provides superior* control of volunteer corn (including glyphosate tolerant corn) in soybeans
- Wide window of application
- Excellent crop safety

CROPS Soybeans, sunflowers, alfalfa, lima beans, adzuki beans, mung beans, canola, dry common beans, flax, sugar beets, snap beans, rutabagas, industrial hemp, sunflower, lentils, peas, cucurbit vegetables.

PACKAGING Assure II is packaged in a case with 1 x 7.5L jug of Assure II and 1 x 9.5L jug of Sure-Mix surfactant.

CROP ROTATION Any crop the following year.



Assure™ II provides premium control of volunteer corn

13 days after application

* Based on Ontario trials conducted in 2003 by Dr. Peter Sikkema, University of Guelph.

ASSURE™ II herbicide

WEEDS CONTROLLED AND APPLICATION INFORMATION

CROP	WEEDS	RATE	WINDOW OF APPLICATION	APPLICATION INFORMATION
Alfalfa (Seed) Beans (White, Kidney (red, white), Cranberry, Eye (black, brown, yellow), Lima, Mung, Otebo, Adzuki (in Southern Ontario only), Canola, Dry common beans, Flax, Industrial hemp (grown for fibre, Ontario only), Rutabagas (Ontario and Quebec only), Soybeans, Sugar beets, Sunflowers (2 to 8-leaf)	Green foxtail Volunteer barley Volunteer corn Volunteer oats Volunteer wheat Wild oats (no tillers)	0.15 L/ac (0.38 L/ha) Add Sure-Mix (provided in the box) at 5 L per 1000 L of spray solution (0.5% v/v).	It is important to time the application of Assure II to the <u>weed staging</u> since Assure™ II can be safely applied at almost any stage of the crop.	Apply to volunteer corn and quackgrass at the 2-leaf to 6-leaf stage and when other labeled weeds are at 2-leaf stage to early tillering stage
	<u>All the above, plus:</u> Barnyard grass Downy brome Fall panicum Foxtail barley Japanese brome Old witchgrass Proso millet Quackgrass ¹ Wild oats (up to 2 tillers) Yellow foxtail	0.20 L/ac (0.5 L/ha) Add Sure-Mix (provided in the box) at 5 L per 1000 L of spray solution (0.5% v/v).		
	<u>All the above, plus:</u> Quackgrass (control)	0.30 L/ac (0.75 L/ha) Add Sure-Mix (provided in the box) at 5 L per 1000 L of spray solution (0.5% v/v).		
Soybeans	Long-spined sandbur	0.15 L/ac (0.38 L/ha) Add Sure-Mix (provided in the box) at 5 L per 1000 L of spray solution (0.5% v/v).		Apply when the <u>long-spined sandbur</u> is at the 2-leaf to tillering stage.

¹ Suppression.

Broadstrike™ RC

HERBICIDE

Use Broadstrike™ RC herbicide in conventional, conservation tillage or no-till corn and soybean production systems to control a wide range of broadleaf weeds.

WHY USE BROADSTRIKE™ RC?

- Reduced passes over the field
- Ability to tank mix with glyphosate
- Control of hard-to-kill, no-till weeds – Canada fleabane¹ and suppression of wild carrot³
- Early removal of broadleaf weeds, with extended residual control
- Outstanding crop safety in all soybean varieties and field corn

CROPS

Field corn, Soybeans

TANK MIXES

Broadstrike RC can be tank-mixed with many corn and soybean herbicides. For crop timing, follow the most restrictive label.

PRE-HARVEST INTERVAL

90 days

CROP ROTATION

4 months:

Winter wheat

10 months:

Spring wheat, spring barley, oats, soybeans, common beans (dry, snap), lima beans, processing peas, field corn, seed corn

BROADSTRIKE™ RC APPLICATION GUIDELINES

Crop	Weeds	Rate	Window of Application
Field corn	Common lamb's-quarters, Common ragweed ^{2,3} , Redroot pigweed, Velvetleaf, Wild mustard,	62.5 g/ha (25 g/ac). One jug treats 28 acres	Surface pre-plant Pre-emergence Pre-plant incorporated Early post up to 8-leaf corn
	Eastern black nightshade, Wormseed mustard		Surface pre-plant Pre-emergence Pre-plant incorporated
	Canada fleabane ¹ Common chickweed		Surface pre-plant Pre-emergence
Soybeans	Common lamb's-quarters, Common ragweed ^{2,3} , Eastern black nightshade, Lady's-thumb, Redroot pigweed, Velvetleaf, Wild carrot ² , Wild mustard, Wormseed mustard	87.5 g/ha (35 g/ac). One jug treats 20 acres	Surface pre-plant Pre-emergence Pre-plant incorporated
	Canada fleabane ¹ Common chickweed		Surface pre-plant Pre-emergence
	Green foxtail ² Cocklebur ²		Pre-emergence Pre-plant incorporated
	Lady's-thumb ² Field horsetail ²		Pre-plant incorporated

¹Populations resistant to Group 2 herbicides exist in certain areas of Eastern Canada. Broadstrike RC alone may not control weed biotypes resistant to Group 2 herbicides. ²Suppression. ³If weed pressure in soybeans is heavy, tank mix with another product that provides a different mode of action.



GROUP

2

GROUP

5

Canopy™ PRO

HERBICIDE

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



CROPS

Glyphosate-tolerant and IP soybeans



PACKAGING

One (1) case of Canopy PRO herbicide treats 20 acres. One (1) case of Canopy PRO contains 1 x 288 g jug of Classic Grande + 2 x 2.2 kg jugs of TriCor® 75 DF metribuzin.

- Can be applied with a glyphosate of choice for a powerful burndown with residual control
- Delivers enhanced residual activity to help maximize early season control of tough weeds such as dandelion and lamb's-quarters
- Provides two modes of action to help manage weed resistance



APPLICATION INFORMATION



Glyphosate resistant Canada fleabane control: Apply Canopy PRO as a tank-mix with Elevore™ herbicide, or dicamba¹ to ensure knockdown of emerged Canada fleabane seedlings. Pre-plant applications tank-mixed with Elevore must be applied a minimum 7 days before planting soybeans. For a complete burndown program, tank-mix with glyphosate.

GT soybeans: Canopy PRO provides a solid base of early weed control to help keep the crop weed-free during the early, critical trifoliate stages. For a complete program, follow up with an in-crop glyphosate application. Approved* tank-mixes: Elevore, glyphosate, or Eragon® LQ.

IP soybeans: Canopy PRO should be tank-mixed with other pre-emergence herbicides to ensure a complete approach to weed control and resistance management. To manage volunteer corn and annual grasses, follow up with an in-crop application of Assure II herbicide. Approved* tank-mixes: Dual® II Magnum®, Frontier® MAX, Zidua®.



Roundup Ready 2 Xtend™ soybeans: Canopy PRO provides an ideal multi-mode of action base to a Roundup Ready 2 Xtend™ weed control system. Apply with glyphosate and a low volatile dicamba such as FeXapan™ for a pre-plant or pre-emergence burndown with residual.



Untreated	Canopy™ PRO + Elevore™ + glyphosate
	
74 days after application	4 herbicide groups: 2, 4, 5 & 9

2018 Ontario Research Trial - Dr. Peter Sikkema, University of Guelph

WEEDS CONTROLLED AND APPLICATION INFORMATION					
Crop	Weeds			Application Information	
Soybeans	<u>Broadleaf weeds:</u>	Lady's-thumb Canada fleabane ⁴ Carpetweed Cocklebur ¹ Common chickweed Common ragweed Dandelion Green smartweed Jimsonweed ¹	Lamb's-quarters Pigweed, redroot and prostrate Prickly mallow Russian thistle Shepherd's purse Velvetleaf Wild mustard Wild potato vine Yellow woodsorrel	<u>Annual grasses:</u> Barnyard grass ² Cheatgrass ² Crabgrass ² Fall panicum ² Fall Johnson grass (seedling) ² Giant foxtail ² Green foxtail ² Witchgrass ² Yellow foxtail ²	<u>Pre-emergence:</u> Apply Canopy PRO after planting but prior to crop emergence.
		<u>All the weeds listed above, plus:</u> Annual sow thistle Prickly lettuce Yellow nutsedge ³			<u>Pre-plant burndown:</u> Apply Canopy PRO with a glyphosate of choice for burndown and residual control. Apply up to 14 days before planting.
¹ Large-seeded weeds, germinating deep in the soil, such as cocklebur and jimsonweed may not be fully controlled. ² Partial control. ³ Suppression. ⁴ Including glyphosate resistant biotypes. Must be tank-mixed with Elevore or Eragon®. For Roundup Ready 2 Xtend™ soybeans, tank-mix with a low volatile dicamba product such as FeXapan™ herbicide Plus VaporGrip™ Technology					

TREATED PRE-EMERGENCE CANOPY™ PRO HERBICIDE ALONE	UNTREATED
	
28 days after treatment	

Source: Corteva Agriscience Research Trial, Breslau, ON, July 2013

*Follow complete recommendations of tank-mix products used. ¹For Roundup Ready 2 Xtend™ soybeans only. Use only approved low volatile dicamba such as FeXapan™ herbicide Plus VaporGrip™ technology. Refer to the Elevore™ label for complete use instructions.

Classic™

HERBICIDE

Classic™ herbicide provides excellent control of late-emerging perennials like dandelion (top growth), yellow nutsedge, common ragweed, redroot pigweed and velvetleaf, as well as suppression of wild carrot and volunteer adzuki beans.



CROPS Soybeans



PACKAGING One 144g pouch = 10 acres. One 576g jug = 40 acres



CROP ROTATION

See chart below

- Excellent control of broadleaf weeds such as common ragweed and velvetleaf
- Manages “hard-to-kill” perennial weeds like nutsedge, dandelion and wild carrot
- Tank-mix with Assure™ II for one-pass control of both grass & broadleaf weeds like quackgrass and yellow foxtail
- For use on IP, conventional and glyphosate-tolerant soybeans

CROP ROTATION: REPLANTING INTERVAL (MONTHS)

Soil pH	Southern Ontario Only: Cabbage, Garden peas, Sweet corn*	Field Corn	Winter Wheat	White Beans	Soybeans	Alfalfa	Tomatoes
≤7.0	11	10	3	10	10	10	12
>7.0 ≤7.4	Do not plant						
>7.4 ≤7.8	Do not plant	10	4	Do not plant	10	Do not plant	12
>7.8 ≤8.0	Do not plant		4	Do not plant			12
>8.0	Do not plant						
* Warning: Sweet corn varieties may vary in their sensitivity to Classic™ residues.							

* Warning: Sweet corn varieties may vary in their sensitivity to Classic™ residues.

WEEDS CONTROLLED AND APPLICATION INFORMATION

Crop	Weeds	Rate	Window of Application	Application Information
Soybeans	Dandelion ¹ Ragweed (common) Redroot pigweed Velvetleaf Volunteer adzuki beans ² Wild carrot ² Yellow nutsedge	One (1) pouch treats 10 acres (4 ha). Add a registered non-ionic surfactant (NIS) such as Agral® 90 or Ag-Surf® at 2 L per 1000 L of spray solution (0.2% v/v)	<u>Post-emergent:</u> The optimum timing for application is from soybean emergence up to the third trifoliate stage of growth. Do not apply after the initiation of flowering.	Make only one application per year. For more consistent control of velvetleaf, add 28% UAN at 0.8 L/ac (2 L/ha). For control of annual grasses add Assure™ II at 0.15 L/ac to 0.2 L/ac (0.375 L/ha to 0.5 L/ha). Apply to wild carrot when in the 2 to 20 leaf stage of growth. Apply to volunteer adzuki beans when in the 1 to 3 trifoliate stage of growth.
	Dandelion		<u>Pre-emergent:</u> Apply to field preplant or post-plant	For season long control of dandelion (up to bolting) apply 14.4 g/ac (36 g/ha) preplant or post-plant pre-emergence.

¹Top growth control. ²Suppression.

Refer to the Classic™ label for complete use instructions.



Delegate™

INSECTICIDE

Delegate™ insecticide offers quick knockdown and residual control of Western bean cutworm and European corn borer in corn and armyworm in wheat with a novel Group 5 mode of action.

WHY USE DELEGATE™?

- Long-lasting residual control across multiple growth stages
- Important rotation/IPM tool for its unique mode of action.
- Fast knockdown by either contact or ingestion
- Translaminar activity provides extra protection against insects that feed on the underside of leaves
- Resistance to wash-off by rain when dry (two hours)

CROPS

Field corn, Popcorn, Seed corn, Sweet corn, Wheat, Soybeans

TANK MIXES

Delegate can be tank mixed with a fungicide, provided:

- The tank mix partner is registered on the crop.
- The application timing of all tank mix partners are compatible with crop and pest staging.
- The most restrictive label directions of the tank mix are followed.

PRE-HARVEST INTERVAL

- Sweet corn and seed corn: 1 day
- Field corn and popcorn: 28 days
- Forage and stover harvest: 7 days
- Wheat: 21 days
- Soybeans: 28 days

DELEGATE™ APPLICATION GUIDELINES

Crop	Insects	Rate	Application Information
Field corn Popcorn Seed corn Sweet corn	Western bean cutworm European corn borer	120 to 210 g/ha (50 to 85 g/ac)	Applications should be timed at egg hatch or to small larvae. Use the higher rate for heavy infestations, large larvae and for longer residual control. Repeat applications based on monitoring of insect populations. Apply a maximum of 3 applications per year with a minimum of 5 days between applications.
Wheat	Armyworm	100 to 200 g/ha (40 to 80 g/ac)	Scout for the pest with enough regularity to monitor egg laying and egg hatch and treat when thresholds are reached. Applications perform best when timed to coincide with peak egg hatch and/or small larval stage of growth of each generation.
Soybeans	Armyworm	100 to 200 g/ha (40 to 80 g/ac)	Time the initial application to target small larvae and use sufficient spray volume to ensure good coverage. Use the higher rate for heavy infestation and/or difficult spray coverage situations.

Delegate™ is classified as a Class 3 pesticide by OPAC. Aerial applications do not require a permit.

Destra™ IS

HERBICIDE

Simple – Low use rate dry formulation speeds up sprayer loading, allowing you to cover more acres. Tank-mix with your preferred glyphosate for one-pass weed control in glyphosate tolerant corn.

Sweat-free – Excellent crop safety under a wide range of conditions up to the 8-leaf stage. Registered for use on short season corn hybrids. With two modes of action and residual broadleaf and grass activity, spray anytime from the 3 leaf stage and feel confident that you're helping to maximize your crop's yield potential while keeping herbicide resistance in check.



CROPS

Field corn – conventional or herbicide tolerant hybrids.



CROP ROTATION

4 months: Winter wheat,
10 months: Field, seed, sweet corn
11 months: Soybeans, white beans.



TANK MIX OPTIONS

Tank mix Destra™ IS herbicide with a glyphosate herbicide (glyphosate tolerant corn only) at 900 gai/ha or a non-ionic surfactant at 2 L/1000 L spray solution (0.2% v/v). Tank-mix with AAtrex® Liquid 480 at 0.23 L/ac for enhanced broadleaf control and an additional mode of action.

WEEDS CONTROLLED AND APPLICATION INFORMATION

Crop	Weeds	Rate	Window of Application	Application Information
Field Corn	Common ragweed*, Eastern black nightshade, Fall panicum, Green foxtail, Green pigweed, Lamb's quarters, Old witchgrass, Quackgrass*, Redroot pigweed, Velvetleaf, Volunteer canola	110 grams/acre One (1) jug treats 40 acres	Post emergence application from the 3 to 8 leaf stage of corn (approximately V2-V6).	When Destra IS is tank-mixed with glyphosate in GT corn, a surfactant is not required. Ideal application timing is V2-V3 (3-5 leaf stage of corn) when weeds are small and the extended residual activity can help control later flushes of weeds.

CROP SAFETY ON SHORT SEASON HYBRIDS

13 Days after application, P7443R 2100 CHU Hybrid



Destra™ IS
2X Application Rate

RoundUp® WeatherMax®

DESTRA™ IS PROVIDES RESIDUAL CONTROL



Destra™ IS

Glyphosate alone

Corteva Research Trial, Thorndale, ON, 2015

*Suppression. Refer to the Destra™ IS label for complete use instructions.

Corteva Research Trial, Thamesford, ON, 2014

Diligent™

HERBICIDE

- Multi-Mode pre-plant and pre emergence weed control in soybeans to defend against weed resistance and get your soybeans off to a strong start

CROPS Soybeans (conventional or glyphosate tolerant including Roundup Ready, Roundup Xtend™ and Enlist varieties)

PACKAGING 2 x 2.816 jugs per 80 acre case. 1 jug treats 40 acres

- Early residual control of glyphosate resistant waterhemp†
- Diligent™ herbicide provides flexibility to tank-mix with glyphosate and other residual herbicides. It fits any production system including Roundup Ready 2 Xtend™ and Enlist™ soybeans.



Glyphosate alone



Diligent + glyphosate

Source: Corteva Agriscience Field Trial, Thorndale, ON, 2014

CROP ROTATION: REPLANTING INTERVAL (MONTHS)

Soil PH	Field Corn	Winter Wheat	White Beans	Soybeans	Alfalfa
≤7.0	10	4	10	10	11
>7.0 ≤7.4					
>7.4 ≤7.8	10	4	Do Not Plant	10	Do Not Plant
>7.8 ≤8.0	Do Not Plant	4	Do Not Plant		
>8.0	Do Not Plant				

*Warning: Sweet corn varieties may vary in their sensitivity to Diligent residues

WEEDS CONTROLLED AND APPLICATION INFORMATION

Crop	Weeds	Rate	Window of Application	Application Information
Soybeans (Non-GMO and glyphosate tolerant)	Canada fleabane, Common chickweed, Common ragweed, Dandelion*, Eastern black nightshade, Fall panicum**, Green foxtail**, Green pigweed, Hairy nightshade, Lamb's-quarters, Redroot pigweed, Palmer amaranth***, Waterhemp***†,†	70.4 g/acre 1 jug treats 40 acres	Pre-plant up to 30 days before planting Pre-emergence up to 3 days after planting, prior to soybean emergence	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. Do not perform any tillage operations after application or weed control will be reduced. Apply only once during a single growing season. Do not apply PPI (pre-plant incorporated or to emerged soybeans.

*Early-season control only on medium-textured soils. ** Suppression only. *** Including biotypes resistant to herbicide groups 2,5 and 9.
† Submitted for registration.

Elevore™

Arylex™ active

HERBICIDE

Introducing Elevore™ herbicide – a Group 4 option for pre-plant burndown of broadleaf weeds, including glyphosate-resistant Canada fleabane, in both field corn and soybeans.

WHY USE ELEVORE™?

- Flexible. Applications can fit before either conventional, Roundup Ready®, Enlist™ or Xtend™ production systems.
- Best solution for Canada fleabane. Provides more consistent control of glyphosate resistant fleabane than leading competitors.
- Consistent control of Group 2 + 9 resistant Canada fleabane and common ragweed.
- Resistance management. Numerous Multi-Mode tank mix options available including glyphosate and/or soil residual herbicides to provide a clean start and long lasting control.

 **CROPS** Field corn, Soybeans

CROP ROTATION

4 months: Winter Wheat

10 months: Wheat, barley, dry bean (Phaseolus 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 following application: Lentils

 **PRE-HARVEST INTERVAL** Please see label for full pre-harvest and grazing intervals



Source: 2017 Research Trial, Dr. Peter Sikkema, University of Guelph Ridgetown Campus

ELEVORE™ APPLICATION GUIDELINES

Crop	Weeds	Rate	Window of Application	Application Information
Field corn	Canada fleabane ^{1, 2} , Cleavers (1-9 whorl stage), Common ragweed (up to 6-leaf stage) ² , Hemp-nettle*, Lamb's-quarters, Redroot pigweed*, Volunteer flax (up to 15 cm in height)	73 mL/ha (29.5 ml/ ac) in 100-200 L water/ha. Add methylated seed oil (or an equivalent crop oil concentrate) at 0.5 - 1% v/v.	5 days before planting corn	Apply when weeds are small and actively growing. Only weeds emerged at the time of treatment will be controlled.
Soybean			7 days before planting soybeans	Seeding/ planting depth: minimum 4 cm (1.6 inches)

*Suppression. ¹Light to moderate infestations (up to 250 plants/m²; up to 16 cm in height). ²Including Group 9 (glyphosate) and Group 2 (ALS inhibiting herbicides) resistant biotypes.

Engarde™

HERBICIDE

Controls tough broadleaf and grass weeds with knockdown and residual action, from pre-emergence up to the 2-leaf stage of corn.

- Superior application flexibility: pre-emergent to the 2-leaf stage.
- Provides cross-spectrum knockdown and residual control.
- Engarde delivers enhanced early and residual control of many annual broadleaf and grass weeds.
- Two modes of action help guard against weed shifts and resistance.



CROPS

Field corn – conventional or herbicide tolerant hybrids.



PACKAGING

All dry WG formulation. One (1) case of Engarde™ herbicide treats 80 acres (32 ha). One case of Engarde™ contains 2 x 5.568 kg jugs (40 acres/jug).



CROP ROTATION

4 months: Winter wheat

11 months: Soybeans, white beans

Anytime: Corn

Engarde™ delivers enhanced broad-spectrum early weed control



Untreated



Engarde™ alone – 66 days after treatment

Source: Field Trials, Lambeth, ON, Aug 2014

WEEDS CONTROLLED AND APPLICATION INFORMATION

CROP	WEEDS		RATE	WINDOW OF APPLICATION	APPLICATION INFORMATION
Field Corn	<u>Broadleaf weeds:</u> Common ragweed ¹ , Lamb's-quarters, Redroot pigweed (including triazine resistant), Velvetleaf, Wild mustard	<u>Grassy weeds:</u> Barnyard grass, Fall panicum, Green foxtail, Large (hairy) crabgrass ¹ , Old witch grass, Quackgrass ¹ , Yellow foxtail ¹	One (1) jug treats 40 acres (16 ha) – 139.2 g/acre.	Pre-emergence to 2-leaf stage of corn	For additional residual weed control tank-mix with a soil applied grass herbicide. For control of emerged weeds add a non-ionic surfactant at 2 L/1000 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.

¹ Suppression.



Enlist Duo™

HERBICIDE

The threat of hard-to-control and resistant weeds calls for tough solutions. Enlist Duo™ herbicide with Colex-D™ technology delivers exceptional, broad-spectrum control.

WHY USE ENLIST DUO™?

- With two modes of action – a proprietary blend of 2,4-D choline and glyphosate – Enlist Duo is tough on problem weeds.
- Broad-spectrum grass and broadleaf weed control.
- Colex-D technology provides near-zero volatility and reduced drift.
- Available as a low odour pre-mix that is safe and easy to use.
- Tank-mix options with select products are available for burndown or pre-seed use.



CROPS

Ahead of corn and cereal crops, Enlist corn hybrids, Enlist soybean varieties (coming soon)



TANK MIXES

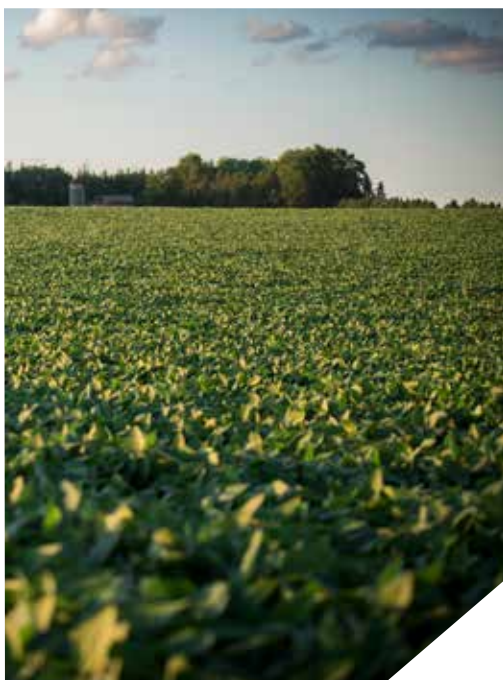
Tank-mix options with key products are available for burndown or pre-seed use. The Product Use Guide available at EnlistCanada.ca will provide more information on compatible products for use with Enlist Duo.



PRE-HARVEST INTERVAL

Enlist soybeans: Do not harvest for forage or hay.

Enlist corn: Do not harvest forage or cut hay within 30 days after application





eNtrench™

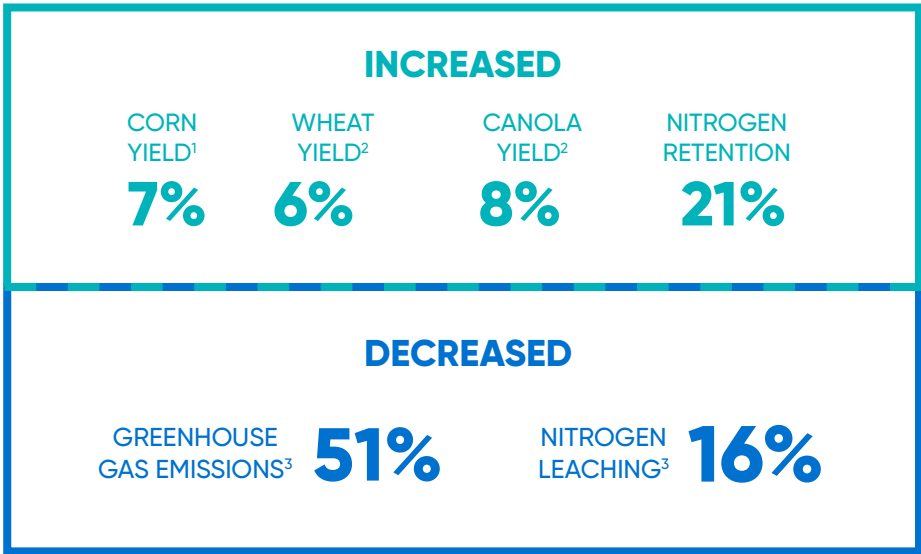
NITROGEN STABILIZER

Keep nitrogen in the root zone longer
and protect your nitrogen investment
to optimize yield and profit potential

WHY USE ENTRENCH™ NITROGEN STABILIZER?

- eNtrench works to stabilize nitrogen by slowing the conversion of ammonium to nitrate, thus minimizing nitrogen loss from denitrification and leaching.
- Designed for use with liquid fertilizers, including UAN and liquid manure.
- Use with dry nitrogen fertilizer, such as urea, by impregnation.

BENEFITS OF USING ENTRENCH™ NITROGEN STABILIZER



¹Based on combined meta-analysis data. ²Based on Corteva AgroSciences Canada research trials. ³Source: J.D. Wolt, 2004, A meta-evaluation of nitrapyrin agronomic and environmental effectiveness with emphasis on corn production in the Midwestern USA. Nutrient Cycling in AgroEcosystems.



ENTRENCH™ NITROGEN STABILIZER APPLICATION GUIDELINES



CROPS

Corn, Wheat, Canola



RATE

Designed for use with liquid fertilizers, including UAN and manure.

2.7 L/ha (1.1 L/ac)



TANK MIXES

eNtrench may be applied in tank mixtures with pre-plant incorporated or pre-emergence herbicides or insecticides registered for use on corn, wheat, barley, oats and canola. Do NOT tank mix with Eragon® Integrity® as products are incompatible.



APPLICATION TIMING

- Apply in the fall or spring with liquid manure applications
- Apply pre-plant with dry or liquid fertilizers
- Apply in crop with side-dressed UAN in corn
- Apply in crop in winter wheat in early spring with top dress nitrogen, either UAN or on dry fertilizer

OPTINYTE™ TECHNOLOGY THAT POWERS ENTRENCH™ HAS BEEN PROVEN TO:

- Reduce greenhouse gas emissions up to 51%
- Increase yields of corn, wheat and canola
- Decrease nitrogen leaching by 16%
- Provide a 21% increase in soil nitrogen retention

FeXapan™

Plus VaporGrip™ Technology

HERBICIDE

Enhanced weed control in
Roundup Ready 2 Xtend™ soybeans



CROPS

Roundup Ready 2 Xtend™ soybean varieties.



CROP ROTATION

120 days for soybeans, corn, cereals



PACKAGING

One (1) case = 2 x 10 L jugs

- Control of key broadleaf weeds including certain glyphosate-resistant biotypes
- Excellent crop safety
- Systemic activity within the plant
- Low-volatile dicamba formulation featuring VaporGrip™ technology





FEXAPAN™ HERBICIDE WEEDS CONTROLLED AND APPLICATION INFORMATION FOR ROUNDUP READY 2 XTEND™ SOYBEANS			
WEEDS	RATE	WINDOW OF APPLICATION	APPLICATION INFORMATION
Velvetleaf, common ragweed, giant ragweed, false ragweed, common lamb's-quarters, redroot pigweed, smooth pigweed, Russian pigweed, green smartweed, lady's-thumb, wild mustard, hare's-ear mustard, Indian mustard, tumble mustard, wormseed mustard, wild buckwheat, tartary buckwheat, Canada fleabane ¹ , corn spurry, cleavers, cow cockle, Canada thistle ² , perennial sow thistle ² , field bindweed ²	0.33-0.7 L/ac	Pre-plant, Pre-emergence or Post-emergence up to early flower stage (R1)	<p>The 0.7 L/ac rate of FeXapan™ is to be used only once in a season and should be used pre-plant, pre-emergence or in-crop early post-emergence.</p> <p>1.36 L/ac of FeXapan™ is the maximum total to be applied to Roundup Ready 2 Xtend™ Soybeans in a single growing season (year).</p> <p>A third application of FeXapan™ should only be made for the control of glyphosate resistant weed populations.</p> <p>Apply only to weeds less than 10 cm. Minimum water volume: 10.7 US gal/acre.</p>
<p>Application Notes:</p> <p>For a broader spectrum of weeds controlled, FeXapan™ may be tank-mixed with a high load 540 g/l glyphosate at 0.67 to 1.89 L/ac. In addition to providing post-emergence burndown activity on weeds, FeXapan™ applications will also provide short term residual activity on common lamb's-quarters, redroot pigweed, common ragweed, wild buckwheat, and velvetleaf*. The 1.71 L/ha rate provides short term residual control and the 823 ml/ha rate provides suppression. * Suppression only for both rates.</p>			
<p>¹Control of emerged plants only. ² Apply FeXapan™ herbicide Plus VaporGrip™ Technology annually for three years at the flowering stage of bindweed and the budding stage of thistles.</p>			

SPRAY DRIFT MANAGEMENT

Wind: Spray when wind is between 5–15 km/hr. Do not apply during a temperature inversion. Temperature inversions commonly occur when winds are below 5 km/hr and begin to form as the sun sets and often continue into the morning.

Nozzle type: Use nozzles designed to provide extremely coarse to ultra coarse spray droplet size.

Spray Boom Height: Set boom height to no more than 50 cm above the target pest or crop canopy.

Ground Speed: Select a ground speed under 25 km/hr.

Temperature: Apply when air temperature is between 10° 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.

Refer to the FeXapan™ label for complete use instructions.

FirstRate™

HERBICIDE

Effective, economical pre- and post-emergence control of the most troublesome broadleaf weeds in soybeans with excellent application flexibility.


WHY USE FIRSTRATE™ HERBICIDE?

- FirstRate offers superior control of both giant ragweed and Canada fleabane¹ when compared to other soil-applied or post-emergent programs.
- Flexible crop rotation options.
- Wide window of application timing.
- Works well in all tillage practices.
- Excellent crop tolerance.
- Flexible weed management tool can be tank mixed with many pre-plant/ pre-emergence and post-emergent grass and broadleaf products.

 **CROPS** Soybeans

 **CROP ROTATION**
4 months: Wheat
9 months: Corn

 **PRE-HARVEST INTERVAL**
Soybeans: 65 days. Do not harvest soybean plants for forage or hay.

 **TANK MIXES** Apply FirstRate alone or in a tank mix with other registered products for enhanced pre-emergent or post-emergent broadleaf weed control. FirstRate fits well in identity-preserved soybean weed control programs. Follow label guidelines on the FirstRate and tank mix partner labels.

FIRSTRATE™ APPLICATION GUIDELINES

Crop	Weeds	Rate	Window of Application	Application Information
Soybeans	Lamb's-quarters, Common ragweed ¹ , Velvetleaf & Cocklebur	20.8 g/ha (8.5 g/ac). One water-soluble packet treats 2 acres 41.7 g/ha (17 g/ac). One water-soluble packet treats 1 acre.	Pre-emergence	When applied in tank-mix combination, follow applicable use instructions, including rates, precautions and restrictions of each product used in the tank mixture.
	Cocklebur, Common ragweed ¹ , Giant ragweed, Jimsonweed, Velvetleaf, Canada fleabane ¹ , Horsenettle*	20.8 g/ha (8.5 g/ac) plus 0.25% v/v Agral 90 plus 2.5% v/v liquid fertilizer (28-0-0 or 32-0-0). One water-soluble packet treats 2 acres.	Post-emergence prior to flowering	Make 1 postemergent application per year.

*Suppression

¹Populations resistant to Group 2 herbicides exist in certain areas of Eastern Canada. FirstRate alone may not control weed biotypes resistant to Group 2 herbicides.

Freestyle™

HERBICIDE

Freestyle™ herbicide makes early-season weed control in soybeans simple and effective. It provides enhanced residual control of grass and broadleaf weeds, even many of the most troublesome weeds, including Eastern black nightshade.



CROPS

Glyphosate-tolerant, IP and conventional soybeans.



PACKAGING

One (1) case of Freestyle treats 20 acres (8 ha). One (1) case of Freestyle contains 1 x 288 g jug of Classic™ Grande and 1 x 2.5L jug of Imazethapyr.

- Makes early-season weed control simple & effective
- Delivers extended residual control of key weeds such as Eastern black nightshade
- Fits in any soybean production system:
 - GT soybeans:** keeps soybean crops clean during the pre-emergence to 3rd trifoliate stages which helps growers time their in-crop glyphosate
 - IP soybeans:** delivers a broader spectrum of weed control

WEEDS CONTROLLED AND APPLICATION INFORMATION

Crop	Weeds		Application Information
Soybeans	<u>Broadleaf Weeds:</u> Cocklebur ¹ , Common ragweed, Dandelion, Eastern black nightshade, Lady's-thumb, Lamb's-quarters, Redroot pigweed, Smartweed, Velvetleaf, Wild buckwheat, Wild mustard	<u>Annual Grasses:</u> Green foxtail, Yellow foxtail, Barnyard grass, Old witchgrass, Proso millet ²	For additional residual weed control tank-mix with a registered soil applied grass herbicide. For control of emerged weeds add a non-ionic surfactant at 2 L/1000 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.
	<u>All the weeds listed above, plus:</u> Annual sow thistle Prickly lettuce Yellow nutsedge ³		<u>Pre-plant burndown:</u> Apply Freestyle with a glyphosate of choice for burndown and residual control. Apply up to 14 days before planting.

¹ Large-seeded weeds germinating deep in the soil such as cocklebur may not be fully controlled. ² Partial control. ³ Suppression.

Enhanced residual, early-season weed control with Freestyle™ 61 days after application



Untreated



Freestyle – Applied pre-emergence

Source: Corteva Agriscience Field Trial, Thorndale, ON, July 2014

Refer to the Freestyle label for complete use instructions.




GROUP
2

GROUP
9

Guardian™ MAX

HERBICIDE

- Delivers one-pass, residual control of tough weeds like dandelion and annual sow thistle
- Provides a systemic and lasting burndown for hard-to-kill perennials such as dandelion, prickly lettuce and wild carrot
- Guards against weed shifts and weed resistance with two modes of action
- An excellent first pass across the field for your IP or GT soybeans. Early and residual weed removal increases your crop's yield potential
- Compatible with FeXapan™ herbicide Plus VaporGrip™ Technology
- Convenient high load K-salt glyphosate – treats 30 acres per case

 **CROPS** Glyphosate-tolerant soybeans including Roundup Ready 2 Xtend® (burndown or in-crop), IP and conventional soybeans (burndown only)

 **PACKAGING** One (1) case of Guardian™ MAX herbicide treats 30 acres. One Guardian MAX MEGA tote treats 600 acres

 **CROP ROTATION** See chart below

CROP ROTATION: REPLANTING INTERVAL (MONTHS)

Soil pH	Southern Ontario Only: Cabbage, Garden peas, Sweet corn*	Field Corn	Winter Wheat	White Beans	Soybeans	Alfalfa	Tomatoes
≤7.0	11	10	3	10	10	10	12
>7.0 ≤7.4	Do not plant						
>7.4 ≤7.8	Do not plant	10	4	Do not plant	10	Do not plant	12
>7.8 ≤8.0	Do not plant		4	Do not plant			12
>8.0	Do not plant						

*Warning: Sweet corn varieties may vary in their sensitivity to herbicide residues.



WEEDS CONTROLLED AND APPLICATION INFORMATION				
Crop	Weeds	rate	Window of Application	Application Information
<p>Glyphosate-tolerant soybeans (Pre-plant burndown OR in-crop).</p> <p>IP or conventional soybeans (Pre-plant burndown only).</p>	<p><u>All of the weeds that glyphosate controls, plus:</u></p> <p>Annual sow-thistle, Dandelion, Lamb's-quarters, Prickly lettuce, Ragweed, Redroot pigweed, Velvetleaf, Volunteer, adzuki beans¹, Wild carrot¹, Yellow nutsedge¹</p>	<p>One (1) case treats 30 acres.</p> <p>One (1) GuardianTM MAX MEGA tote treats 600 acres.</p>	<p><u>Pre-plant burndown</u></p> <p>OR</p> <p><u>Post-emergent (Glyphosate tolerant soybeans including Roundup Ready 2 Xtend[®] varieties)</u></p> <p>Apply before the initiation of flowering</p>	<p>Make only one application per year. When targeting perennial weeds like yellow nutsedge in glyphosate-tolerant (GT) soybeans, best results are achieved in postemergent applications. Apply to wild carrot when in the 2- to 20-leaf stage of growth. Apply to volunteer adzuki beans when in the 1 to 3 trifoliolate stage of growth. For season long control of dandelion (up to bolting) apply 14.4 g/ac (36 g/ha)</p> <p>pre-plant or post-plant pre-emergence.</p>
¹ Suppression.				



Refer to the GuardianTM MAX herbicide label for complete use instructions.


Lannate™

INSECTICIDE

Broad-spectrum insect control on a wide range of crops.

- Effective against adults, nymphs, larvae and eggs of many pest species

 **CROPS** Canola, cereals, flax.

 **PACKAGING** One (1) case contains 5.4 Kg of product packaged in convenient water soluble, pre-measured bags (225 g/bag x 24 bags). Do not store in temperature below 0 C

PESTS CONTROLLED AND APPLICATION INFORMATION

Crop	Pest	Rate	PHI
Canola	Alfalfa looper Beet webworm Bertha armyworm Clover cutworm	0.09 Kg/ac to 0.21 Kg/ac (0.22 Kg/ha to 0.51 Kg/ha)	8 days
Cereals (Wheat, Oats, Barley)	Common armyworm	0.11 Kg/ac to 0.22 Kg/ac (0.27 Kg/ha to 0.54 Kg/ha)	20 days
	Brown marmorated stink bug ¹	0.22 Kg/ac (0.54 Kg/ha)	
	Thrips	0.12 Kg/ac (0.3 Kg/ha)	
Flax	Bertha armyworm	0.09 Kg/ac to 0.11 Kg/ac (0.22 Kg/ha to 0.27 Kg/ha)	8 days

¹Suppression.



Refer to the Lannate™ insecticide label for complete use instructions.

Pixxaro™


Arylex™ active


HERBICIDE


High-performance broadleaf weed control for wheat and barley, containing Arylex™ Active, a powerful Group 4 active ingredient.

WHY USE PIXXARO™ HERBICIDE?

- Excellent control of Canada fleabane
- Worry-free control from the 1-8 leaf stage.
- Excellent tank-mix partner for grassy weeds with any product registered for wheat and barley, as well as with fungicides.
- Uncompromising performance in a variety of weather, crop and weed staging conditions.

 **CROPS** Barley, Durum wheat, Spring wheat, Winter wheat

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

 **CROP ROTATION** Corn, soybeans, canola, wheat, barley, oats and peas may be planted after a minimum of 10 months following an application of Pixxaro.

 **PRE-HARVEST INTERVAL** 60 days
Hay or silage: 21 days

PIXXARO™ APPLICATION GUIDELINES

Crop	Weeds	Rate	Window of Application	Application Information
Barley, Durum wheat, Spring wheat	<ul style="list-style-type: none"> • Annual sow thistle • Canada fleabane • Canada thistle* • Chickweed • Cleavers¹ • Common ragweed² • Dandelion** • Flixweed • Giant ragweed² • Hemp-nettle¹ • Henbit • Kochia¹ • Lamb's-quarters • Redroot pigweed • Round-leaved mallow • Shepherd's purse • Smartweed* • Stinkweed • Stark's-bill • Vetch • Volunteer canola • Volunteer flax • Wild buckwheat • Wild mustard¹ 	One case treats 40 acres. 123mL/acre Pixxaro A plus 236mL/ac Plus M Ester 600	1-leaf to just prior to flag leaf	<p>Apply the recommended rate of Pixxaro per hectare in 50–200 L/ha of water. If Plus M Ester is used with Pixxaro A as intended, no surfactant is required.</p> <p>Apply to actively growing spring wheat and spring barley from the 1-leaf stage to just prior to flag leaf emergence.</p> <p>Apply to actively growing winter wheat from the 3-leaf stage to just prior to flag leaf emergence.</p>
Winter wheat			3-leaf to just prior to flag leaf	

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

¹Including ALS resistant. ²Including ALS and glyphosate resistant

Simplicity™ GoDRI™

HERBICIDE

Delivers superior performance, including wild oat, annual grass and broadleaf weed control with no re-cropping restrictions. Comes in a convenient, easy-to-use GoDRI™ formulation.

WHAT IS A GoDRI™ FORMULATION?

GoDRI is a highly concentrated, high-performing, low dose formulation with Rapid Dispersion Technology (RDT). This new technology disperses quickly, is easy to mix and will not plug nozzles, screens or filters. It also requires less packaging and won't freeze. It's nothing like old, dry formulations. The product disperses rapidly and completely for the duration of spraying, ensuring growers can keep going with no concerns about plugging, settling or residue. Customer-focused technology that adds up to extra convenience and performance – so you can fill a sprayer tank and cover a lot of acres fast.

WHY USE SIMPLICITY GoDRI™ ?

- Elite grass and broadleaf weed control.
- Wide window of application – the only Group 2 wild oat product that can be applied up to the emergence of flag leaf stage.
- Excellent tank-mix flexibility with other broadleaf herbicides and fungicides.



CROPS

Durum wheat, Spring wheat, Winter wheat



TANK MIXES

Broadleaf herbicides: Pixxaro™ herbicide, Buctril® M, 2,4-D ester, MCPA ester, Refine® SG.
Fungicides: Acapela™ fungicide, Tilt®, Stratego®



CROP ROTATION

Seed to all major crops the year following application, including corn, soybeans, field peas, lentils and potatoes.



PRE-HARVEST INTERVAL

60 days

SIMPLICITY GoDRI™ APPLICATION GUIDELINES

Crop	Weeds			Rate	Window of Application	Application Information
Durum wheat, Spring wheat	<ul style="list-style-type: none"> • Grass • Barnyard grass • Downy brome • Green foxtail*1 • Japanese brome 	<ul style="list-style-type: none"> • Canola (volunteer excluding Clearfield®) • Chickweed • Cleavers • Corn spurry • Cow cockle • Dandelion* • Flixweed • Lady's-thumb • Hemp-nettle 	<ul style="list-style-type: none"> • Redroot pigweed • Round-leaved mallow • Russian thistle* • Shepherd's purse • Smartweed • Stinkweed • Wild buckwheat* 	70 g/ha (28 g/ac) 80 ac/jug 320 ac/case. Always add a non-ionic surfactant (Agral 90) at 0.25% v/v (0.25L per 100L of spray solution) when applying Simplicity GoDRI.	3-leaf to before flag leaf emergence	Apply at 70 g/ha for control of grass and broadleaf weeds. For control of low wild oat populations (<75 plants/m2) only, use 52 g/ha. Water volume 12-40 L/ac (3-10 US gal/ac)
Winter wheat	<ul style="list-style-type: none"> • Wild oats • Yellow foxtail • Broadleaf • Canada thistle* 					Application in the fall will provide control of downy brome while a spring application will provide suppression.

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

Ultim™

HERBICIDE

The ultimate control of annual grasses and quackgrass.



CROPS

Field corn,
lowbush blueberries



PACKAGING

20 acre jug (270 grams)



CROP ROTATION

Four (4) months: Winter wheat.

Following year: Canola, red clover, field corn, sorghum, soybeans, spring barley and white beans.



- Excellent control of grasses
- Compatible with a variety of tank-mix partners

WEEDS CONTROLLED AND APPLICATION INFORMATION

Crop	Weeds	Rate	Window of Application	Application Information
Field corn >2500 CHU	<ul style="list-style-type: none"> • Barnyard grass • Fall panicum • Green foxtail • Long-spined sandbur • Old witchgrass • Proso millet • Quackgrass • (3-leaf to 6-leaf stage) • Redroot pigweed¹ • (2-leaf to 6-leaf stage) • Yellow foxtail² 	13.5 grams per acre. Add a registered non-ionic (NIS) such as Agral® 90 or Ag-Surf® at 2 L per 1000 L of spray solution (0.2% v/v).	1-leaf to 6-leaf stage of corn (4 visible collars or 30 cm in height – leaf extended).	<p>For control of proso millet, apply when the majority of plants are emerged and before the largest plants reach the multitillered (3 to 4 tillers) stage. In field corn, tank-mix Ultim™ with Banvel®, Callisto®, Distinct®, Marksman® OR Pardner® for residual control of grasses and broadleaf weeds. Ultim™ is a high performance herbicide that must only be applied when the temperature in the 24 hours before and after application ranges between 5°C and 28°C. Temperatures beyond this range increase the potential for crop response.</p> <p>Do not apply Ultim™ herbicide within 30 days of corn harvest (silage, fodder or grain). Do not graze or feed treated corn forage, silage, fodder or grain for at least 30 days after an application of Ultim™ herbicide. Make only one application per growing season</p>

¹Includes biotypes resistant to atrazine.

²Suppression.

Refer to the Ultim™ label for complete use instructions.

Seed Applied Technology

Lumisena™ fungicide seed treatment *NEW*

Lumivia™ insecticide seed treatment





Lumisena™

FUNGICIDE SEED TREATMENT

Lumisena™ fungicide seed treatment provides the best protection against phytophthora for healthier, more vigorous soybean stands and higher yield potential.



CROPS

Soybeans

Availability: Contact your local seed provider.

Diseases controlled:
Phytophthora

Rate: 0.012 - 0.024 mg ai/
seed

KEY BENEFITS

- 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

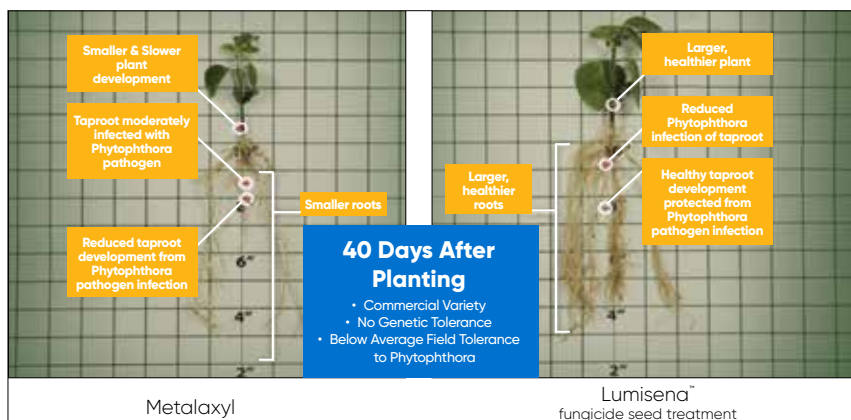
PROTECTION AGAINST PHYTOPHTHORA

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 new, best choice for protection against phytophthora. It is the only seed-applied technology that delivers protection across multiple stages of the phytophthora pathogen's life cycle:

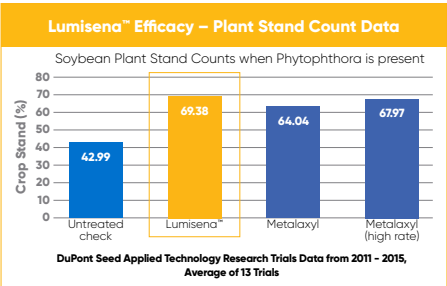
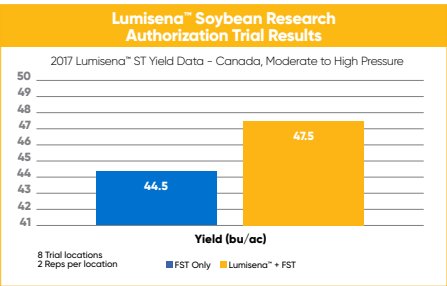
- preventative
- eradicative
- curative
- antisporeulant





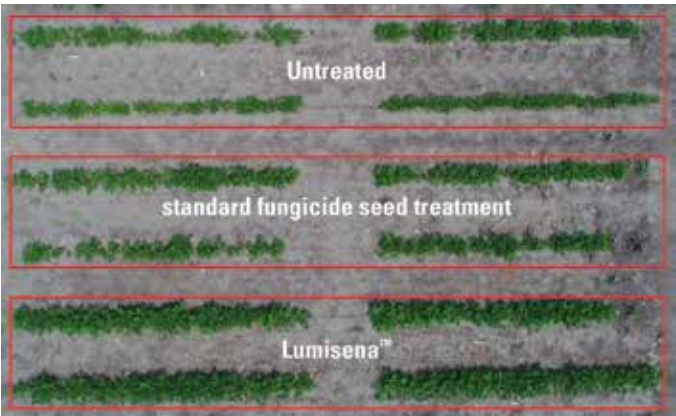
Improves soybean yields and plant stands

Phytophthora continues to be the number one soybean disease in North America. 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™ fungicide seed treatment improves plant stands, crop vigour and yield results.



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 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.



For use in commercial seed treatment facilities with closed transfer systems only. Closed transfer includes closed mixing, loading, calibrating and closed treatment equipment. No open transfer is permitted.
Do not use treated seed for food, feed, or oil processing
This product contains no colourant. An appropriate colourant must be added when this product is applied.

Lumivia™

INSECTICIDE SEED TREATMENT

Lumivia™ insecticide seed treatment delivers excellent broad-spectrum protection on key early season corn insect pests.

KEY BENEFITS

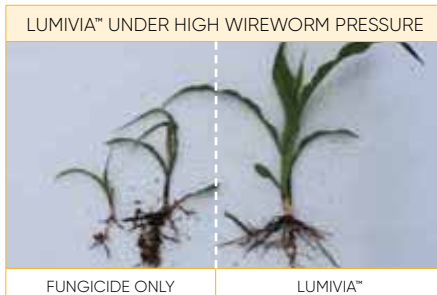
- Outstanding protection against key early season corn insect pests
- Provides seedling protection to develop uniform and healthy stands that maximize yield potential
- Simplifies your seed treatment decision
- Offers a favourable environmental profile

CROPS: Corn (field, seed, pop).

Availability: Contact your local seed provider.

Insects controlled: Wireworms, white grubs, cutworms, seed corn maggot*.

Rate: 0.25 – 0.75 mg ai/seed

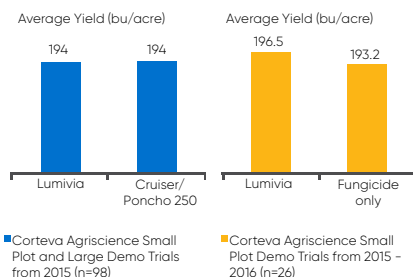


Source: Shetland, ON, 2016

EXCELLENT SEED AND SEEDLING PROTECTION

- Immediate protection of seed and seedlings
- Provides consistent yield performance similar to standard Cruiser® / Poncho 250® offerings
- Uniform and healthy stand establishment
- Protects yield potential through improved early season vigour

EARLY SEASON PROTECTION TO MAXIMIZE YIELD POTENTIAL¹



* Suppression only. ¹Data based on an average of all comparisons made in 98 locations between 2015-2016. Product responses are variable and subject to a variety of environmental, disease and pest pressures. Individual results may vary. ²In line with Integrated Pest Management and Good Agricultural Practices, insecticide applications should be made when pollinators are not foraging to avoid unnecessary exposure. For use in commercial seed treatment (facilities and mobile treaters) with closed transfer, including closed mixing, loading, calibrating, and closed treatment equipment only. No open transfer is permitted. Do not use treated seed for food, feed, or oil processing. This product contains no colourant. An appropriate colourant must be added when this product is applied.

Notes

[illegible]

Other Information

Product and Research Updates

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Product and Research Updates

New Products

Diligent™ herbicide

Diligent herbicide is a new soil applied multi-mode of action residual herbicide that is designed to defend against weed resistance and early competition, including early residual control of glyphosate resistant waterhemp. Diligent provides flexibility to tank mix with glyphosate and other residual herbicides while fitting into any production system including Roundup Ready 2 Xtend™ and Enlist™ soybeans.

Elevore™ herbicide

Elevore herbicide is a new Group 4 solution for pre-plant burndown of broadleaf weeds, including glyphosate-resistant Canada fleabane, in both field corn and soybeans.

Elevore herbicide contains halauxifen, also known as Arylex™ active. When Elevore comes into contact with weeds, the active ingredient is rapidly absorbed into the plant's cells where it binds with specific auxin receptors in the cell's nucleus. This binding action to specific receptors differentiates Elevore from other synthetic auxin herbicides. With other burndown products, weed regrowth is often observed after the initial burn. But the specific mode of action in Elevore means that when it's applied to emerged weeds, you get thorough control with less chance for regrowth.

Lumisena™ fungicide seed treatment

NEW Lumisena fungicide seed treatment provides the best protection against phytophthora for healthier, more vigorous soybean stands and higher yield potential.

Key Benefits

- 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

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.



Performance Commitment

When you purchase a Corteva Agriscience™ product, you're protected by our Performance Commitment Policy. Corteva Agriscience stands behind its crop protection products, its recommendations and all labeled uses. If you're not satisfied with a product's performance, we need to know. Tell us within 21 days of application, and prior to July 31st, and we will address the situation professionally and promptly.

The Corteva Agriscience™ performance commitment;

- Products must be applied according to the label and Corteva Agriscience recommendations. Extensive research has gone into these recommendations. We stand behind them. They are the foundation of safe and responsible use.
- Corteva Agriscience is not responsible for poor performance or crop injury resulting from adverse weather conditions, resistant weed biotypes, or inadequate crop competition.
- We will ensure all customer inquiries are investigated expediently and provide the most appropriate level of assistance. This may range from advice to 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 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.
- Corteva Agriscience must be notified as soon as possible but no later than 21 days after application, and prior to July 31st. After July 31st, it's too late to confidently determine cause or remedial action so no good-will product will be provided. Calls, however, will still be answered and documented. Crops must be standing in field to make an adequate evaluation



Herbicide Resistance Management

Herbicide resistance is spreading in Eastern Canada. Manage it effectively using Multi-Mode of Action products and tank-mixes.

The importance of Multi-Mode of Action

Managing the spread of herbicide resistance is important on all farms in Eastern Canada. Research now points to the use of multiple modes of action in one herbicide application as a more effective strategy to manage resistance than rotating between herbicide groups. Growers should consider using Multi-Mode of Action products as an essential component of an integrated weed management strategy.

Multi-Mode of Action products contain two or more active ingredients with different modes of action that deliver overlapping control on the same target weeds. It's important to ensure the different active ingredients control the same target weed.

How weeds develop resistance

Herbicide resistance develops mainly through the consistent use of one herbicide group over time. The selection of resistant weeds within the susceptible weed population can occur over several applications and/or production seasons, 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

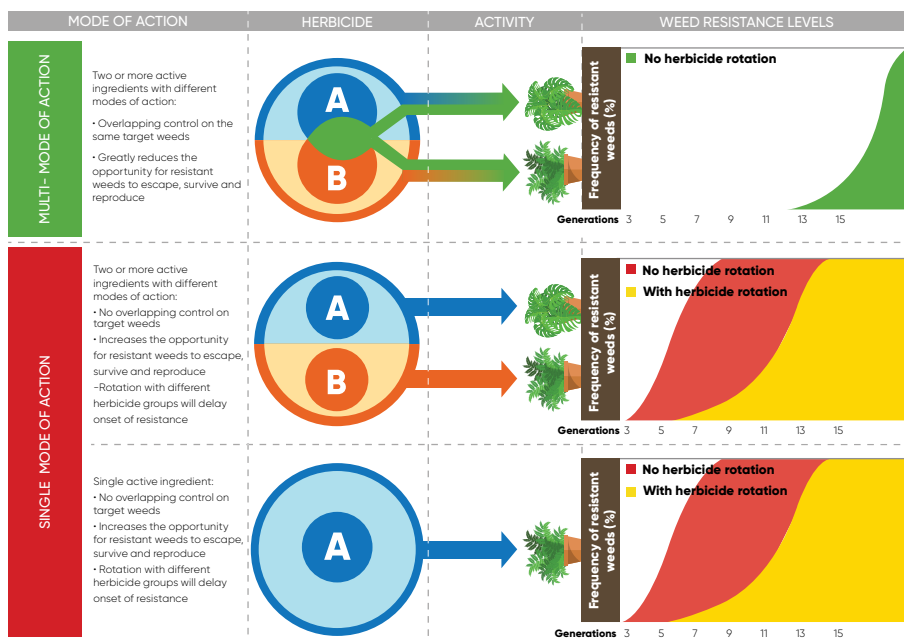
Herbicide resistance continues to increase in Eastern Canada. The most recent examples are the rapid spread of glyphosate resistant Canada fleabane and common waterhemp.

Take action - Use an integrated weed management approach

- Scout your fields before and after spraying to locate individual weeds or plant patches not controlled by your herbicide. A miss could mean a spray application error or herbicide resistance, so it should be monitored closely.
- Test suspicious weeds with the help of a retailer, crop consultant or extension service.
- If you find resistant weed populations, manage them effectively so they do not spread.
- Remove patches of poorly or uncontrolled controlled weeds by hand. Time spent removing weeds is much less than the effort required to control them in the future.



- 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 inconjunction 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

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Contact Information

For further information, contact your retailer or the Solutions Center
at 1-800-667-3852, or visit **Corteva.ca**



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Agriculture Division of DowDuPont

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