

# CROP PRODUCTION GUIDE 2021










 **BASF**

We create chemistry





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# It's a fresh season. Get off to an innovative start.

When it comes to innovations, BASF never stops working towards new offerings to help you get the most out of every acre. You'll find both tried-and-true solutions and fresh innovations in the 2021 Crop Production Guide—all backed by reliable research.



## Count on canola.

**InVigor**<sup>®</sup>

*An exciting new canola hybrid.*

Last year we introduced a whole new series of InVigor<sup>®</sup> hybrids: the 300 series. And this year, the series is growing with the addition of an exciting new hybrid, InVigor L357P, a new Pod Shatter Reduction hybrid that features high yields and very strong standability with exceptional blackleg resistance. [click here](#)

## Support for soybeans.

**Zidua<sup>®</sup> SC**  
Herbicide

*A wide window of application.*

In soybeans, Zidua<sup>®</sup> SC herbicide can now be applied at early post-emergence to 3rd trifoliolate and post-harvest.<sup>1</sup> That means a wide window of application for the Group 15 chemistry and more opportunity to control tough weeds, including resistant redroot pigweed and waterhemp. [click here](#)



CORN

SOYBEANS

CEREALS

CANOLA

POTATOES

POST-HARVEST

RESOURCES



# Four products: for potatoes.

*All eyes on the most innovative potato solutions.*

When it comes to innovation, potato growers have lots to look forward to in 2021. There's Cevya® fungicide, now available for use, powered by Revysol® for preventative and post-infection control of key diseases. [click here](#)

Also new this year is Cimegra® insecticide, which provides control of prevalent and difficult-to-control chewing insects, including wireworm, for in-season management and reduction of resident populations. [click here](#)

And there are also two BASF products currently in registration review for use on potatoes—Zidua® SC herbicide<sup>2</sup>, a Group 15 chemistry that's tough on weeds, and Serifel® fungicide<sup>2</sup>, an innovative biological fungicide. [click here](#)



**Cevya®**  
Revysol® Fungicide

**Cimegra®**  
Insecticide

**Serifel®**  
Fungicide

**Zidua® SC**  
Herbicide

<sup>1</sup> While Zidua SC can be used as a post-harvest treatment in any crop rotation, refer to the label for follow-crop restrictions.

<sup>2</sup> This product is currently in registration review for use on potatoes under the *Pest Control Products Act*. This product cannot be used in Canada on potatoes at this time, unless explicit authorization has been obtained from Health Canada to use this product for the purpose of conducting research under the Pest Control Products Regulations.

For quick access to solution options and information, see our resource section [click here](#).  
Learn more by visiting **agsolutions.ca**, contacting your BASF **AgSolutions®** Retail Representative or by calling **AgSolutions** Customer Care at 1-877-371-BASF (2273).

CORN

SOYBEANS

CEREALS

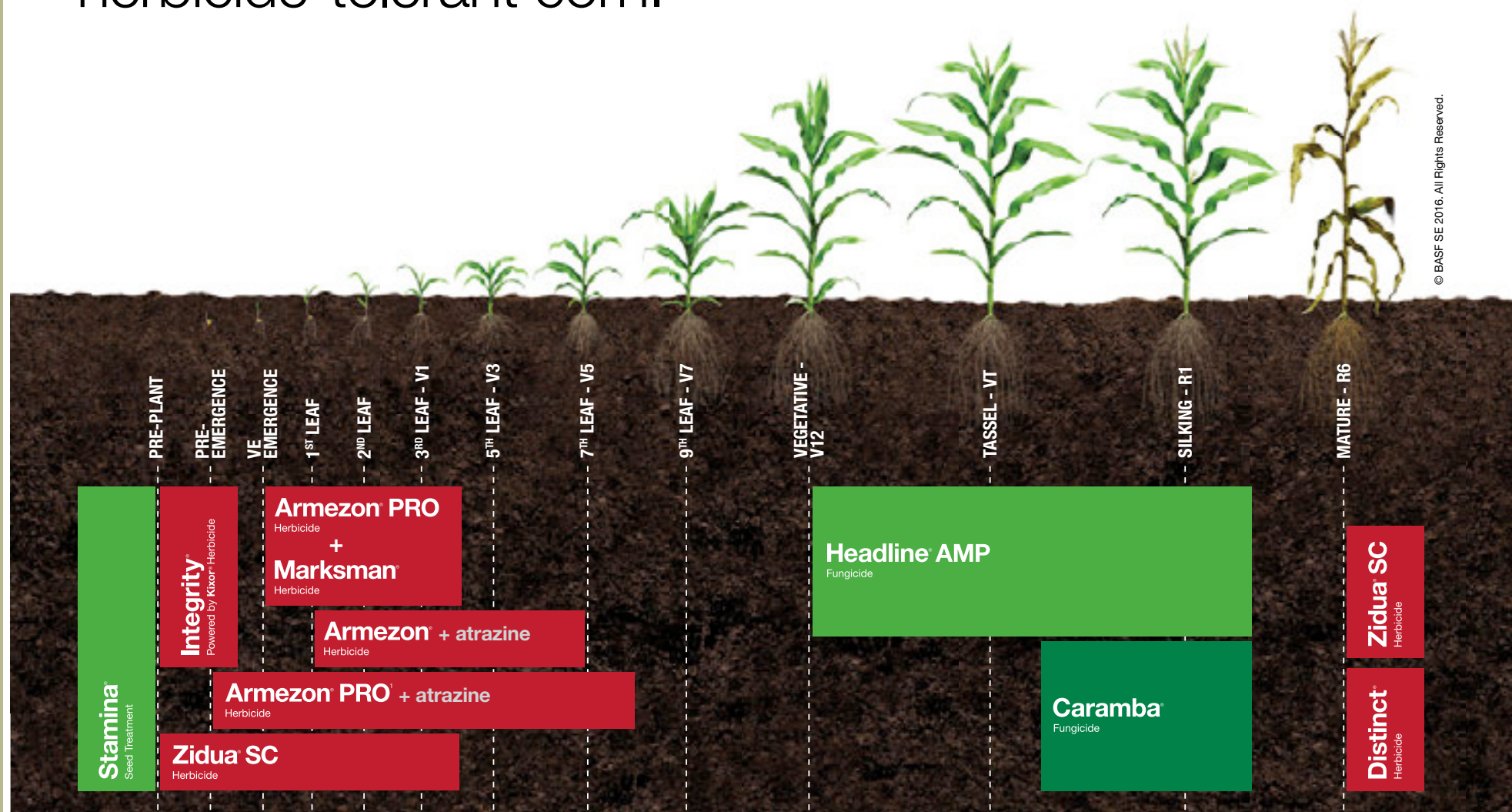
CANOLA

POTATOES

POST-HARVEST

RESOURCES

# Solutions for herbicide-tolerant corn.



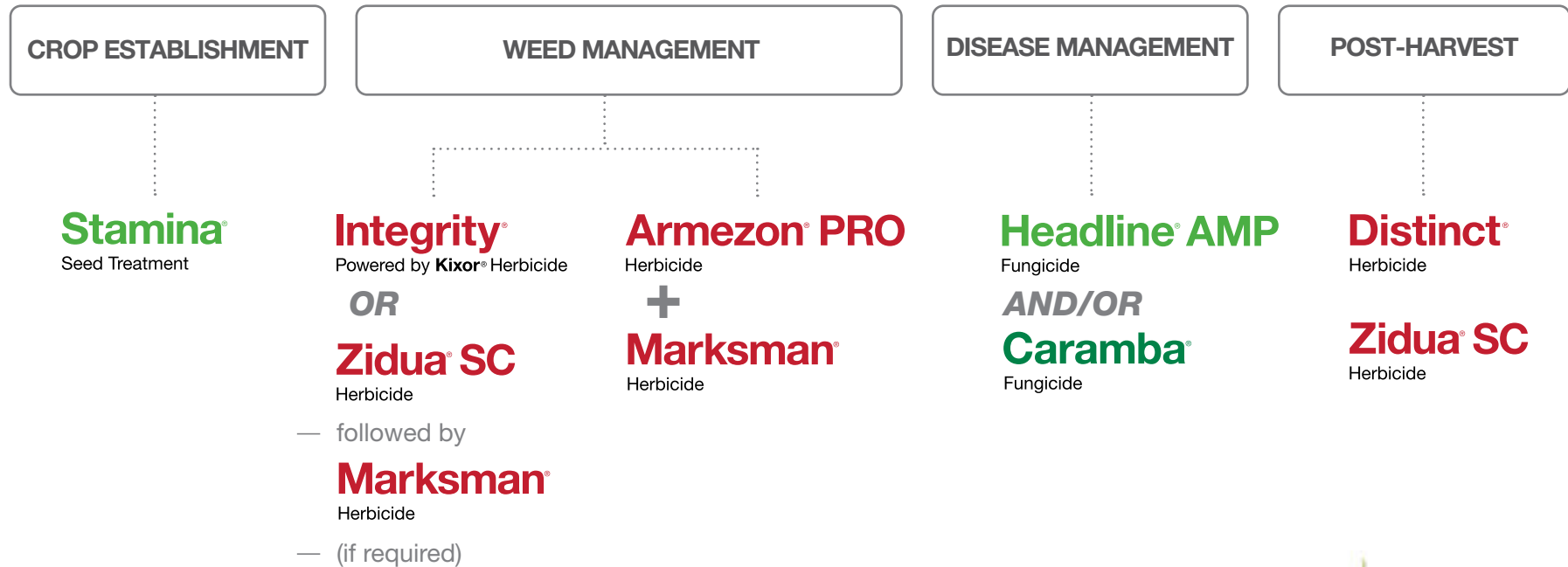
© BASF SE 2016. All Rights Reserved.

Staging graphics depicted here are for quick reference only. Refer to individual product pages and product labels on [agsolutions.ca](http://agsolutions.ca) or call **AgSolutions**<sup>®</sup> Customer Care at 1-877-371-BASF (2273) for detailed staging information.

<sup>1</sup> In conventional field corn, apply from pre-emergence to 3<sup>rd</sup> leaf.

# BASF lead recommendations.

Select the solution that's right for your operation.



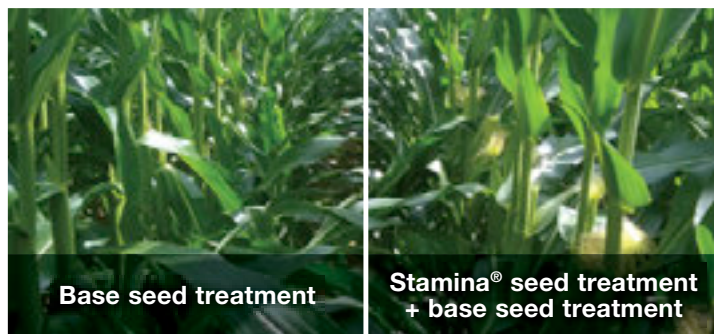
Contact your BASF **AgSolutions®** Retail Representative for more information.





The benefits<sup>1</sup> of **AgCelence**® for preventative protection against rhizoctonia in corn.

- Effective protection against seed rot caused by *Rhizoctonia solani*
- More consistent and uniform emergence, for maximum yield potential
- Increased seedling vigour both above and below ground, even under cold conditions<sup>2</sup>
- Enhanced ability to manage exposure to minor environmental stress<sup>2</sup>



Source: BASF research trial, Ridgeway, ON, 2016

#### TECH TIP

*Talk to your **BASF AgSolutions Retail Representative** or seed dealer about **Stamina**.*

#### Formulation

Water-based suspension

## Stamina®

Seed Treatment

#### Treatment

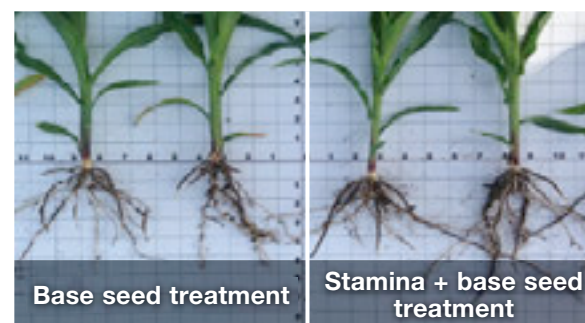
Applied on-seed by select seed companies

#### Disease controlled

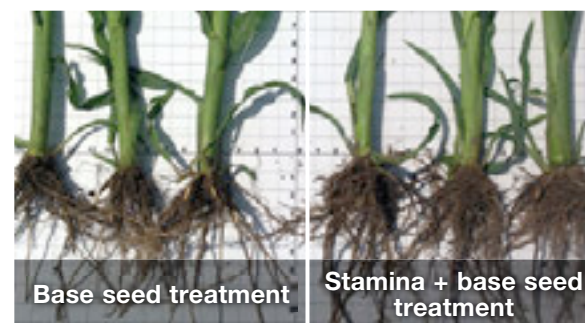
Seed rot caused by seed- and soil-borne *Rhizoctonia solani*

#### Seed treatment compatibility

Call **AgSolutions**® Customer Care for further information.



Source: BASF research trial, Ridgeway, ON, 2016



Source: BASF research trial, Ridgeway, ON, 2016

<sup>1</sup> **AgCelence** benefits refer to products that contain the active ingredient pyraclostrobin.

<sup>2</sup> All comparisons are to untreated, unless otherwise stated.



## Broad-spectrum weed control to give corn a weed-free start.

- Early-season control of key grass and broadleaf weeds
- Convenience with excellent follow-crop flexibility
- Multiple modes of effective action to help control resistant biotypes



Source: BASF research trials, Ridgeway, ON, 2009

<b>Active ingredients</b>	Saflufenacil – Group 14 Dimethenamid-P – Group 15
<b>Formulation</b>	Emulsifiable concentrate
<b>One case contains</b>	2 x 9 L jugs Also available in 450 L tote

### Crop staging

Pre-plant<sup>1</sup>, pre-plant incorporated, pre-emergence

### Weeds controlled<sup>2</sup>

#### **Broadleaf weeds**

Common ragweed  
Eastern black nightshade<sup>3</sup>  
Lamb's quarters  
Redroot pigweed  
Velvetleaf  
Wild buckwheat  
Wild mustard

#### **Grasses**

Barnyard grass  
Crabgrass (large, smooth)  
Fall panicum  
Foxtail (giant, green, yellow)  
Old witchgrass  
Yellow nutsedge<sup>3</sup>

### Water volume

Ground application  
40 to 80 L/ac (10 to 20 gal/ac)

### Application rates

One case treats 40 to 60 acres.  
One tote treats 1,000 to 1,500 acres.

Full rate<sup>4</sup>

<b>Integrity</b>	450 ml/ac (1.1 L/ha)
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Set-up rate<sup>5</sup>

<b>Integrity</b>	300 ml/ac (750 ml/ha)
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or

<b>Integrity<sup>6</sup></b>	300 to 450 ml/ac (0.75 to 1.1 L/ha)
followed by <b>Marksman®</b>	1.0 L/ac (2.5 L/ha)
<b>Glyphosate<sup>7</sup></b>	See label for rate

### Pre-harvest interval

60 days after application for sweet corn.  
100 days after application for field corn.

### Follow crops

#### **Anytime after application:**

Field and sweet corn

#### **100 days after application:**

Cereals other than corn

#### **11 months after application:**

All other crops

#### **22 months after application:**

Sugar beets

<sup>1</sup> Apply in tank mix with glyphosate. <sup>2</sup> Weeds listed are controlled when Integrity is applied at the full label rate of 450 ml/ac. <sup>3</sup> Pre-plant incorporated only. <sup>4</sup> Use full rate, tank mixed with glyphosate for early pre-plant. Use full rate of Integrity alone for pre-plant incorporated and pre-emergent applications. <sup>5</sup> This reduced rate should be used pre-emergence, when an in-crop application of glyphosate is planned for glyphosate-tolerant corn. See label for weeds controlled. <sup>6</sup> Integrity can be used with 28% UAN as a carrier. <sup>7</sup> Glyphosate is sold separately.

# Zidua® SC

Herbicide

## Residual control of key annual grasses and select broadleaf weeds.

- Liquid Group 15 chemistry delivers control of resistant pigweed and waterhemp
- Residual activity controls germinating weed seedlings before or soon after crop emergence
- Wide window of application from early pre-plant to early post-emergence in corn
- Convenient, liquid formulation that can be used stand-alone or tank mixed



Source: BASF research trial, Maryhill, ON, 2015

<b>Active ingredient</b>	Pyroxasulfone – Group 15
<b>Formulation</b>	Suspension concentrate
<b>One case contains</b>	2 x 4.05 L jugs

### TECH TIP

*Zidua SC has low solubility in soil allowing it to stay in the top layer of the soil profile to control later-flushing weeds before they emerge. The result is residual activity during the critical period for weed control to maximize yield potential.*

### Crop staging

Pre-plant<sup>1</sup>, pre-emergence, early post-emergence up to 4-leaf

### Weeds controlled

#### Broadleaf weeds

Lamb's quarters<sup>2</sup>, Redroot pigweed, Waterhemp

#### Grasses

Barnyard grass, Crabgrass (large), Foxtail (giant, green, yellow), Ryegrass (Italian), Wild oats<sup>2</sup>

### Application rates

One case treats 40 to 80 acres, depending on soil texture.

	Rate by soil texture			
	Coarse	Medium-fine		Fine
		Organic matter ≤ 3%	3% < Organic matter < 7%	
<b>Zidua SC</b>	101 ml/ac (250 ml/ha)	134 ml/ac (332 ml/ha)	169 ml/ac (417 ml/ha)	200 ml/ac (493 ml/ha)

### Tank mix

Apply pre-emergence up to 4-leaf

<b>Zidua SC</b>	101 ml/ac (250 ml/ha)
<b>Marksman®<sup>3</sup></b>	1.0 L/ac (2.5 L/ha)
<b>Glyphosate<sup>3,4</sup></b>	See label for rate

To learn more about tank-mix order [click here](#).

### Water volume

Ground application Minimum 40 L/ac (10 gal/ac)

<sup>1</sup> Up to 30 days before planting.

<sup>2</sup> Suppression only.

<sup>3</sup> Sold separately.

<sup>4</sup> Use application rate specified by glyphosate label.



# Armezon® PRO

Herbicide

Rapid, post-emergent weed control with residual activity in field corn.

- Fast-acting, broad-spectrum control of broadleaf weeds and grasses, with residual activity up until canopy closure
- Wide window of application from pre-emergence to 8-leaf stage in glyphosate-tolerant corn
- Combined Group 27 and 15 chemistries for multiple modes of action and can be tank mixed with atrazine or atrazine and glyphosate
- Armezon® PRO herbicide can also be applied in a tank mix with Marksman® herbicide and glyphosate<sup>1</sup>



Source: BASF research trial, Maryhill, ON, 2015

<b>Active ingredients</b>	Dimethenamid-P – Group 15 Topramezone – Group 27
<b>Formulation</b>	Emulsifiable concentrate
<b>One case contains</b>	2 x 8.1 L jugs Also available in 121.5 L shuttle

## Crop staging

Pre-emergence to 8-leaf

Emergence to 5-leaf (for tank mix)<sup>1</sup>

## Weeds controlled<sup>2</sup>

### Broadleaf weeds

Common chickweed<sup>3</sup>

Common lamb's quarters

Common ragweed

Eastern black nightshade

Green pigweed

Lady's thumb

Redroot pigweed

Velvetleaf<sup>3</sup>

Wild mustard

### Grasses

Barnyard grass

Crabgrass (large)

Fall panicum

Foxtail (green, yellow)

Old witchgrass

## Pre-harvest interval

80 days after application.

45 days after application for grazing

or feeding treated corn forage,

silage, fodder or grain to livestock.

## Application rates

One case treats 40 acres.

One shuttle treats 300 acres.

<b>Armezon PRO</b>	405 ml/ac (1 L/ha)
<b>Marksman<sup>4</sup></b>	1.0 L/ac (2.5 L/ha)
<b>Glyphosate<sup>4,5,6</sup></b>	See label for rate

or

<b>Armezon PRO</b>	405 ml/ac (1 L/ha)
<b>Atrazine<sup>4</sup></b>	420 ml/ac (1.04 L/ha)
<b>Glyphosate<sup>4,5,6</sup></b>	See label for rate

## Water volume

Ground application

Minimum 40 L/ac (10 gal/ac)

## Follow crops

4 months after application:

Winter wheat

Following spring after application:

Alfalfa, canola, field corn, potatoes, soybeans, spring wheat, white beans

If Armezon PRO is used in a tank mix, refer to tank-mix partner's label for any additional follow-crop restrictions.

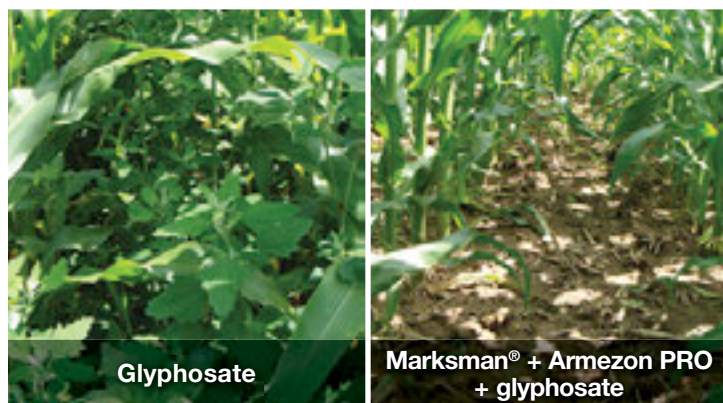
<sup>1</sup> For tank mix of Armezon PRO plus Marksman and glyphosate, apply from emergence up to 5-leaf stage. <sup>2</sup> Weeds controlled when Armezon PRO is applied in a tank mix with atrazine. <sup>3</sup> Suppression only. <sup>4</sup> Atrazine, glyphosate and Marksman are sold separately. <sup>5</sup> Only use glyphosate products present as isopropylamine salt or potassium salt. Read glyphosate label to confirm application rates. <sup>6</sup> Use application rate specified by glyphosate label.

# Marksman®

Herbicide

## Proven, broad-spectrum residual control of tough broadleaf weeds.

- Combines Group 4 and Group 5 chemistries for control of emerged perennials, deep-rooted annuals and resistant biotypes
- Extended residual control of late-germinating annuals, including pigweed, velvetleaf and waterhemp



Source: BASF research trial, Maryhill, ON, 2015

<b>Active ingredients</b>	Dicamba – Group 4 Atrazine – Group 5
<b>Formulation</b>	Suspension
<b>One case contains</b>	2 x 10 L jugs Also available in 450 L tote

<sup>1</sup> Do not apply to sweet corn. <sup>2</sup> Apply annually for three years at the flowering stage of bindweed and the budding stage of thistles. <sup>3</sup> Post-emergence only. <sup>4</sup> Including triazine-resistant biotypes. <sup>5</sup> Pre-emergence only. <sup>6</sup> Integrity, Armezon PRO, Prowl H2O, glyphosate and Marksman are sold separately. <sup>7</sup> Tank mix is supported, but not on label. <sup>8</sup> Use only glyphosate products present as isopropylamine salt or potassium salt. Read glyphosate label to confirm application rates.

### Crop staging<sup>1</sup>

Pre-emergence, post-emergence (spike to 5-leaf stage)

### Weeds controlled<sup>2</sup>

Buckwheat (tartary, wild), Canada thistle<sup>2</sup>, Cleavers, Common cocklebur<sup>3</sup>, Corn spurry, Cow cockle, Field bindweed<sup>2</sup>, Green smartweed, Lady's thumb, Lamb's quarters<sup>4</sup>, Mustard (hare's-ear, Indian, tumble, wild, wormseed) Perennial sow thistle<sup>2</sup>, Pigweed (redroot<sup>4</sup>, Russian), Ragweed (common<sup>4</sup>, false, giant), Spreading atriplex<sup>5</sup>, Velvetleaf, Volunteer adzuki beans, Waterhemp<sup>3</sup>

### Application rates

One case treats 11 to 20 acres. One tote treats 250 to 450 acres.

**Tank mixes** For Zidua SC + Marksman tank mix, [click here](#).

<b>Marksman</b>	1.0 L/ac (2.5 L/ha)	<b>Marksman</b>	1.0 L/ac (2.5 L/ha)
<b>Armezon PRO<sup>6,7</sup></b>	405 ml/ac (1 L/ha)	<b>Prowl® H2O<sup>6,7</sup></b>	890 ml/ac (2.2 L/ha)
<b>Glyphosate<sup>6,8</sup></b>	See label for rate	<b>Glyphosate<sup>6</sup></b>	See label for rate

### Planned 2-pass

<b>Marksman</b>	1.0 L/ac (2.5 L/ha)	<b>Integrity<sup>6</sup></b>	300 to 450 ml/ac (0.75 to 1.1 L/ha)
<b>Glyphosate<sup>6</sup></b>	See label for rate	followed by <b>Marksman</b>	1.0 L/ac (2.5 L/ha)
		<b>Glyphosate<sup>6</sup></b>	See label for rate

### Water volume

Ground application 40 to 80 L/ac (10 to 20 gal/ac)

### Pre-harvest interval

60 days for field corn.  
Do not graze or cut for fodder before crop maturity (ear emergence).

### Follow crops

None on label. Applying Marksman herbicide to fields previously treated with atrazine can increase the risk of residue carryover to rotational crops. Follow cropping restrictions on atrazine label.

### TECH TIP

*Apply Marksman or Engenia® herbicide when the air temperature is between 10 and 25°C. Do not apply when there is a risk of severe drop in night temperature. Avoid spraying under conditions of high humidity or when a temperature inversion is present.*



# Armezon®

Herbicide

Your ideal tank-mix partner for post-emergent weed control in corn.

- Registered for use in field, seed and sweet corn
- Post-emergent herbicide quickly absorbed by leaves, roots and shoots for fast control of annual broadleaf weeds and emerged grasses
- Innovative chemistry for control of Group 2-resistant, glyphosate-resistant and triazine-resistant weeds



Source: BASF research trial, Maryhill, ON, 2013

<b>Active ingredient</b>	Topramezone – Group 27
<b>Formulation</b>	Liquid suspension
<b>One case contains</b>	4 x 600 ml jugs

<sup>1</sup>The Armezon + atrazine + glyphosate tank mix provides control of all the weeds on the glyphosate label, plus improved control of the weeds listed. <sup>2</sup>Suppression. <sup>3</sup>For control of secondary flushes, a sequential application of Armezon herbicide may be applied. <sup>4</sup>A second application of Armezon at 15 ml/ac (37 ml/ha) may be applied, for a total of 30 ml/ac (74 ml/ha) on glyphosate-tolerant corn before the 7-leaf stage. <sup>5</sup>Atrazine, glyphosate, Assist, 28% UAN and Merge are sold separately. <sup>6</sup>If treated with two applications (30 ml/ac (74 ml/ha)), fields can only be seeded to winter wheat 4 months after application and spring wheat, field corn and canola the following year.

## Crop staging

1- to 7-leaf

## Weeds controlled<sup>1</sup>

### Broadleaf weeds

Common chickweed<sup>2</sup>  
Common lamb's quarters  
Common ragweed  
Eastern black nightshade  
Green pigweed  
Lady's thumb  
Redroot pigweed  
Velvetleaf<sup>2</sup>  
Volunteer canola (all types)<sup>3</sup>  
Wild mustard

### Grasses

Barnyard grass<sup>2</sup>  
Crabgrass (large)<sup>2</sup>  
Fall panicum  
Foxtail (green, yellow)<sup>2</sup>

## Water volume

Ground application 40 to 80 L/ac (10 to 20 gal/ac)

## Pre-harvest interval

Do not apply within 45 days of corn harvest (fodder, grain or silage).

## Follow crops<sup>6</sup>

**4 months after application:** Winter wheat

**Following spring after application:** Alfalfa, canola, field corn, potatoes, soybeans, spring wheat, white beans

If Armezon is used in a tank mix, refer to tank-mix partner's label for any additional follow-crop restrictions.

## Application rates

One case treats 160 acres.

For glyphosate-tolerant corn:

<b>Armezon<sup>4</sup></b>	15 ml/ac (37 ml/ha)
<b>Atrazine<sup>5</sup></b>	420 ml/ac (1.04 L/ha)
<b>Glyphosate<sup>5</sup></b>	See label for rate

For seed, sweet corn:

<b>Armezon</b>	15 ml/ac (37 ml/ha)
<b>Atrazine<sup>5</sup></b>	420 ml/ac (1.04 L/ha)
<b>Assist<sup>®5</sup></b>	1.25% v/v (12.5 L per 1000 L spray solution)
<b>28% UAN<sup>5</sup></b>	1.25% v/v (12.5 L per 1000 L spray solution)

For conventional corn:

<b>Armezon</b>	15 ml/ac (37 ml/ha)
<b>Atrazine<sup>5</sup></b>	420 ml/ac (1.04 L/ha)
<b>Merge<sup>®</sup> adjuvant<sup>5</sup></b>	0.25% v/v (2.5 L per 1000 L spray solution)



## Improved disease control in corn combined with the proven benefits of **AgCelence**<sup>1</sup>.

- Preventative and post-infection activity on a wide spectrum of diseases in corn, including eyespot and northern corn leaf blight
- Multiple modes of effective action for enhanced performance and efficacy
- **AgCelence** benefits<sup>1</sup> for better management of minor stress and increased standability and growth efficiency<sup>2</sup>



Source: BASF research trials, 2015

<b>Active ingredients</b>	Metconazole – Group 3 Pyraclostrobin – Group 11
<b>Formulation</b>	Liquid
<b>One case contains</b>	2 x 6.07 L jugs

## Headline<sup>®</sup> AMP

Fungicide

### Crop staging

V12 to silk browning

### Diseases controlled

Anthrachnose  
(*Colletotrichum graminicola*)

Common rust  
(*Puccinia sorghi*)

Eyespot  
(*Aureobasidium zeae*)

Gray leaf spot  
(*Cercospora zeae-maydis*)

Northern corn leaf blight  
(*Setosphaeria turcica*)

### Application rates

One case treats 30 to 40 acres.

<b>Headline AMP</b>	303 to 404 ml/ac (0.75 to 1.0 L/ha)
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### Water volume

Ground application

Minimum 80 L/ac (20 gal/ac)

Aerial application

20 L/ac (5 gal/ac)

### Pre-harvest interval

7 days after application for sweet corn  
(mechanical harvesting only).

13 days after application for sweet corn  
(hand harvesting only).

20 days after application for field,  
pop and seed production corn.

### TECH TIP

*If tank mixing with an insecticide to control western bean cutworm, time the application based on the insecticide timing, as the fungicide has a wider window of application.*

<sup>1</sup> **AgCelence** benefits refer to products that contain the active ingredient pyraclostrobin.

<sup>2</sup> All comparisons are to untreated, unless otherwise stated.



# Caramba®

Fungicide

## Preventative protection against fusarium and gibberella ear rots.

- Proven suppression of ear rots caused by *Fusarium graminearum* and *Gibberella zeae*
- Reduces deoxynivalenol (DON) contamination to preserve grade quality

<b>Active ingredient</b>	Metconazole – Group 3
<b>Formulation</b>	Liquid
<b>One case contains</b>	2 x 8.1 L jugs Also available in 128 L shuttle

### Crop staging

Full silking to silk browning

### Diseases suppressed

Fusarium ear rot  
(*Fusarium graminearum*)  
Gibberella ear rot  
(*Gibberella zeae*)

### Application rates

One case treats 40 acres.  
One shuttle treats 320 acres.

<b>Caramba</b>	405 ml/ac (1.0 L/ha)
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### Water volume

Ground application  
Minimum 80 L/ac (20 gal/ac)

Aerial application  
20 L/ac (5 gal/ac)

### Pre-harvest interval

7 days after application for sweet corn (mechanical harvesting only).

18 days after application for sweet corn (hand harvesting only).

20 days after application for field and pop corn.

### Caramba® fungicide application timing for ear disease management



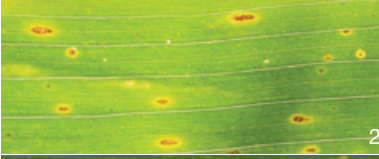






Application window

### TECH TIP

*To ensure adequate coverage of the silks, higher water volume is essential. When targeting gibberella, apply when the silks are green. If they can be lit on fire, it's too late. The silks usually stay green for 7 to 10 days, but this depends on the hybrid and environmental conditions.*

# Identifying corn diseases.

Disease	Visual symptoms	Picture
<b>Anthracnose leaf blight</b>	<ul style="list-style-type: none"> <li>• Oval lesions about 15 mm in length</li> <li>• Center is tan-brown with reddish, purplish, brownish or yellowish border</li> <li>• Disease progresses from the bottom and moves upwards</li> <li>• Top die-back can occur after silking</li> </ul>	 1
<b>Common rust</b>	<ul style="list-style-type: none"> <li>• Small, elliptical, reddish-brown pustules that can be seen on leaves, husks and stalks</li> <li>• Spores become black as they mature</li> <li>• In severe cases there can be some necrosis around the spores</li> <li>• Spores can easily be rubbed off</li> </ul>	
<b>Eyespot</b>	<ul style="list-style-type: none"> <li>• Round lesions that are 2-5 mm in diameter</li> <li>• Center of the lesions are usually tan with a brown margin</li> <li>• Lesions are surrounded by yellow halo</li> </ul>	 2
<b>Grey leaf spot</b>	<ul style="list-style-type: none"> <li>• Short and narrow rectangular lesions parallel to the leaf veins appear on lower leaves after tasseling</li> <li>• Lesions range from tan to grey as the disease progresses</li> </ul>	 3
<b>Northern corn leaf blight</b>	<ul style="list-style-type: none"> <li>• Long, elliptical (cigar-shaped) lesions that are tan or grey</li> <li>• Lesions tend to appear on lower leaves first</li> <li>• Black spores can be found on the lesions when conditions are moist</li> <li>• When severe infection occurs, the lesions can coalesce and lead to the death of the leaf</li> </ul>	 4
<b>Tar spot</b>	<ul style="list-style-type: none"> <li>• Small black spots that are raised and bumpy on both sides of the leaf</li> <li>• Lesions can sometimes appear on the husks</li> <li>• Spots can be surrounded by tan-brown lesions (halo) that have a darker outer border, which are referred to as fisheye lesions</li> </ul>	 5
<b>Gibberella ear rot</b>	<ul style="list-style-type: none"> <li>• The tip of the ear or an insect-caused wound are both entry points for the reddish-pink mold to grow</li> <li>• The ear becomes spongy and can be covered in its entirety</li> <li>• Husks become bleached and tightly bound to the cobs with some black fruiting bodies visible</li> </ul>	 6

<sup>1,3</sup> Source: Daren Mueller, Iowa State University, Bugwood.org, <sup>2,4,6</sup> Source: BASF, <sup>5</sup> Source: David B. Langston, University of Georgia, Bugwood.org



# Corn that's protected. Selecting the proper fungicide for your fields.

There are many factors to consider when making the decision to protect your field or silage corn with a fungicide application including yield potential, disease pressure, susceptibility of the hybrid and level of stress during pollination.

## Fields that benefit the most.

Target fields with the highest yield potential, as they often see the highest returns from an application.

These fields have:

- Adequate nitrogen
- Uniform plant stand
- Good fertility

Also look for fields with these characteristics:

- History of disease or a corn-on-corn rotation
- Hybrids that are susceptible to leaf disease
- Experience stress during the pollination period

## Timing and staging.

Once you have made the decision to use a fungicide, ensure you are making an application at the right stage with the right product. This will help you achieve your production goals and improve your overall results and return on investment.

## When choosing your fungicide, consider your objective.

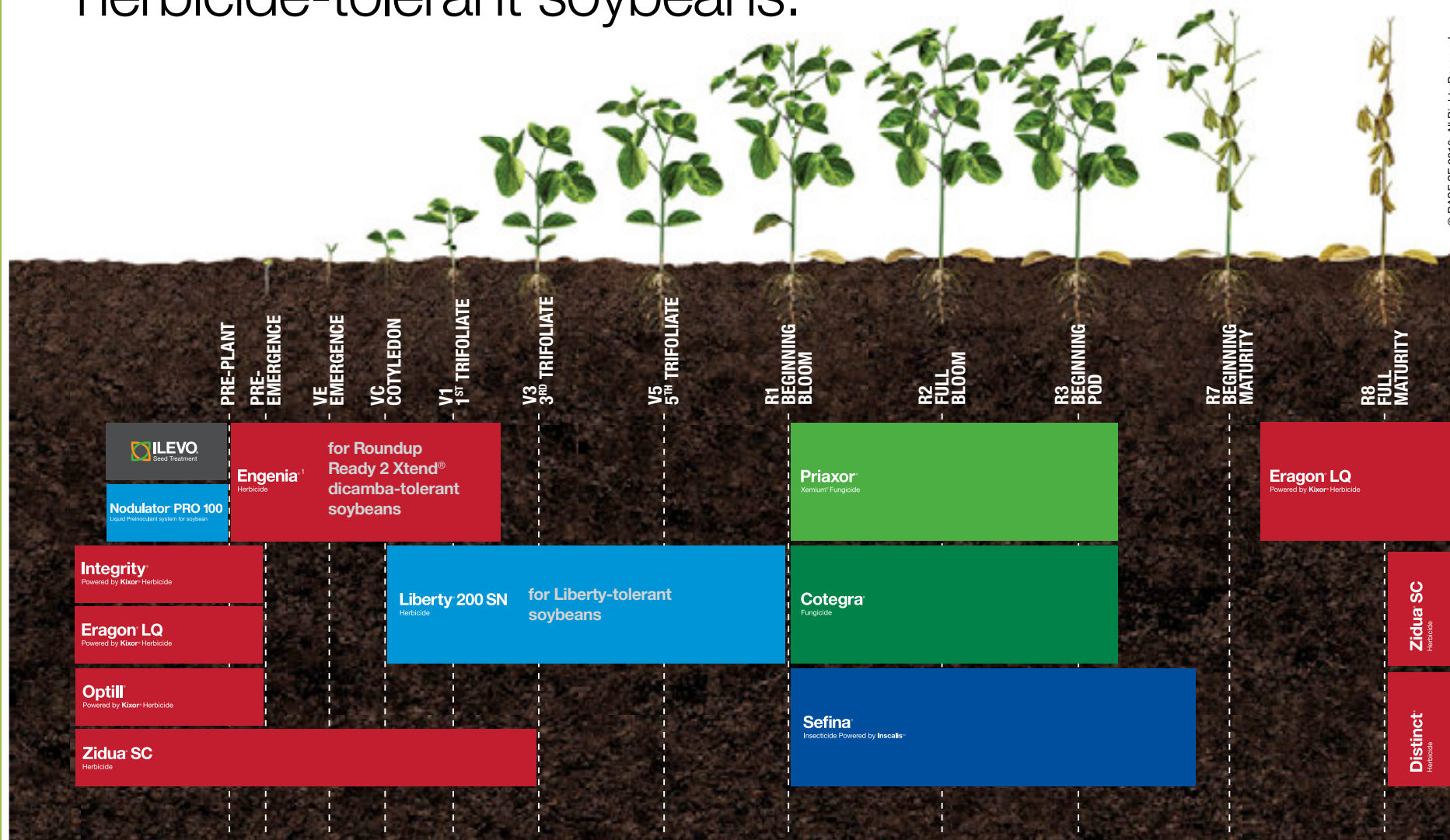
If you're looking to control leaf diseases such as northern corn leaf blight or eyespot and yield is your primary objective, using a fungicide with multiple modes of effective action such as Headline® AMP fungicide at tassel is the right choice. If you are concerned about quality and the impact of DON, applying a fungicide such as Caramba® fungicide at silking is the right approach. And if you are targeting both yield and quality, tank mix Headline AMP with Caramba fungicide at silking.

	Headline AMP	Caramba	Headline AMP + Caramba
<b>Focus</b>	Leaf disease and yield	Quality	Leaf disease, quality and yield
<b>Benefits</b>	<ul style="list-style-type: none"> <li>- Preventative and post-infection activity on diseases</li> <li>- Increased <b>AgCelence</b>® benefits<sup>1</sup> for improved plant health and greener leaves<sup>2</sup></li> <li>- Multiple modes of effective action for resistance management</li> </ul>	<ul style="list-style-type: none"> <li>- Controls leaf diseases, suppresses fusarium and gibberella ear rots, reducing DON</li> <li>- Increases grain yield and quality</li> </ul>	<ul style="list-style-type: none"> <li>- Provides all of the benefits of Headline AMP and Caramba in a complete program</li> </ul>
<b>Application timing</b>	Can be applied earlier, but most consistent results are seen at full tassel (VT).	Full silking to silk browning (R1). If silks are dry, it's too late.	Full silking to silk browning (R1). If silks are dry, it's too late.
<b>Rate</b>	303 ml/ac (750 ml/ha)	405 ml/ac (1.0 L/ha)	Headline AMP – 303 ml/ac (750 ml/ha) Caramba – 202 ml/ac (500 ml/ha)

<sup>1</sup> **AgCelence** benefits refer to products that contain the active ingredient pyraclostrobin.

<sup>2</sup> All comparisons are to untreated, unless otherwise stated.

# Solutions for herbicide-tolerant soybeans.



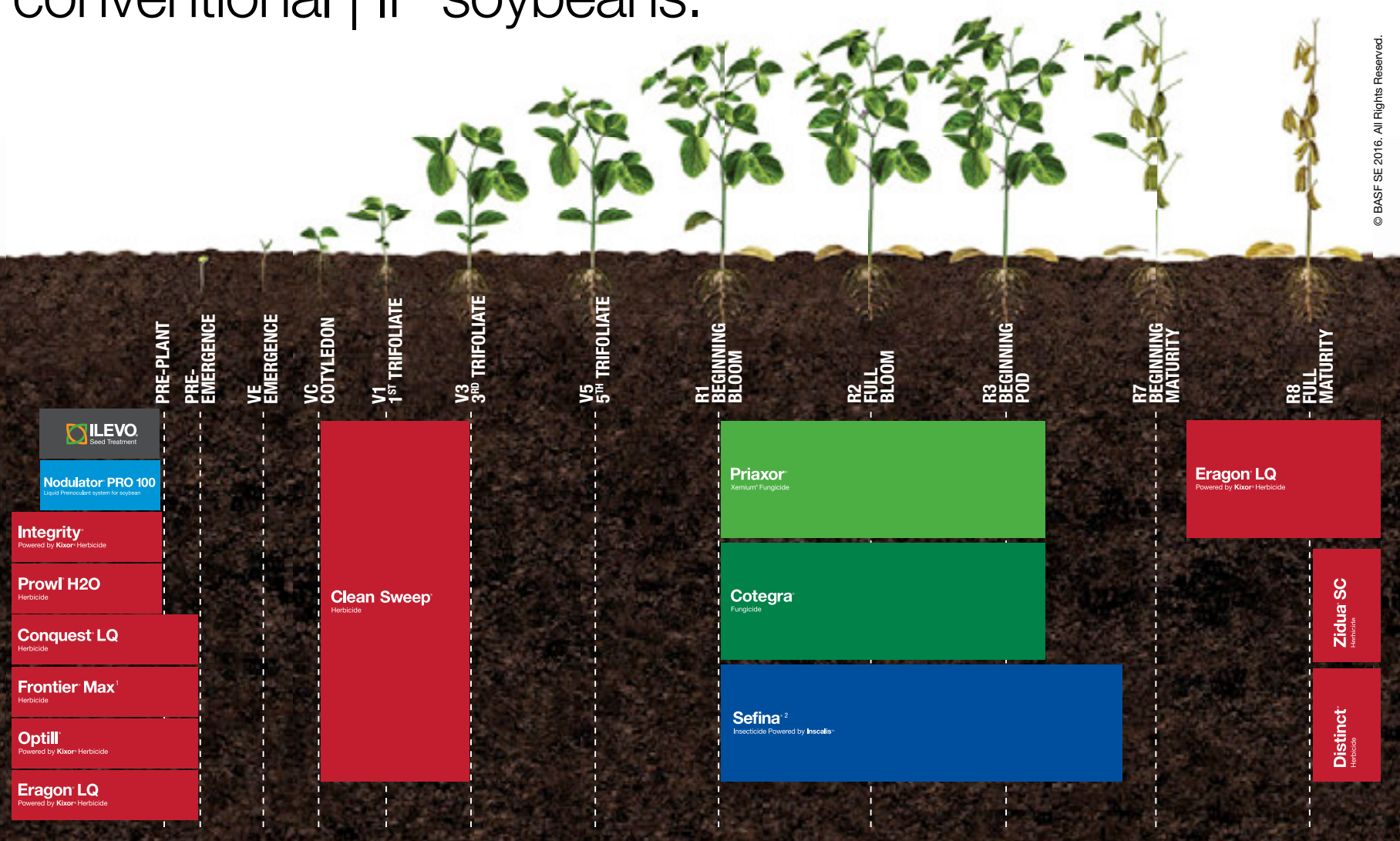
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Staging graphics depicted here are for quick reference only. Refer to individual product pages and product labels on [agsolutions.ca](http://agsolutions.ca) or call AgSolutions® Customer Care at 1-877-371-BASF (2273) for detailed staging information.

<sup>1</sup> Apply by ground ONLY to dicamba-tolerant soybeans. Soybean varieties that are not designated as dicamba-tolerant will be damaged or destroyed by this treatment.



# Solutions for conventional | IP soybeans.



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Staging graphics depicted here are for quick reference only. Refer to individual product pages and product labels on [agsolutions.ca](http://agsolutions.ca) or call AgSolutions® Customer Care at 1-877-371-BASF (2273) for detailed staging information.

<sup>1</sup> Frontier® Max herbicide can be applied pre-plant incorporated to pre-emergence.

<sup>2</sup> BASF is in the process of establishing import tolerances (maximum residue limits (MRLs)) for markets around the world.

SOYBEANS

Crop Staging

CORN

SOYBEANS

CEREALS

CANOLA

POTATOES

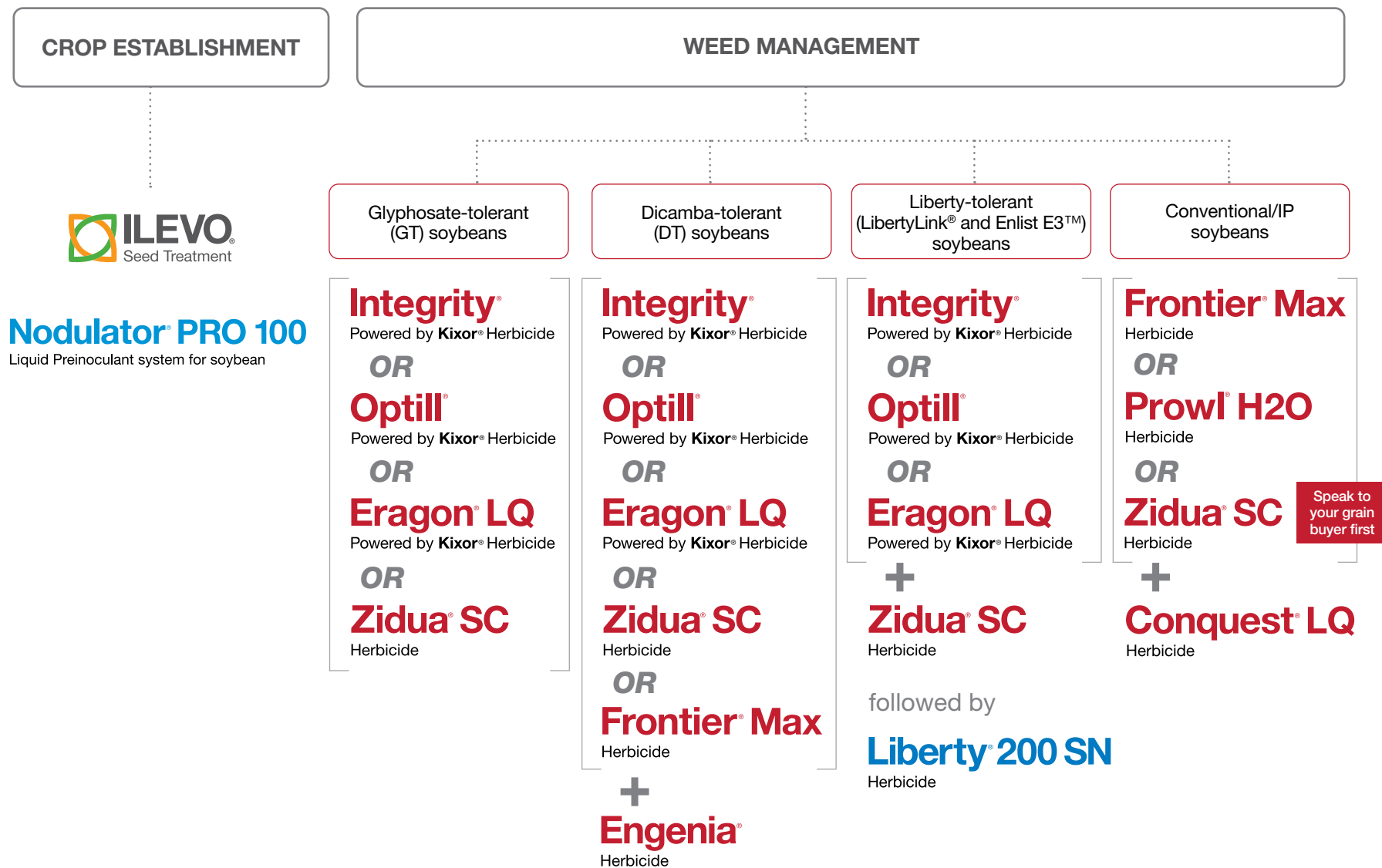
POST-HARVEST

RESOURCES



# BASF lead recommendations.

Select the solution that's right for your operation.



## INSECT MANAGEMENT

**Sefina®**Insecticide Powered by **Inscalix®**

## DISEASE MANAGEMENT

**Priaxor®**

Xemium® Fungicide

**Cotegra®**

Fungicide

## HARVEST MANAGEMENT

**Eragon® LQ**Powered by **Kixor®** Herbicide

## POST-HARVEST

**Distinct®**

Herbicide

**Zidua® SC**

Herbicide



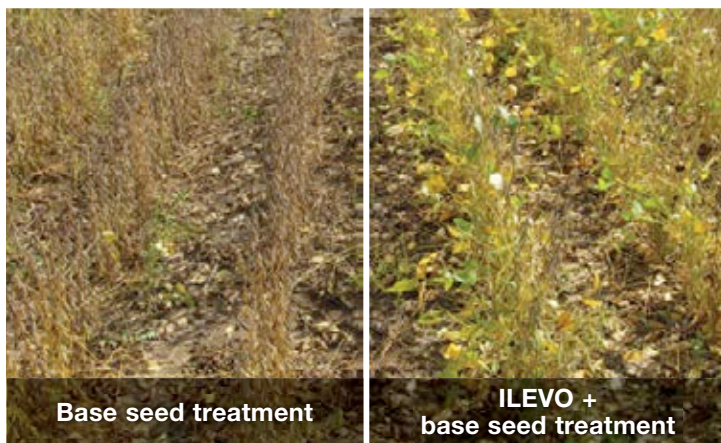
Contact your BASF **AgSolutions®** Retail Representative for more information.



ILEVO® seed treatment provides effective protection against sudden death syndrome (SDS) and soybean cyst nematode (SCN).

- Protects against the above-ground and below-ground phases of SDS caused by *Fusarium virguliforme*
- Powerful nematocidal activity that demonstrates effectiveness across the SCN lifecycle, reducing the potential for root infection and damage

#### Soybean cyst nematode protection



Source: BASF research trials, Oregon, WI, 2019

<b>Active ingredient</b>	Fluopyram - Group 7
<b>Formulation</b>	Suspension

For use on:

ALL SOYBEAN  
PLATFORMS

YES

#### Crop treatment

Standard slurry or mist-type application equipment

#### Target seed and seedling pests

Sudden death syndrome (SDS) caused by *Fusarium virguliforme*

Nematodes (suppression)

- Soybean cyst nematodes (*Heterodera glycines*)
- Root lesion nematodes (*Pratylenchus penetrans*)

#### Application rates

One tote of ILEVO treats 19,455 to 64,935 kg of seed. The recommended application rate is 154 ml/100kg of seed.

ILEVO	<i>Fusarium virguliforme</i> (SDS)	154 ml/100 kg
	Soybean cyst nematodes <sup>1</sup>	
	Root lesion nematodes <sup>1</sup>	

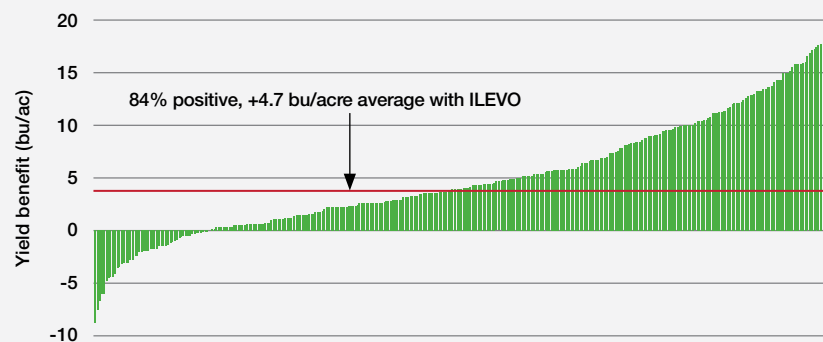
<sup>1</sup> Suppression.

Talk to your seed treater about application.

#### Inoculant compatibility

For details on seed treatment and inoculant compatibility, see the Applied Pesticide Compatibility Information for the respective crops available on [agsolutions.ca](http://agsolutions.ca), call **AgSolutions**® Customer Care at 1-877-371-BASF (2273) or contact your BASF **AgSolutions** Retail Representative.

#### ILEVO yield benefit on soybeans



Source: 2011-2016 US & Canadian Field Trials, n=338



# Nodulator® PRO 100

Liquid Preinoculant system for soybean

PLUS INTEGRAL®  
BIOFUNGICIDE

## Integral®

Biofungicide

For use on:

ALL SOYBEAN  
PLATFORMS

YES

Professionally applied Biostacked® preinoculant with up to 100 days of on-seed survivability.

- Biostacked preinoculant system provides nitrogen-fixing rhizobium of Nodulator® PRO 100 plus the biofungicide activity of Integral
- Unique formulation and bladder system provides up to 100 days of on-seed survivability
- Low application volume and ability to apply early for convenience
- Better plant growth with *B. amyloliquefaciens*
- Built-in disease suppression
- Increased vigor for greater yields

Make sure you ask for Nodulator PRO 100 to be applied on your seed.

### Nodulator PRO 100

**Bioactive ingredient** *Bradyrhizobium japonicum*

**Formulation** Liquid

**One case contains** 1 x 3 L PRO 100 inoculant  
1 x 3 L PRO 100 conditioner

### Integral biofungicide

**Bioactive ingredient** *Bacillus amyloliquefaciens*

**Formulation** Liquid

**Packaged separately** 1 x 400 ml bottle Integral biofungicide

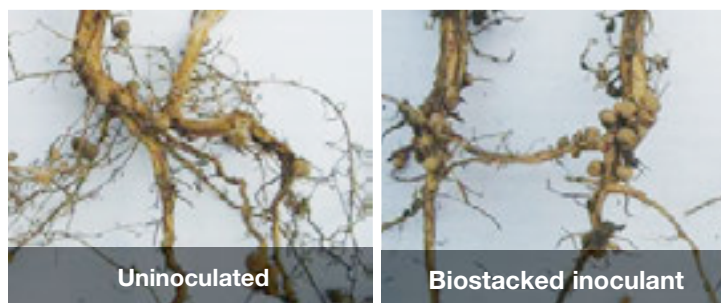
**Crop treatment** Applied on-seed exclusively by commercial seed treaters

**Application rates** One case of preinoculant will treat 4,536 kg (10,000 lbs) of seed.

Rate per 100 kg seed<sup>1</sup>:

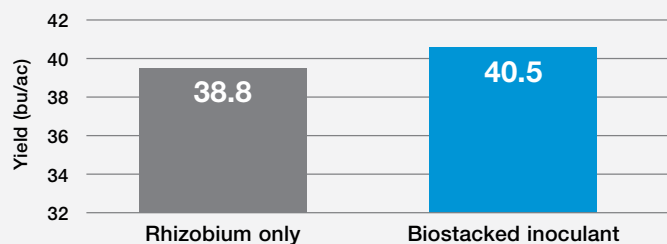
<b>Nodulator PRO 100 (inoculant + conditioner)</b>	130 ml
<b>Integral</b>	9 ml

**Follow crop** No follow-crop restrictions.



Source: BASF trials, 2007

### Yield boosts of up to 6% in soybeans



Source: BASF, 76 station years (n sites x n years)

Some seed treatments are harmful to liquid inoculants and the application method can affect the days-on-seed compatibility. Please see respective product labels or call **AgSolutions®** Customer Care for further information.

<sup>1</sup> Please refer to the product label for application rates without pesticides, as 139 ml /100 kg is not sufficient for even seed coverage and requires additional liquid volume (water and/or pesticide).

SOYBEANS

Crop Establishment

CORN

SOYBEANS

CEREALS

CANOLA

POTATOES

POST-HARVEST

RESOURCES

# Conquest® LQ

Herbicide

For control of tough broadleaf weeds and annual grasses in soybeans.

- Multiple modes of action for managing resistant weeds
- Season-long residual control through both soil and foliar uptake
- Rate flexibility for specific weed pressures



<b>Active ingredients</b>	Imazethapyr – Group 2 Metribuzin – Group 5
<b>Formulation</b>	Imazethapyr – Solution Metribuzin – Suspension concentrate
<b>One case contains</b>	2 x dual chamber jugs. Each jug contains: 2.52 L Pursuit® herbicide 6.88 L Sencor® herbicide

## Crop staging

Early pre-plant, pre-emergence

## Weeds controlled

### Broadleaf weeds

Common ragweed  
Eastern black nightshade<sup>1</sup>  
Lady's thumb  
Lamb's quarters  
Redroot pigweed  
Velvetleaf<sup>2</sup>  
Wild mustard

### Grasses

Barnyard grass  
Foxtail (green, yellow)  
Old witchgrass

## Application rates

One case treats 30 to 40 acres.

<b>Pursuit<sup>3</sup></b>	126 to 168 ml/ac (312 to 420 ml/ha)
<b>Sencor<sup>3</sup></b>	344 to 459 ml/ac (0.86 to 1.1 L/ha)

## Water volume

Ground application 60 to 80 L/ac  
(15 to 20 gal/ac)

## Pre-harvest interval

100 days after application for soybeans.

## Follow crops

### In next spring after application:

Field corn  
Kidney beans  
Soybeans  
Spring barley  
Spring wheat  
White beans  
Winter wheat<sup>4</sup>

## TECH TIP

*Ideal tank-mix partner with Eragon® LQ herbicide or Integrity® herbicide to provide multiple modes of effective action on glyphosate-resistant Canada fleabane. Ensure your applications include 344 ml/ac of metribuzin for optimal control.*

<sup>1</sup> Pre-emergence application. Partial control only.

<sup>2</sup> Some velvetleaf plants that germinate deeper in the soil and emerge late may escape treatment.

<sup>3</sup> On coarse soils, pre-emergence application timing (conventional tillage): One case treats 40 acres with lower rate and treats 30 acres with higher rate.

<sup>4</sup> Winter wheat may be grown 100 days after the application of Conquest® LQ herbicide.

# Frontier® Max

Herbicide

Reliable control of tough broadleaf and grassy weeds.

- Wide window of application in soybeans
- Controls stubborn weeds like foxtail, nightshade, nutsedge and pigweed
- Residual activity for reduced weed pressure throughout crop development
- Low use rate



<b>Active ingredient</b>	Dimethenamid-P – Group 15
<b>Formulation</b>	Emulsifiable concentrate
<b>One case contains</b>	2 x 9 L jugs

For use on:

ALL SOYBEAN  
PLATFORMS

YES

## Crop staging

Pre-plant incorporated<sup>1</sup>, pre-emergence<sup>1</sup>

## Weeds controlled

### **Broadleaf weeds**

Eastern black nightshade<sup>2</sup>

Redroot pigweed<sup>3</sup>

Waterhemp<sup>4</sup>

### **Grasses**

Barnyard grass

Crabgrass (large, smooth)

Fall panicum

Foxtail (giant, green, yellow)

Old witchgrass

Yellow nutsedge<sup>5</sup>

## Application rates

One case treats 45 to 60 acres.

<b>Frontier® Max</b>	305 to 390 ml/ac (0.75 to 1 L/ha) <sup>6</sup>
----------------------	--

## Water volume

Ground application      40 to 80 L/ac (10 to 20 gal/ac)

<sup>1</sup> Application stage is dependent on tank-mix partner.

<sup>2</sup> Pre-plant incorporated or pre-emergence only (390 ml/ac).

<sup>3</sup> Pre-plant incorporated (350 to 390 ml/ac) or pre-emergence (390 ml/ac) only.

<sup>4</sup> Suppression only.

<sup>5</sup> Pre-plant incorporated only (390 ml/ac). Lower rates provide suppression only.

<sup>6</sup> Rate depends on soil texture and organic matter content, see label for more information.

SOYBEANS

Weed Management

CORN

SOYBEANS

CEREALS

CANOLA

POTATOES

POST-HARVEST

RESOURCES



# Eragon® LQ

Powered by **Kixor®** Herbicide

**PRE-PLANT/PRE-EMERGENCE**

For use on:

ALL SOYBEAN  
PLATFORMS

**YES**

The ultimate burndown in an easy-to-use liquid formulation.

- Group 14 chemistry controls weeds resistant to glyphosate, triazine and Group 2 herbicides
- Quickly absorbed for fast control of key broadleaf weeds
- Complements and improves your glyphosate burndown application



Source: BASF research trials, Bryanston, ON, 2013

<b>Active ingredient</b>	Saflufenacil – Group 14
<b>Formulation</b>	Water-based suspension concentrate
<b>One case contains</b>	4 x 1.182 L jugs

## Crop staging

Pre-plant, pre-emergence

## Weeds controlled

Broadleaf plantain<sup>1</sup>  
Canada fleabane<sup>2</sup>  
Common ragweed<sup>2</sup>  
Dandelion<sup>3</sup>  
Giant ragweed<sup>1,2</sup>  
Lady's thumb<sup>1</sup>  
Lamb's quarters  
Perennial sow thistle<sup>1,4</sup>  
Prickly lettuce<sup>1,5</sup>  
Redroot pigweed  
Shepherd's-purse<sup>1</sup>  
Stinkweed<sup>1</sup>  
Wild buckwheat<sup>1</sup>  
Wild mustard

## Application rates

One case treats 160 acres.

<b>Eragon LQ</b>	30 ml/ac (73 ml/ha) <sup>6</sup>
<b>Merge® adjuvant<sup>7</sup></b>	400 ml/ac (1 L/ha)
<b>Glyphosate<sup>7</sup></b>	See label for rate

## Water volume

Ground application 40 to 80 L/ac  
(10 to 20 gal/ac)<sup>8</sup>

## Pre-harvest interval

60 days for all pre-plant and pre-emergent applications.

## Follow crops

**In next season after spring pre-plant/  
pre-emergent application:**

Barley, canola, corn (field, sweet),  
dry beans, oats, soybeans, triticale,  
wheat (durum, spring, winter)

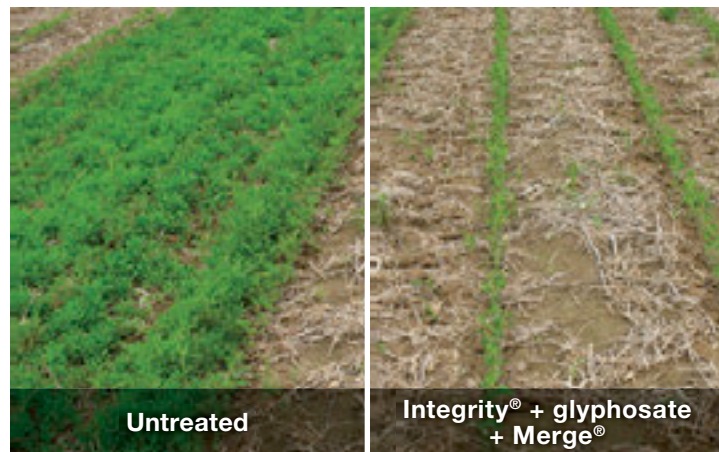
<sup>1</sup> Controlled with a tank mix of Eragon LQ and glyphosate for pre-plant and pre-emergent applications. <sup>2</sup> Includes glyphosate-resistant biotypes. <sup>3</sup> Suppression only. <sup>4</sup> Top growth burndown control only. <sup>5</sup> Top growth only. <sup>6</sup> Do not use rates higher than 30 ml/ac or crop injury may result. Use with glyphosate for both pre-plant and pre-emergent applications. <sup>7</sup> Glyphosate (required for optimum activity) and Merge adjuvant (required) are not included in the case. See respective glyphosate label for application rate of glyphosate. <sup>8</sup> Use higher water volumes for larger weeds or when weed densities are high.

# Integrity®

Powered by **Kixor®** Herbicide

## Broad-spectrum weed control to give soybeans a weed-free start.

- Early-season control of key broadleaf weeds such as Canada fleabane, with suppression of key grasses
- Group 14 and 15 chemistries for multiple modes of action
- Control of weeds resistant to glyphosate, triazine and Group 2 herbicides
- Excellent follow-crop flexibility



On glyphosate-resistant Canada fleabane.  
Source: BASF research trial, Ridgeway, ON, 2014

<b>Active ingredients</b>	Saflufenacil – Group 14 Dimethenamid-P – Group 15
<b>Formulation</b>	Emulsifiable concentrate
<b>One case contains</b>	2 x 9 L jugs Also available in 450 L tote

### Crop staging

Pre-plant<sup>1</sup>, pre-emergence<sup>1</sup>

### Weeds controlled

#### **Broadleaf weeds**

Broadleaf plantain  
Canada fleabane<sup>2</sup>  
Common ragweed<sup>2</sup>  
Dandelion<sup>3</sup>  
Giant ragweed  
Lady's thumb  
Lamb's quarters  
Perennial sow thistle<sup>4</sup>  
Prickly lettuce<sup>5</sup>  
Redroot pigweed  
Shepherd's-purse  
Stinkweed  
Wild buckwheat  
Wild mustard

#### **Grasses**

Barnyard grass<sup>6</sup>  
Crabgrass (large)<sup>6</sup>  
Foxtail (green, yellow)<sup>6</sup>

### Application rates

One case treats 120 acres.  
One tote treats 3,000 acres.

<b>Integrity<sup>7</sup></b>	150 ml/ac (370 ml/ha)
<b>Merge adjuvant<sup>8</sup></b>	400 ml/ac (1.0 L/ha)
<b>Glyphosate<sup>8</sup></b>	See label for rate

### Water volume

Ground application  
40 to 80 L/ac (10 to 20 gal/ac)

### Pre-harvest interval

60 days after application for soybeans.

### Follow crops

**Anytime after application:**

Field and sweet corn

**100 days after application:**

Cereals other than corn

**11 months after application:**

All other crops

**22 months after application:**

Sugar beets

### TECH TIP

*Use multiple modes of effective action. If targeting larger glyphosate-resistant Canada fleabane, use higher water volumes (15 to 20 gal/ac) and add an additional mode of action. Apply to weeds that are small and actively growing.*

<sup>1</sup> Apply in tank mix with glyphosate. Do not incorporate as injury may occur. <sup>2</sup> Includes glyphosate-resistant biotypes. <sup>3</sup> Suppression only. <sup>4</sup> Top growth burndown control only. <sup>5</sup> Top growth only. <sup>6</sup> Early season suppression. <sup>7</sup> Do not incorporate as injury may occur. <sup>8</sup> Glyphosate and Merge are not included in the case. See respective glyphosate label for application rate of glyphosate.

ALL SOYBEAN  
PLATFORMS

For use on:

YES

SOYBEANS

Weed Management

CORN

SOYBEANS

CEREALS

CANOLA

POTATOES

POST-HARVEST

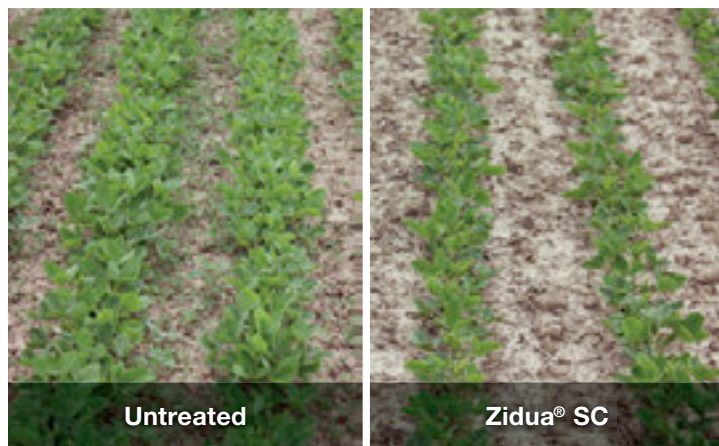
RESOURCES

# Zidua® SC

Herbicide

## Residual control of key annual grasses and select broadleaf weeds.

- Group 15 chemistry delivers control of grassy weeds such as annual bluegrass, as well as resistant pigweed and waterhemp
- Residual activity controls germinating seedlings before or soon after crop emergence
- Convenient liquid formulation



Source: BASF research trial, ON, 2017

<b>Active ingredient</b>	Pyroxasulfone – Group 15
<b>Formulation</b>	Suspension concentrate
<b>One case contains</b>	2 x 4.05 L jugs

For use on:

CONVENTIONAL/  
IP SOYBEANS

TALK TO GRAIN  
BUYER<sup>1</sup>

ALL OTHER  
SOYBEAN  
PLATFORMS

YES

### Crop staging

Pre-plant<sup>2</sup>, pre-emergence, early post-emergence up to the 3<sup>rd</sup> trifoliolate

### Weeds controlled

#### **Broadleaf weeds**

Lamb's quarters<sup>3</sup>, Redroot pigweed, Waterhemp

#### **Grasses**

Annual bluegrass, Barnyard grass, Crabgrass (large), Foxtail (giant, green, yellow), Ryegrass (Italian), Wild oats<sup>3</sup>

### Application rates

One case treats 40 to 110 acres, depending on soil texture.

Zidua SC	Rate by soil texture for residual control			
	Coarse	Medium-fine		Fine
		Organic matter ≤ 3%	3% < Organic matter < 7%	
Pre-plant, pre-emergence	101 ml/ac (250 ml/ha)	134 ml/ac (332 ml/ha)	169 ml/ac (417 ml/ha)	200 ml/ac (493 ml/ha)
Early post-emergence	73 to 97 ml/ac (180 to 240 ml/ha)			

### Water volume

Ground application

Minimum 40 L/ac (10 gal/ac)

### Follow crops

#### **4 months following application:**

Winter wheat

#### **Following spring after application:**

Chickpeas, field corn, field peas, flax, lentils, soybeans, spring wheat

<sup>1</sup> BASF is in the process of establishing import tolerances (maximum residue limits (MRLs)) for markets around the world.

<sup>2</sup> Up to 30 days before planting.

<sup>3</sup> Suppression only.

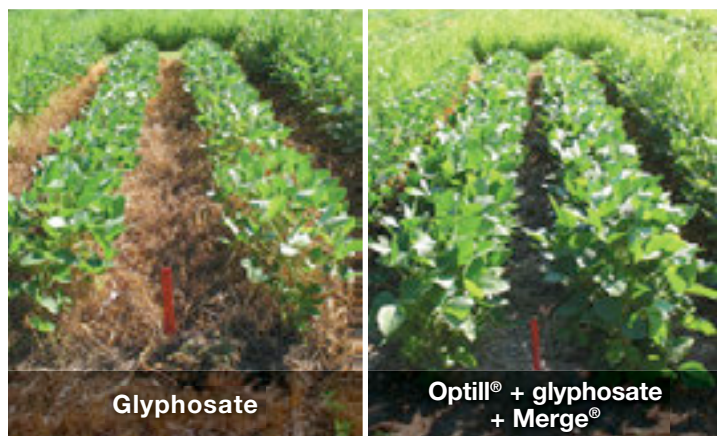


# Optill®

Powered by **Kixor®** Herbicide

Rapid burndown with residual control for cleaner fields in soybeans.

- Powered by Kixor® for rapid burndown plus early-season residual control in no-till and vertical-till productions
- Multiple modes of action to help manage resistant weeds
- Controls grass and broadleaf weeds during the early stages of crop development



Source: BASF research trials, Ridgetown, ON, 2012

<b>Active ingredients</b>	Imazethapyr – Group 2 Saflufenacil – Group 14
<b>Formulation</b>	Water dispersible granules
<b>One case contains</b>	6 x 1.19 kg jugs

**Crop staging**<sup>1</sup>  
Pre-plant, pre-emergence

## Weeds controlled

### **Broadleaf weeds**

Broadleaf plantain  
Canada fleabane<sup>2</sup>  
Common chickweed  
Common ragweed<sup>2,3,4</sup>  
Dandelion<sup>5</sup>  
Giant ragweed<sup>2,6</sup>  
Lady's thumb<sup>6</sup>  
Lamb's quarters<sup>3,4</sup>  
Perennial sow thistle<sup>6,7</sup>  
Prickly lettuce<sup>8</sup>  
Redroot pigweed<sup>3,4</sup>  
Shepherd's-purse  
Stinkweed<sup>6</sup>  
Wild buckwheat<sup>6</sup>  
Wild mustard<sup>6</sup>

### **Grasses**

Barnyard grass<sup>9</sup>  
Crabgrass (large)<sup>9</sup>  
Foxtail (green, yellow)<sup>3,9</sup>

## Application rates

One case treats 120 acres.

<b>Optill</b>	60 g/ac (147 g/ha)
<b>Merge adjuvant</b> <sup>10</sup>	400 ml/ac (1.0 L/ha)
<b>Glyphosate</b> <sup>10</sup>	See label for rate

## Water volume

Ground application  
40 to 80 L/ac (10 to 20 gal/ac)

## Pre-harvest interval

100 days after application for soybeans.

## Follow crops

### **Same season (in case of crop failure):**<sup>11</sup>

Soybeans, winter wheat<sup>12</sup>

### **In next spring after application:**

Dry beans, field corn, soybeans, spring barley, spring wheat, winter wheat<sup>12</sup>

<sup>1</sup> In no-till or reduced tillage operations. <sup>2</sup> Includes glyphosate-resistant biotypes. <sup>3</sup> Adequate residual control may not be achieved on Group 2-resistant biotypes. <sup>4</sup> Includes control of triazine-resistant biotypes. <sup>5</sup> Suppression only.

<sup>6</sup> Burndown only. <sup>7</sup> Top growth burndown only. <sup>8</sup> Top growth only. <sup>9</sup> Burndown and residual suppression only.

<sup>10</sup> Glyphosate and Merge are not included "in the case. See respective glyphosate label for application rate of glyphosate.

<sup>11</sup> A second application of Optill cannot be made in the rescue crop. <sup>12</sup> Winter wheat may be re-planted in cases of crop failure or as a rotational crop 100 days following an Optill application. Soil preparation for re-planting should be no deeper than 10 cm.

ALL SOYBEAN  
PLATFORMS

For use on:

YES

SOYBEANS

Weed Management

CORN

SOYBEANS

CEREALS

CANOLA

POTATOES

POST-HARVEST

RESOURCES

# Prowl® H2O

Herbicide

Early-season control of annual grasses and key broadleaf weeds. Before they emerge.

- Residual control of target weeds
- Low-staining formulation and reduced odour for ease of use
- Outstanding performance and crop safety



<b>Active ingredient</b>	Pendimethalin – Group 3
<b>Formulation</b>	Microcapsule suspension
<b>One case contains</b>	2 x 8.9 L jugs Also available in 450 L tote

For use on:

ALL SOYBEAN  
PLATFORMS

YES

## Crop staging

Early pre-plant, pre-plant incorporated

## Weeds controlled

Barnyard grass  
Crabgrass (large, smooth)  
Foxtail (green, yellow)  
Lamb's quarters<sup>1,2</sup>  
Redroot pigweed<sup>2</sup>

## Application rates

One case treats 20 acres. One tote treats 506 acres.

<b>Prowl® H2O</b>	890 ml/ac (2.2 L/ha)
-------------------	----------------------

## Water volume

Ground application 40 to 80 L/ac (10 to 20 gal/ac)

## Pre-harvest interval

100 days after application for soybeans.

## Follow crops

### 1 year after application:

Field corn  
Kidney beans  
Soybeans  
White beans

## TECH TIP

*If planning to use a vertical tillage implement, apply the herbicide prior to the tillage pass for better weed control.<sup>3</sup>*

*Prowl H2O totes come with a pump that needs to be calibrated before first use and requires occasional agitation if in prolonged storage. For more information please contact your BASF AgSolutions® Retail Representative.*

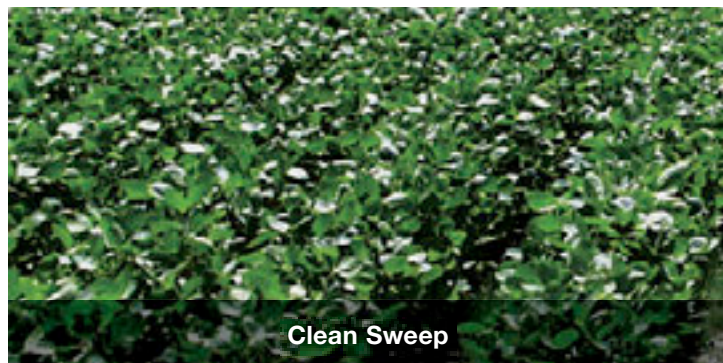
<sup>1</sup> Suppression only. <sup>2</sup> Includes triazine-resistant biotypes. <sup>3</sup> Always read and follow label directions.

# Clean Sweep®

Herbicide

In a planned two-pass system, Clean Sweep® herbicide lets you take control of your weeds.

- Works on contact with emerged weeds and through residual activity
- Controls a broad spectrum of grassy and broadleaf weeds including foxtail, nightshade, ragweed and velvetleaf



Clean Sweep

20 days after planting

Source: AgSolutions® Performance Trial, 2011

<b>Active ingredients</b>	Bentazon – Group 6 Imazethapyr – Group 2
<b>Formulation</b>	Bentazon – Liquid Imazethapyr – Solution
<b>One case contains</b>	2 x dual-chamber jugs Each jug contains: 1.26 L Pursuit® herbicide 7 L Basagran® Forté herbicide

For use on:

ALL SOYBEAN  
PLATFORMS

YES

## Crop staging

Cotyledon to 3<sup>rd</sup> trifoliolate

## Weeds controlled

### Broadleaf weeds

Bird rape, Canada thistle<sup>1</sup>, Cocklebur, Common ragweed, Eastern black nightshade, Field bindweed<sup>2</sup>, Flower-of-an-hour, Lady's thumb, Lamb's quarters, Redroot pigweed, Shepherd's-purse, Stinkweed, Velvetleaf, Wild buckwheat<sup>3</sup>, Wild mustard, Yellow nutsedge<sup>1</sup>

### Grasses

Barnyard grass, Green foxtail, Large crabgrass<sup>4</sup>, Old witchgrass<sup>3</sup>, Proso millet<sup>4</sup>, Yellow foxtail

## Application rates

One case treats 20 acres.

<b>Pursuit</b>	126 ml/ac (312 ml/ha)
<b>Basagran Forté</b>	708 ml/ac (1.75 L/ha)
<b>28% UAN<sup>5</sup></b>	809 ml/ac (2 L/ha)

## Water volume

Ground application 80 to 120 L/ac (20 to 30 gal/ac)

## Pre-harvest interval

100 days after application for soybeans.

## TECH TIP

*For optimal efficacy, plan to apply Clean Sweep 21 days after planting.*

<sup>1</sup> May require an additional application of Basagran Forté at 708 ml/ac (1.75 L/ha) only for control.

<sup>2</sup> Suppression only.

<sup>3</sup> Early post-emergence application.

<sup>4</sup> Early post-emergence application; partial control.

<sup>5</sup> Not included in the case.

SOYBEANS

Weed Management

CORN

SOYBEANS

CEREALS

CANOLA

POTATOES

POST-HARVEST

RESOURCES



# Planning your dicamba- or Liberty-tolerant soybean herbicide program.



## Dicamba-tolerant (DT) soybeans.

- Tank mix Engenia® herbicide with your choice of Kixor® herbicide (Eragon® LQ herbicide, Integrity® herbicide or Optill® herbicide) based on your weed spectrum and intended application period (pre-plant or pre-emergence) and follow up with an in-crop application of Engenia (low rate) prior to the 3rd trifoliate stage, if necessary
- If waterhemp is a concern or if you desire extended residual activity, add Zidua® SC herbicide to your pre-plant/pre-emergent application
- Refer to Engenia stewardship best practices ([click here](#)) for more information

## Liberty-tolerant (LibertyLink®, Enlist E3™, XtendFlex®) soybeans.

- Tank mix Zidua SC with your choice of Kixor herbicide (Eragon LQ, Integrity or Optill) based on your weed spectrum and intended application period (pre-plant or pre-emergence) and follow up with an in-crop application of Liberty® 200 SN herbicide prior to the start of flowering
- Liberty 200 SN provides an alternative mode of action (Group 10) for in-crop control of weeds, including resistant biotypes
- Refer to Liberty 200 SN best practices ([click here](#)) for more information

## Choosing your best Kixor herbicide tank-mix option.

	Eragon LQ	Integrity	Optill
<b>Group(s)</b>	14	14, 15	14, 2
<b>Staging</b>	←————— PP, PRE —————→		
<b>Rate</b>	30 ml/ac	150 ml/ac	60 g/ac
<b>Water volume</b>	←————— 10-20 gal/ac —————→		
<b>Effects</b>	<ul style="list-style-type: none"> <li>• Add an additional mode of effective action on broadleaf weeds (including resistant biotypes)</li> </ul>	<ul style="list-style-type: none"> <li>• Add two additional modes of effective action on broadleaf weeds (including resistant biotypes)</li> <li>• Short-term residual activity</li> <li>• Flexible application options</li> </ul>	<ul style="list-style-type: none"> <li>• Add up to two additional modes of effective action on broadleaf weeds (including resistant biotypes)</li> <li>• Extended residual activity on a broader spectrum of grasses and broadleaf weeds</li> </ul>

# Match these herbicides with your IP soybeans.

	Conquest LQ			Optill	Prowl H2O	Frontier Max
	+ Prowl H2O	+ Frontier Max	+ Zidua SC <sup>1</sup>	+ Frontier Max	Followed by Clean Sweep	
<b>Groups</b>	2, 3, 5	2, 5, 15	2, 5, 15	2, 14, 15	3, 2, 6	15, 2, 6
<b>Staging</b>	PP	PRE	PP, PRE	PP, PRE	Prowl H2O: PP or PPI Clean Sweep: cotyledon – 3rd trifoliate	Frontier Max: PP, PPI or PRE Clean Sweep: cotyledon – 3rd trifoliate
<b>Rate</b>	Conquest LQ: Pursuit 126-168 ml/ac, Sencor 344-459ml/ac Prowl H2O: 890 ml/ac	Conquest LQ: Pursuit 126-168 ml/ac, Sencor 344-459 ml/ac Frontier Max: 305-390 ml/ac	Conquest LQ: Pursuit 126-168 ml/ac, Sencor 344-459 ml/ac Zidua SC: 101-200 ml/ac	Optill: 60 g/ac Frontier Max: 305-390 ml/ac	Prowl H2O: 890 ml/ac Clean Sweep: Pursuit 126 ml/ac, Basagran Forté 708 ml/ac	Frontier Max: 305-390 ml/ac Clean Sweep: Pursuit 126 ml/ac, Basagran Forté 708 ml/ac
<b>Water volume</b>	10-20 gal/ac	10-20 gal/ac	15-20 gal/ac	10-20 gal/ac	10-20 gal/ac for Prowl H2O 20-30 gal/ac for Clean Sweep	10-20 gal/ac for Frontier Max 20-30 gal/ac for Clean Sweep
<b>Broadleaf weeds<sup>2</sup></b>	Common ragweed Eastern black nightshade Lady's thumb Lamb's quarters Redroot pigweed Velvetleaf	Common ragweed Eastern black nightshade Lady's thumb Lamb's quarters Redroot pigweed Velvetleaf	Common ragweed Eastern black nightshade <sup>3</sup> Lady's thumb Lamb's quarter Redroot pigweed Velvetleaf Waterhemp Wild mustard	Canada fleabane Common chickweed Common ragweed Dandelion Eastern black nightshade Giant ragweed Lady's thumb Lamb's quarters Perennial sow thistle Redroot pigweed Shepherd's-purse Wild buckwheat	Canada thistle <sup>4</sup> Cocklebur Common ragweed Eastern black nightshade Field bindweed <sup>4</sup> Lady's thumb Lamb's quarters Redroot pigweed Shepherd's purse Velvetleaf Wild buckwheat	Canada thistle <sup>4</sup> Cocklebur Common ragweed Eastern black nightshade Field bindweed <sup>4</sup> Lady's thumb Lamb's quarters Redroot pigweed Shepherd's purse Velvetleaf Wild buckwheat
<b>Grasses<sup>2</sup></b>	Barnyard grass Crabgrass (large) Fall panicum Foxtail (green, yellow)	Barnyard grass Crabgrass (large, smooth) Fall panicum Foxtail (giant, green, yellow) Old witch grass Yellow nutsedge	Barnyard grass Crabgrass (large) Foxtail (giant, green, yellow) Old witchgrass Ryegrass (Italian) Wild oats <sup>4</sup>	Barnyard grass Crabgrass (large, smooth) Fall panicum Foxtail (giant, green, yellow) Old witchgrass Yellow nutsedge	Barnyard grass Crabgrass (large, smooth) Fall panicum Foxtail (green, yellow) Old witch grass Proso millet <sup>4</sup> Yellow nutsedge <sup>4</sup>	Barnyard grass Crabgrass (large, smooth) Fall panicum Foxtail (giant, green, yellow) Old witch grass Proso millet <sup>4</sup> Yellow nutsedge <sup>4</sup>
<b>PHI for soybeans</b>	100 days	100 days	100 days	100 days <sup>5</sup>	100 days (after Clean Sweep)	100 days (after Clean Sweep)
<b>Use when</b>	Best for heavy grass pressure including crabgrass, or additional activity on lamb's quarters.	Best for heavy grass or nightshade pressure.	Best for waterhemp pressure.	Do not have to incorporate. Use when there is heavy grass or nightshade pressure.	Planned 2-pass program. The soil applied residual at planting will allow for more uniform weed emergence, which will decrease the selection pressure of the in-crop herbicide and make it easier to time the in-crop herbicide application. Use Prowl H2O on light soils or if there is a lot of grass and lamb's quarters. Apply Clean Sweep 17-24 days after the initial burndown or tillage pass.	Planned 2-pass program. The soil applied residual at planting will allow for more uniform weed emergence, which will decrease the selection pressure of the in-crop herbicide and make it easier to time the in-crop herbicide application. Frontier Max is strong on nightshade. Apply Clean Sweep 17-24 days after the initial burndown or tillage pass.

<sup>1</sup> Talk to your grain buyer before applying. BASF is in the process of establishing import tolerance (maximum residue limits (MRLs)) for markets around the world. <sup>2</sup> For the complete list of weeds controlled and/or suppressed consult the product labels. <sup>3</sup> Partial control only. <sup>4</sup> Suppression only. <sup>5</sup> Not specified for Zidua SC. Follow the application timing for crop on the label. Harvest can occur at crop maturity.

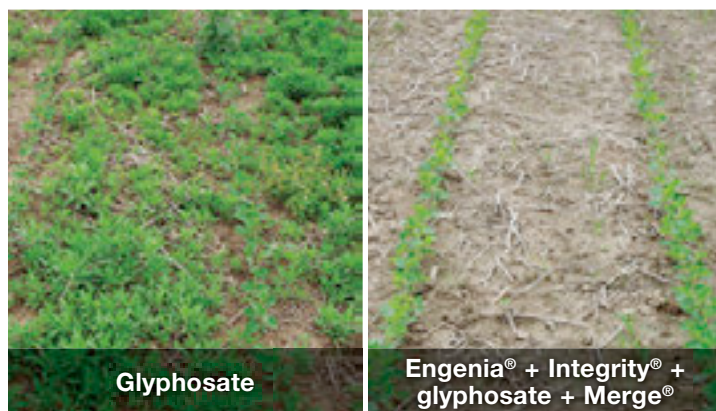
**PPI = pre-plant incorporated PP = pre-plant PRE = pre-emergence**

# Engenia®

Herbicide

An advanced dicamba formulation with lower volatility properties for improved broadleaf control in Roundup Ready 2 Xtend® dicamba-tolerant soybeans.<sup>1</sup>

- More highly concentrated liquid formulation for easier handling and lower use rates
- Effective resistance management tool for Group 2-, 14-, triazine- and glyphosate-resistant biotypes



On glyphosate-resistant Canada fleabane.

Source: University of Guelph research trial, Ridgetown, ON, 2015

<b>Active ingredient</b>	Dicamba – Group 4
<b>Formulation</b>	Solution
<b>One case contains</b>	2 x 8.09 L jugs Also available in 121.2 L shuttle

For use on:

DICAMBA  
TOLERANT  
SOYBEANS

YES

ALL OTHER  
SOYBEAN  
PLATFORMS

NO

## Crop staging<sup>1</sup>

Pre-plant, pre-emergence, early post-emergence

## Weeds controlled<sup>2</sup>

Buckwheat (tartary, wild)  
Canada fleabane<sup>3</sup>  
Canada thistle<sup>4</sup>  
Cleavers  
Corn spurry  
Cow cockle  
Field bindweed<sup>4</sup>  
Green smartweed  
Lady's thumb  
Lamb's quarters  
Mustards  
Perennial sow thistle<sup>4</sup>  
Ragweed (common, false, giant)  
Redroot pigweed  
Russian pigweed  
Velvetleaf

## Application rates

One case treats 40 to 80 acres.

One shuttle treats 300 to 600 acres.

<b>Engenia<sup>5,6,7,8,9</sup></b>	200 to 400 ml/ac (0.5 to 1 L/ha)
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## Water volume

Ground application

Minimum 40 L/ac (10 gal/ac)

Use higher water volumes to ensure adequate coverage.<sup>10</sup>

## Pre-harvest interval

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

## Follow crops

A plant-back interval of 120 days is required for all crops not on the Engenia label.



<sup>1</sup> Apply by ground ONLY to Roundup Ready 2 Xtend® dicamba-tolerant soybeans. Soybean varieties that are not designated as dicamba-tolerant will be damaged or destroyed by this treatment. <sup>2</sup> Controlled by Engenia alone at 200 to 400 ml/ac (0.5 to 1 L/ha). <sup>3</sup> Post-emergence only. <sup>4</sup> Apply Engenia herbicide annually for three years at the flowering stage of bindweed and the budding stage of thistles. <sup>5</sup> Engenia can be used alone or in tank mix with glyphosate for additional broadleaf and grassy weed control. See label for important details. <sup>6</sup> Only use glyphosate products registered for use in soybeans. Do not tank mix Engenia with glyphosate products where glyphosate is present as an ammonium salt. <sup>7</sup> For application to Roundup Ready 2 Xtend® soybeans, apply Engenia using nozzles that deliver extremely coarse to ultra-coarse spray droplets. <sup>8</sup> The 400 ml/ac rate of Engenia is to be used only once a season and should be used pre-plant, pre-emergence or in-crop early post-emergence. <sup>9</sup> 793 ml/ac of Engenia is the maximum total to be applied in a single growing season. <sup>10</sup> See label for water rate application.



# Weed control is your goal. Stewardship is your priority.

There are several factors to consider when using a dicamba herbicide. They include:



**Nozzles** – use nozzles that deliver extremely coarse to ultra-coarse droplets



**Sensitive crop awareness** – identify neighbouring crop species



**Wind speed** – spray when wind speeds are between 3 to 15 km/h



**Application volume** – use a minimum spray volume of 10 gal/ac



**Ground speed** – Maintain sprayer speed under 25 km/h



**Additives/adjuvants** – only use as required or recommended on product label



**Boom height** – keep spray boom height no higher than 50 cm above crop canopy



**Sprayer cleanout** – triple rinse, and use a detergent-based cleaner

## TECH TIP

*Do not apply Engenia when there is a temperature inversion. The three indicators of a temperature inversion include the following:*

- 1) Clear sky
- 2) No wind
- 3) Dew present

*Applications are only permitted beginning one hour after sunrise until two hours before sunset.*

**Engenia<sup>®</sup>**  
Herbicide

Visit [agsolutions.ca/applicationstewardship](https://agsolutions.ca/applicationstewardship) to learn more and access the Engenia Stewardship learning module.

Access the Engenia Spray Tool at [engeniaspraytool.ca](https://engeniaspraytool.ca).

# Liberty® 200 SN

Herbicide

An excellent management tool for rotating chemistries to help keep resistance out of your fields.

- Group 10 chemistry provides broad-spectrum control of broadleaf and grassy weeds
- Flexible with respect to application timing, rates, and tank mixes
- Quick, complete burndown of weeds



## TECH TIP

*To learn more about Liberty® 200 SN herbicide best management practices [click here](#).*

*All growers must sign a Liberty & Trait Agreement (LTA) prior to their first purchase. For more information on LTAs [click here](#).*

<b>Active ingredient</b>	Glufosinate ammonium – Group 10
<b>Concentration</b>	200 g/L
<b>Formulation</b>	Solution
<b>One case contains</b>	2 x 10 L jugs Also available in 400 L tote

For use on:

LIBERTY TOLERANT/  
LIBERTYLINK®  
SOYBEANS

YES

ENLIST E3™  
SOYBEANS

YES

ALL OTHER  
SOYBEAN  
PLATFORMS

NO

## Crop staging

For Liberty-tolerant soybeans only  
(For LibertyLink® and Enlist E3™ soybeans)

Apply from cotyledon to first flowering stage and when the weeds are actively growing.

## Weeds controlled

### Broadleaf weeds

Canada thistle<sup>1</sup>  
Chickweed  
Cocklebur  
Eastern black nightshade  
Field bindweed<sup>1</sup>  
Jimsonweed<sup>2</sup>  
Lady's thumb  
Lamb's quarters  
Perennial sow thistle  
Redroot pigweed  
Shepherd's-purse  
Stinkweed  
Velvetleaf  
Wild buckwheat  
Wild mustard  
Wormseed mustard

### Grasses

Barnyard grass, Bristly foxtail,  
Fall panicum, Giant foxtail,  
Green foxtail, Large crabgrass,  
Proso millet, Quackgrass<sup>3</sup>,  
Wild oats, Witchgrass,  
Yellow foxtail

## Application rates

One case treats 20 acres.  
One tote treats 400 acres.

<b>Liberty 200 SN</b>	1.0 L/ac (2.5 L/ha)
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## Tank mixes

Liberty 200 SN can be tank mixed with the following options

<b>Basagran®</b> <b>Forté</b>	710 ml/ac (1.75 L/ha)
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or

<b>FirstRate®</b>	8.4 g/ac (20.8 g/ha)
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or

<b>Pursuit®</b>	126 ml/ac (312 ml/ha)
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## Water volume

Ground application  
Minimum 80 L/ac (20 gal/ac)

## Pre-harvest interval

70 days after application for soybeans.

## Follow crops

**Anytime after application**  
**(LibertyLink varieties only):**

Canola, field corn, soybeans

**70 days after application:**

Barley, oats, rye, triticale, wheat

**120 days after application:**

All other crops

<sup>1</sup> Apply at 2 L/ha when weeds are at the 1- to 6-leaf stage. <sup>2</sup> For control of jimsonweed, apply Liberty 200 SN herbicide at a rate of 2.5 L/ha when the weeds are in the 1-6 leaf stage. <sup>3</sup> Apply at 2.5 L/ha when quackgrass is at the 1- to 4-leaf stage



Insecticide Powered by **Inscalix**

## Lasting protection against aphids.

- Quickly halts aphid feeding, which reduces production losses and virus transmission
- Extended control of aphids
- Powered by Inscalix®, a unique mode of action that controls soybean aphid pests that have become resistant to other insecticides
- Effective tool in an integrated pest management strategy with a low impact on beneficial insects, including predatory and parasitic insects
- Now registered for Group 17 and 18 crops, including alfalfa



<b>Active ingredient</b>	Afidopyropen – Group 9D
<b>Formulation</b>	Dispersion concentrate
<b>One case contains</b>	2 x 3.24 L jugs

For use on:

CONVENTIONAL/  
IP SOYBEANS

ALL OTHER  
SOYBEAN  
PLATFORMS

TALK TO GRAIN  
BUYER<sup>1</sup>

YES

### Crop staging

Emergence to full maturity<sup>2</sup>

### Pests controlled

Soybean aphid (*Aphis glycines*)

### Staging

all life stages

### Application rates<sup>3,4</sup>

One case treats 80 acres.

**Sefina**<sup>5</sup>

81 ml/ac (200 ml/ha)

### Water volume

Ground application

40 to 80 L/ac (10 to 20 gal/ac)

Aerial application

20 L/ac (5 gal/ac) minimum

### Grazing

Do not feed or graze treated soybean hay or forage to livestock.

### Pre-harvest interval

7 days after application.

### TECH TIP

*Use higher water volumes to ensure adequate coverage.*

*Integrated pest management (IPM) strategies rely on different methods of control such as biological (predatory or parasitic insects) and chemical (insecticides) practices to be used in the same field. Sefina does just that since its low impact on beneficial insects allows growers to control aphids while the beneficials remain to help keep future aphid populations low.*

<sup>1</sup> BASF is in the process of establishing import tolerances (maximum residue limits (MRLs)) for markets around the world. <sup>2</sup> Damage is typically only economic from R1 to R5. <sup>3</sup> Allow a minimum of 7 days between applications.

<sup>4</sup> Do not apply more than 162 ml/ac (400 ml/ha) per year. <sup>5</sup> For soybean aphid control.

SOYBEANS

Insect Management

CORN

SOYBEANS

CEREALS

CANOLA

POTATOES

POST-HARVEST

RESOURCES





Proven and consistent. A more advanced fungicide that maximizes your soybean yield potential.<sup>1</sup>

- More consistent and continuous control of diseases including frog eye leaf spot and septoria brown spot
- Combines the active ingredient Xemium®, with the proven benefits<sup>2</sup> of **AgCelence**®
- Multiple modes of action for increased performance and reduced risk for the onset of fungicide resistance



Source: **AgSolutions**® Performance Trials, ON, 2013

<b>Active ingredients</b>	Pyraclostrobin – Group 11 Fluxapyroxad – Group 7
<b>Formulation</b>	Liquid suspension
<b>One case contains</b>	2 x 9.6 L jugs

**Priaxor**®  
Xemium® Fungicide

For use on:

ALL SOYBEAN  
PLATFORMS

YES

### Crop staging<sup>3</sup>

Early flower to mid-pod development (R1 to R3)

### Diseases controlled

Asian soybean rust  
(*Phakopsora pachyrhizi*)

Frog eye leaf spot  
(*Cercospora sojina*)

Septoria brown spot  
(*Septoria glycines*)

White mold  
(*Sclerotinia sclerotiorum*)<sup>4</sup>

### Application rates

One case treats 107 to 160 acres.

<b>Priaxor</b> <sup>4</sup>	120 to 180 ml/ac (300 to 450 ml/ha)
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### Water volume

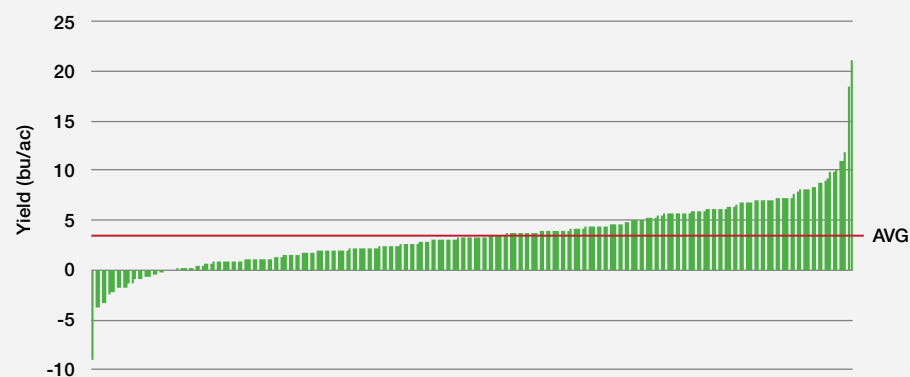
Ground application  
40 to 80 L/ac (10 to 20 gal/ac)<sup>5</sup>

Aerial application  
20 L/ac (5 gal/ac)

### Pre-harvest interval

21 days after application for soybeans.

### Increased soybean yield with Priaxor fungicide



Source: **AgSolutions** Performance Trials, ON & QC, 2013-2019, n= 252 on-farm trials

<sup>1</sup> All comparisons are to untreated, unless otherwise stated. <sup>2</sup> **AgCelence** benefits refer to products that contain the active ingredient pyraclostrobin. <sup>3</sup> While Priaxor can be applied at earlier growth stages, research suggests the stated timing provides optimal **AgCelence** benefits. <sup>4</sup> Apply Priaxor fungicide at the increased rate of 180 ml/ac for suppression of sclerotinia stem rot. <sup>5</sup> BASF recommends using higher water volumes to ensure adequate coverage and better activity on leaf disease.

# Cotegra®

Fungicide

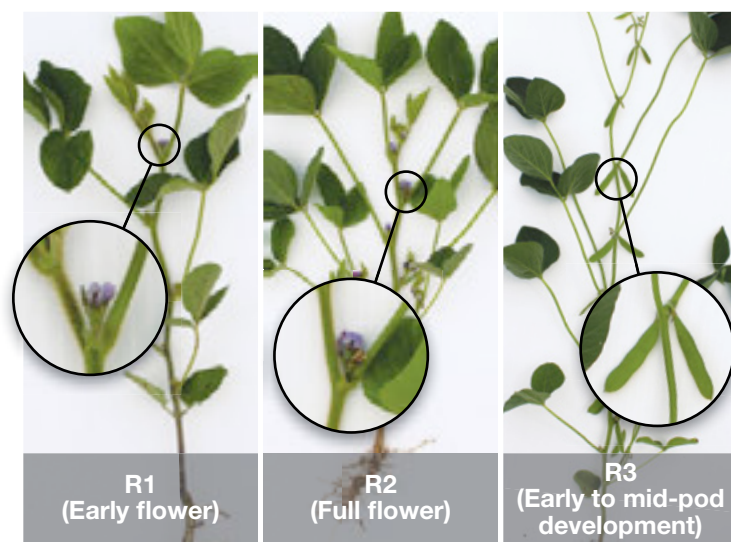
ALL SOYBEAN  
PLATFORMS

For use on:

YES

## The new standard for sclerotinia.

- Delivers industry-leading disease management
- Combines two leading active ingredients in a convenient liquid premix
- Provides significant yield improvements in canola, dry beans and soybeans



### Active ingredients

Boscalid – Group 7  
Prothioconazole – Group 3

### Formulation

Suspension concentrate

### One case contains

2 x 9.8 L jugs

### Crop staging

Early flower to mid-pod development (R1 to R3)

### Diseases controlled

Asian soybean rust  
(*Phakopsora pachyrhizi*)<sup>1</sup>

Frog eye leaf spot  
(*Cercospora sojina*)<sup>1</sup>

Septoria brown spot  
(*Septoria glycines*)<sup>2</sup>

White mold  
(*Sclerotinia sclerotiorum*)<sup>2</sup>

### Application rates

One case treats 70 acres.

<b>Cotegra®</b>	280 ml/ac (700 ml/ha)
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### Water volume

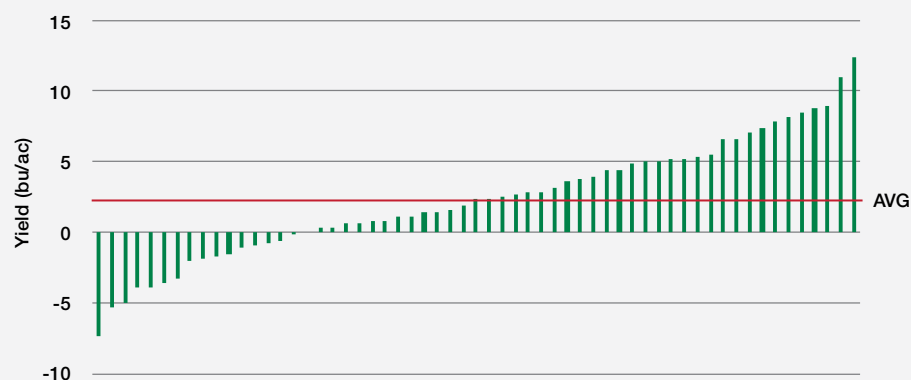
Ground application  
Minimum 80 L/ac (20 gal/ac)

Aerial application  
20 L/ac (5 gal/ac)

### Pre-harvest interval

21 days after application for soybeans.

### Increased soybean yield with Cotegra fungicide



Source: **AgSolutions®** Performance Trials, ON & QC, 2015-2019, n=59 on-farm trials

<sup>1</sup> Control.

<sup>2</sup> Suppression.

SOYBEANS

Disease Management

CORN

SOYBEANS

CEREALS

CANOLA

POTATOES

POST-HARVEST

RESOURCES

# Keep white mold out of your soybean fields. Know what to look for.

White mold can have a high impact on yield and is on the rise due to tighter crop rotations, increased fertility and the growth of higher yielding and bushier varieties. The yield impact has been estimated as 2.5 to 5 bu/ac for every 10% incidence of the disease.<sup>1</sup> Understanding the white mold disease cycle, factors affecting your control decisions and which fungicide to use can help you protect your field.

## Weather

- Moderate temperatures and wet conditions allow white mold to infect and thrive

## Field history

- There is higher disease risk in a soybean/corn rotation vs. a longer, multi-crop rotation
- Rotate to a non-host crop for a minimum of two to three years after a white mold incident

## Variety selection/plant populations

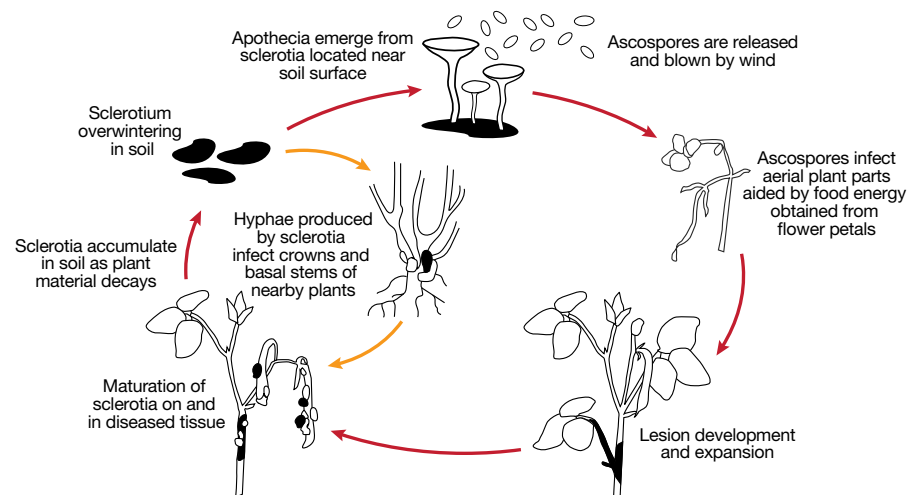
- Soybeans with shorter stature and more branching that are prone to lodging are more susceptible
- Wider rows can reduce white mold incidence
- Under high disease pressure, distance between plants is more important than row spacing

## Soil type and manure/fertilizer applications

- High fertility, medium-textured soils tend to grow larger soybeans
- Manure contains nitrogen that stimulates vegetative growth
- Over-fertilizing leads to lush, dense canopies, creating conditions conducive for infection

## Tillage

- Sclerotia left on the surface deteriorate much faster than if they are buried in the soil



Source: Adapted from APS Educator Centre

## TECH TIP

*Fungicides are more effective when applied preventatively. When in doubt, it's better to err on the early side of the application window for white mold during flowering (white mold spores feed on flower petals).*

If your fields are at risk of white mold, you should apply a fungicide with multiple modes of effective action. To help decide whether an application of Priaxor® fungicide and/or Coteegra® fungicide is best for you, please see the next page.

<sup>1</sup> Yang, Lundeen and Uphoff, 1999.



# Deciding which soybean fungicide is right for you? Look no further.

When grass is green, white mold is keen.

Ensure that you are making the best decisions when it comes to managing white mold.

## Step 1. Get to know the risk indicators.



### Low Risk

- Below-average moisture
- No-till
- Tolerant varieties



### High Risk

- Above-average moisture
- Moderate temperatures
- Field history
- Tight crop rotation
- Manure
- Tillage
- High plant population
- Narrow row spacing
- Susceptible varieties

## Step 2. Determine the corresponding fungicide.

Risk Level	1 <sup>st</sup> Fungicide Application	Application Rate	Timing	2 <sup>nd</sup> Fungicide Application	Application Rate	Timing
Low*	<b>Priaxor</b> Xemium® Fungicide	120 ml/ac (0.3 L/ha)	R2.5	–	–	–
Moderate	<b>Priaxor</b> Xemium® Fungicide	180 ml/ac (0.45 L/ha)	R2	<b>Cotegra</b> Fungicide (If needed)	280 ml/ac (0.7 L/ha)	10-14 days later
High	<b>Cotegra</b> Fungicide	280 ml/ac (0.7 L/ha)	R2	<b>Priaxor</b> Xemium® Fungicide	180 ml/ac (0.45 L/ha)	10-14 days later

\* Prevent leaf disease and maintain plant health even under low risk conditions.

## Step 3. Apply at proper timing.

- Consider the first application at full flower to early pod development (R2 to R2.5)
- Remember, fungicides are more effective when applied preventatively
- When in doubt, apply during early flowering (white mold spores feed on flower petals)

# Eragon® LQ

Powered by **Kixor®** Herbicide

**PRE-HARVEST**

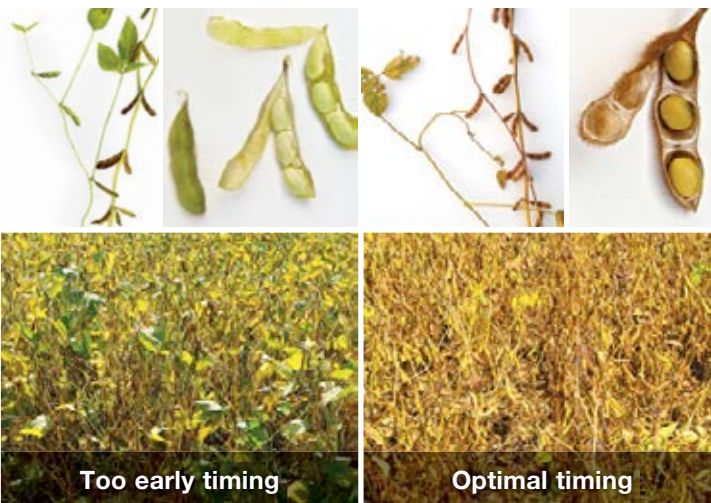
For use on:

ALL SOYBEAN  
PLATFORMS

**YES**

An easy-to-use liquid formulation for complete crop and weed dry down in soybeans.

- Fast, complete crop dry down and reduced risk of regrowth
- Improved crop uniformity for easier harvestability
- Tank mixed with glyphosate to control fall perennials for cleaner fields in the next crop
- To ensure optimal results, correct timing is essential for pre-harvest applications



<b>Active ingredient</b>	Saflufenacil – Group 14
<b>Formulation</b>	Water-based suspension concentrate
<b>One case contains</b>	4 x 1.182 L jugs

## Crop staging

Apply when 90% of the pods have changed colour, with lower pods essentially being all brown and the upper pods a yellowish-brown or grey in some varieties. At this point 80% of leaves should have dropped with the remaining leaves being yellow.

## Application rates

One case treats 80 acres standalone or 80 to 160 acres when tank mixed with glyphosate.

## Recommended use pattern

<b>Eragon® LQ<sup>1</sup></b>	30 to 59 ml/ac (73 to 146 ml/ha)
<b>Merge® adjuvant<sup>2</sup></b>	400 ml/ac (1 L/ha)
<b>Glyphosate<sup>2</sup></b>	1.0 L/ac (2.5 L/ha)

## For seed production or restrictions on glyphosate use

<b>Eragon LQ</b>	59 ml/ac (146 ml/ha)
<b>Merge adjuvant<sup>2</sup></b>	400 ml/ac (1 L/ha)

## Water volume

Ground application Minimum 80 L/ac (20 gal/ac)

## Pre-harvest interval

3 days after application of Eragon LQ.  
7 days after application if tank mixed with glyphosate.

## Follow crops

**In the first spring following a fall application:**

Barley, canola, corn (field, sweet), oats, soybeans, triticale, wheat (durum, spring, winter<sup>3</sup>)

**In the second spring following a fall application:** All crops can be grown.

<sup>1</sup> Use higher rate for heavier weed pressure or if glyphosate-resistant weeds are present.

<sup>2</sup> Glyphosate and Merge adjuvant (required) are not included in the case.

<sup>3</sup> Winter wheat can be planted in the fall after application.

#### TECH TIP

### Coverage is key.

*The deeper into the canopy the herbicide gets, the more complete the dry down will be. Spraying on larger plants means more biomass that needs coverage and time to dry down.*

**Remember:**

- *Minimum 20 gal/ac water volume*
- *Keep boom height approximately 50 cm above canopy*
- *Spray on a clear sunny day, in the middle of the day*
- *Avoid spraying when dew is present*
- *Avoid spraying during cooler, overcast or wet conditions*

Access the Eragon LQ staging guide at  
**[agsolutions.ca/eragonlq-guide](https://agsolutions.ca/eragonlq-guide)**



SOYBEANS

Harvest Management

CORN

SOYBEANS

CEREALS

CANOLA

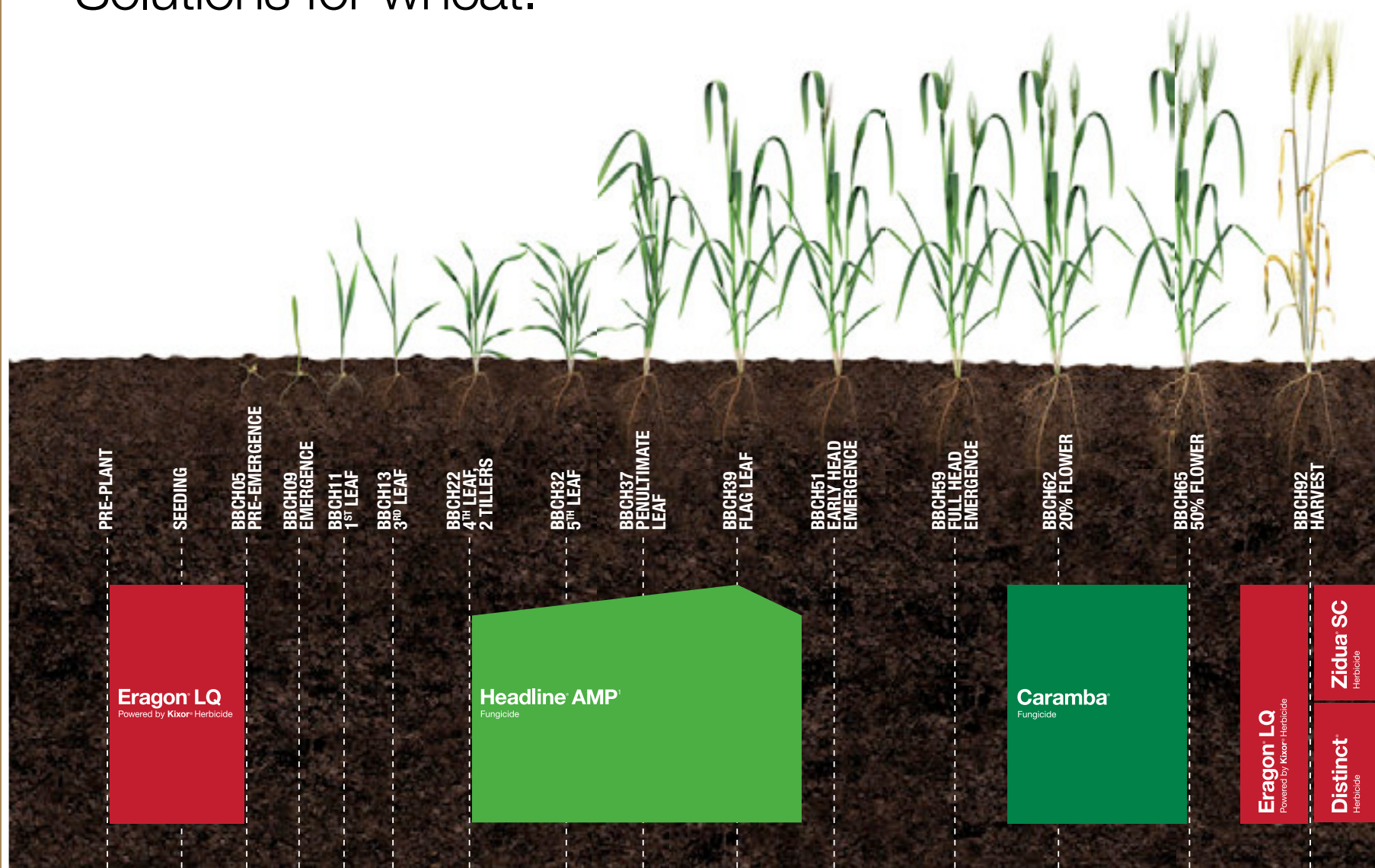
POTATOES

POST-HARVEST

RESOURCES



## Solutions for wheat.



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Staging graphics depicted here are for quick reference only. Refer to individual product pages and product labels on [agsolutions.ca](http://agsolutions.ca) or call **AgSolutions®** Customer Care at 1-877-371-BASF (2273) for detailed staging information.

<sup>1</sup> Headline® AMP fungicide can also be applied at other stages (earlier at the penultimate leaf stage, before the development of disease or early onset of disease), however research suggests that flag-leaf timing provides optimal **AgCelcome®** benefits.

# BASF lead recommendations.

Select the solution that's right for your operation.

## WEED MANAGEMENT

**Eragon® LQ**

Powered by **Kixor®** Herbicide

## DISEASE MANAGEMENT

**Headline® AMP**

Fungicide

**Caramba®**

Fungicide

## HARVEST MANAGEMENT

**Eragon® LQ**

Powered by **Kixor®** Herbicide

## POST-HARVEST

**Distinct®**

Herbicide

**Zidua® SC**

Herbicide



Contact your BASF **AgSolutions®** Retail Representative for more information.



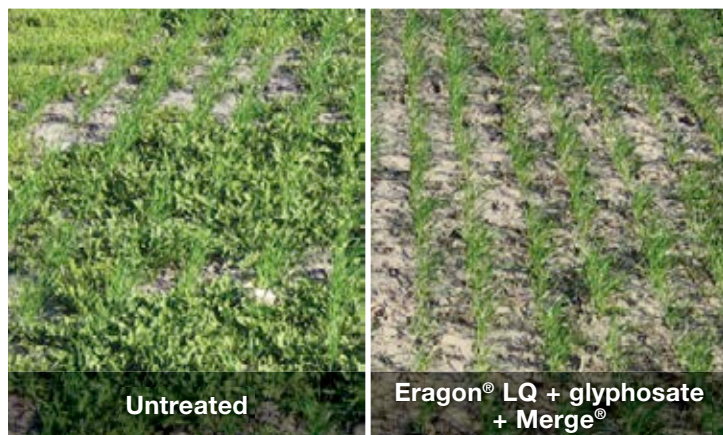
# Eragon® LQ

Powered by **Kixor®** Herbicide

PRE-PLANT/PRE-EMERGENCE

The ultimate burndown in an easy-to-use liquid formulation.

- A fall application prior to winter wheat allows you to optimize your foliar fungicide application the following spring for increased yield
- Complements and improves the efficacy of your glyphosate application while providing an additional mode of effective action for resistance management
- Use as a fall application for winter wheat or as a spring application for spring cereals



Source: BASF research trial, Maryhill, ON

<b>Active ingredient</b>	Saflufenacil – Group 14
<b>Formulation</b>	Water-based suspension concentrate
<b>One case contains</b>	4 x 1.182 L jugs

## Crop staging

Pre-plant, pre-emergence in barley, oats and wheat (spring, winter)

## Weeds controlled

Broadleaf plantain<sup>1</sup>  
 Canada fleabane<sup>2</sup>  
 Common ragweed<sup>2</sup>  
 Dandelion<sup>3</sup>  
 Giant ragweed<sup>1,2</sup>  
 Lady's thumb<sup>1</sup>  
 Lamb's quarters  
 Perennial sow thistle<sup>1,4</sup>  
 Prickly lettuce<sup>1,5</sup>  
 Redroot pigweed  
 Shepherd's-purse<sup>1</sup>  
 Stinkweed<sup>1</sup>  
 Wild buckwheat<sup>1</sup>  
 Wild mustard

## TECH TIP

*Ensuring a clean start in the fall with Eragon LQ can delay, and sometimes eliminate, the need for an in-season herbicide application. This can also result in a fungicide application that's closer to the ideal flag-leaf timing.*

<sup>1</sup> Controlled with a tank mix of Eragon LQ and glyphosate for pre-plant and pre-emergent applications. <sup>2</sup> Includes glyphosate-resistant biotypes. <sup>3</sup> Suppression only. <sup>4</sup> Top growth burndown control only. <sup>5</sup> Top growth only. <sup>6</sup> Glyphosate (required for optimum activity) and Merge adjuvant (required) are not included in the case. See respective glyphosate label for application rate of glyphosate. <sup>7</sup> Use higher water volumes for larger weeds or when weed densities are high. <sup>8</sup> Can underseed red clover the following spring after a fall application in winter wheat.

## Application rates

One case treats 80 acres.

<b>Eragon LQ</b>	59 ml/ac (146 ml/ha)
<b>Merge adjuvant<sup>6</sup></b>	400 ml/ac (1.0 L/ha)
<b>Glyphosate<sup>6</sup></b>	See label for rate

## Water volume

Ground application  
 40 to 80 L/ac (10 to 20 gal/ac)<sup>7</sup>

## Pre-harvest interval

60 days for all pre-plant and pre-emergent applications.

## Follow crops

**In next season after spring pre-plant/pre-emergent application:**

Barley, canola, corn (field, sweet), dry beans, oats, soybeans, triticale, wheat (durum, spring, winter)

**In next season after fall pre-plant/pre-emergent application:**

Barley, canola, corn (field, sweet), oats, soybeans, triticale, wheat (durum, spring, winter<sup>8</sup>)



## Improved disease control in cereals along with increased **AgCelence**® benefits.<sup>1</sup>

- Preventative and post-infection activity on a wide spectrum of diseases in cereals
- Multiple modes of effective action for enhanced performance and efficacy
- Increased **AgCelence** benefits<sup>1</sup> for better management of minor stress and increased standability and growth efficiency<sup>2</sup>



The flag-leaf in wheat

<b>Active ingredients</b>	Metconazole – Group 3 Pyraclostrobin – Group 11
<b>Formulation</b>	Liquid
<b>One case contains</b>	2 x 6.07 L jugs

## Headline<sup>®</sup> AMP

Fungicide

### Crop staging<sup>3</sup>

Stem-elongation to flag-leaf

### Diseases controlled

#### In barley.

Net blotch (*Pyrenophora teres*)  
Scald (*Rhynchosporium secalis*)  
Spot blotch (*Cochliobolus sativus*)  
Stripe rust (*Puccinia striiformis*)

#### In oats.

Crown rust (*Puccinia coronata*)

#### In rye.

Leaf rust (*Puccinia recondita*)  
Powdery mildew (*Erysiphe graminis*)

#### In wheat (all types) and triticale.

Leaf rust (*Puccinia recondita*)  
Powdery mildew (*Erysiphe graminis* f. sp. *tritici*)  
Septoria leaf spot (*Septoria tritici* or *Stagonospora nodorum*)  
Spot blotch (*Cochliobolus sativus*)  
Stripe rust (*Puccinia striiformis*)  
Tan spot (*Pyrenophora tritici-repentis*)

### Application rates

One case treats 40 to 60 acres.

<b>Headline<sup>®</sup> AMP</b>	202 to 303 ml/ac (500 to 750 ml/ha)
---------------------------------	--

### Water volume

Ground application  
40 to 80 L/ac (10 to 20 gal/ac)<sup>4</sup>

Aerial application  
20 L/ac (5 gal/ac)

### Pre-harvest interval

Apply no later than the end of flowering.

### TECH TIP

**If tank mixing Headline AMP + a herbicide, remember the rule of 3 for 3 days:**

- **Nighttime temperature the day before, day of and day after application should be > 3°C**
- **For frost events or temperatures <3°C, wait at least 48 hours before spraying**
- **Spray during warm periods (>5°C) to avoid risk of crop injury**
- **Do not add more than two products in the tank**

<sup>1</sup> **AgCelence** benefits refer to products that contain the active ingredient pyraclostrobin. <sup>2</sup> All comparisons are to untreated, unless otherwise stated. <sup>3</sup> While Headline AMP can be applied at earlier growth stages, research suggests the stated timing provides optimal **AgCelence** benefits. <sup>4</sup> BASF recommends using higher water volumes to ensure adequate coverage and better activity on leaf disease.

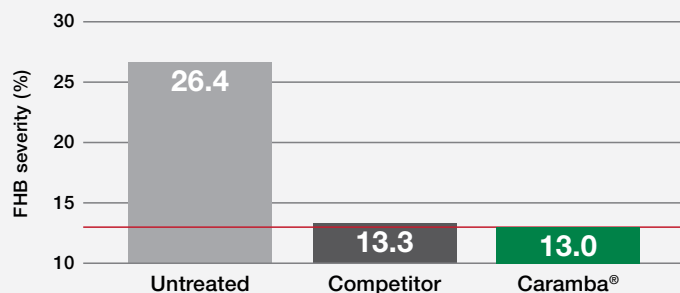
# Caramba®

Fungicide

## Preventative protection against late leaf diseases and fusarium.

- Proven protection against fusarium head blight
- Effective control of later-season foliar diseases
- Reduces deoxynivalenol (DON) contamination to preserve grade quality

Reduction in fusarium head blight (FHB) severity in wheat



Source: BASF field trials, 2010-2017, n=42

<b>Active ingredient</b>	Metconazole – Group 3
<b>Formulation</b>	Liquid
<b>One case contains</b>	2 x 8.1 L jugs Also available in 128 L shuttle

### Crop staging

**Oats, rye, triticale, wheat**

**(all types):** 20% flower<sup>1,2</sup>

**Barley:** Full head to 3 days after full emergence<sup>1</sup>

### Diseases controlled

#### In barley.

Fusarium head blight (*Fusarium graminearum*)<sup>3</sup>  
 Leaf rust (*Puccinia hordei*)  
 Net blotch (*Pyrenophora teres*)  
 Powdery mildew (*Erysiphe graminis*)  
 Scald (*Rhynchosporium secalis*)  
 Spot blotch (*Cochliobolus sativus*)<sup>3</sup>  
 Stripe rust (*Puccinia striiformis*)

#### In oats.

Crown rust (*Puccinia coronata*)  
 Fusarium head blight (*Fusarium graminearum*)<sup>3</sup>  
 Septoria leaf blotch (*Septoria avenae*)

#### In rye.

Fusarium head blight (*Fusarium graminearum*)<sup>3</sup>  
 Leaf rust (*Puccinia recondita*)  
 Powdery mildew (*Erysiphe graminis*)  
 Stripe rust (*Puccinia striiformis*)

### In wheat (all types incl. durum wheat) and triticale.

Fusarium head blight (*Fusarium graminearum*)<sup>3,4</sup>  
 Leaf rust (*Puccinia recondita*)  
 Powdery mildew (*Erysiphe graminis* f. sp. *tritici*)  
 Septoria glume blotch (*Stagonospora nodorum*)  
 Septoria leaf spot (*Septoria tritici* or *Stagonospora nodorum*)  
 Spot blotch (*Cochliobolus sativus*)<sup>3</sup>  
 Stem rust (*Puccinia graminis*)  
 Stripe rust (*Puccinia striiformis*)  
 Tan spot (*Pyrenophora tritici-repentis*)

### Application rates

One case treats 40 acres.  
 One shuttle treats 320 acres.

### For fusarium head blight

<b>Caramba</b>	405 ml/ac (1 L/ha)
----------------	--------------------

### Water volume

Ground application  
 Minimum 80 L/ac (20 gal/ac)  
 Aerial application  
 20 L/ac (5 gal/ac)

### Pre-harvest interval

30 days after application for barley, oats, rye and wheat.

<sup>1</sup> For suppression of fusarium head blight and leaf disease control at heading. For leaf disease control prior to heading, apply prior to symptoms. <sup>2</sup> This is BBCH 62. <sup>3</sup> Suppression only. <sup>4</sup> Not controlled or suppressed in triticale. Wheat only.

## Optimal application timing for fusarium head blight (FHB) management in wheat.

							
	75 - 100% OF HEADS EMERGED	FIRST ANTHERS VISIBLE	20% FLOWER	30% FLOWER	40% FLOWER	50% FLOWER	END OF FLOWER
DAYS <sup>1</sup>	0	+1	+2	+3	+4	+5	+6
BBCH	59	61	62	63	64	65	69
			SPRAY TIME FOR BEST RESULTS				
		APPLICATION WINDOW					

<sup>1</sup> Can vary based on environmental conditions.

### TECH TIP

*Wheat starts flowering in the centre of the head and spreads to the tips. It also has awns that can intercept spray droplets. Remember these application tips to improve your application for fusarium head blight:*

- Ensure sprayer is thoroughly clean prior to starting
- Use forward and backward facing nozzles with coarse droplets
- Use a minimum 20 gal/ac of water to improve coverage
- Keep boom height approximately 50 cm above target
- Use slower travel speeds to optimize coverage



# Eragon® LQ

Powered by **Kixor®** Herbicide

PRE-HARVEST

The ultimate pre-harvest weed dry down in wheat, barley, and triticale.

- Improved dry down of tough weeds, including Canada fleabane and common ragweed
- Quick weed dry down to help facilitate a more efficient harvest
- Provides multiple modes of action, when tank mixed with glyphosate, to manage weeds resistant to glyphosate, triazine and Group 2 herbicides



## Active ingredient

Saflufenacil – Group 14

## Formulation

Water-based suspension concentrate

## One case contains

4 x 1.182 L jugs

## Crop staging

**Hard dough stage.** Cereals turn colour when maturing and sometimes the plant will be completely dry before the kernel is firm. At this stage, the kernel should be firm and when pressed with a thumbnail, the impression is held. Kernel moisture content is approximately 30%.

**Peduncle colour change.** The peduncle is the upper internode of the stem that carries the spike. The peduncle colour change from green to yellow is a good indicator of maturity.

## Application rates

One case treats 80 acres standalone or 160 acres when tank mixed with glyphosate.

## Recommended use pattern

<b>Eragon® LQ<sup>1</sup></b>	30 to 59 ml/ac (73 to 146 ml/ha)
<b>Merge® adjuvant<sup>2</sup></b>	400 ml/ac (1 L/ha)
<b>Glyphosate<sup>2</sup></b>	1.0 L/ac (2.5 L/ha)

## For seed production or restrictions on glyphosate use

<b>Eragon LQ</b>	59 ml/ac (146 ml/ha)
<b>Merge adjuvant<sup>2</sup></b>	400 ml/ac (1 L/ha)

## Water volume

Ground application Minimum 80 L/ac (20 gal/ac)

## Pre-harvest interval

3 days after application of Eragon LQ.

7 days after application if tank mixed with glyphosate.

## Follow crops

**In the first spring following a fall application:** Barley, canola, corn (field, sweet), oats, soybeans, triticale, wheat (durum, spring, winter)

**In the second spring following a fall application:** All crops can be grown.

<sup>1</sup> Use higher rate for heavier weed pressure or if glyphosate-resistant weeds are present.

<sup>2</sup> Glyphosate and Merge adjuvant (required) are not included in the case.





CORN

SOYBEANS

CEREALS

CANOLA

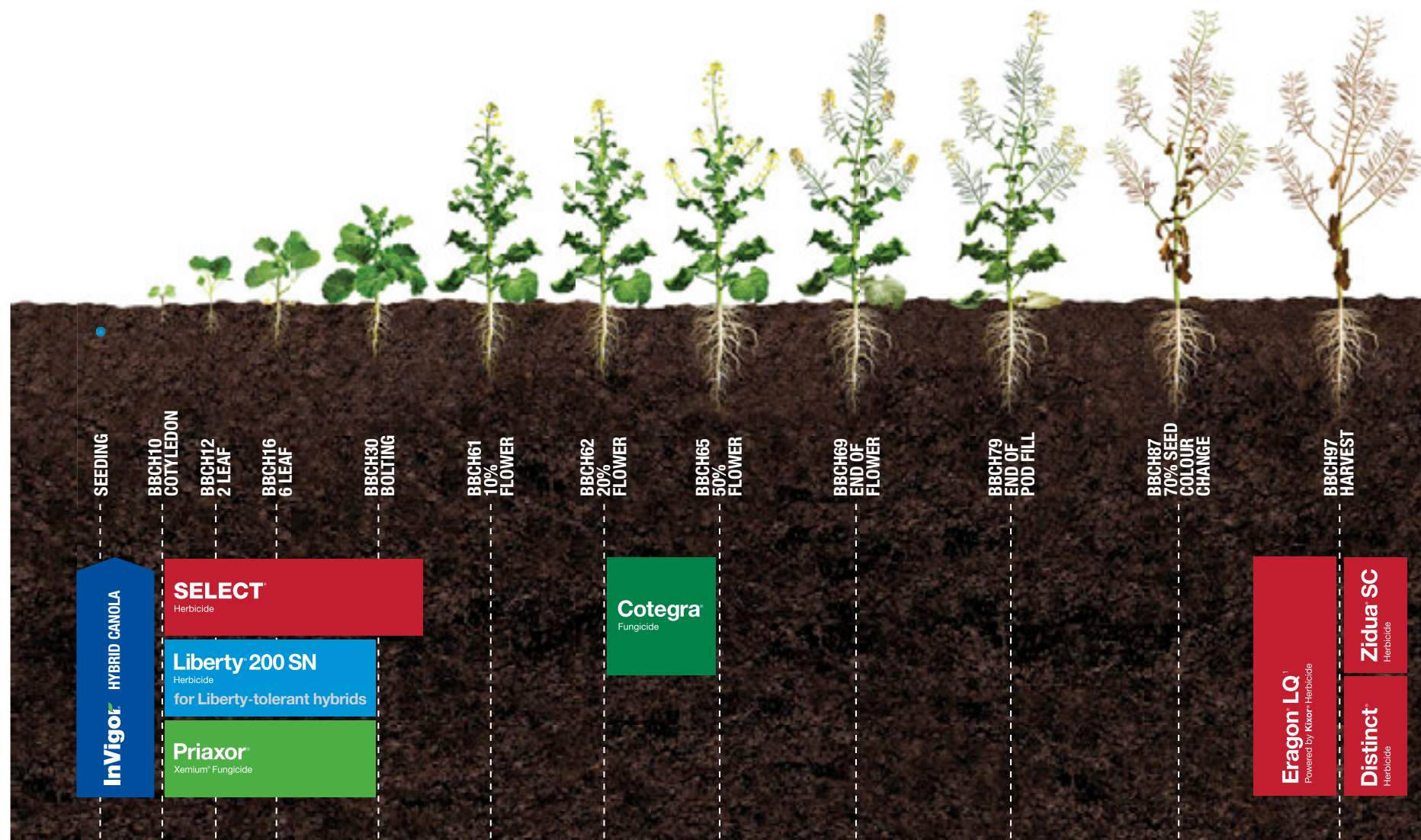
POTATOES

POST-HARVEST

RESOURCES



## Solutions for canola.



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<sup>1</sup> Apply when 80% of seeds have changed colour.



# BASF lead recommendations.

Select the solution that's right for your operation.

CROP ESTABLISHMENT

**InVigor**

WEED MANAGEMENT

**Liberty<sup>®</sup> 200 SN**

Herbicide

**SELECT<sup>®</sup>**

Herbicide

DISEASE MANAGEMENT

**Priaxor<sup>®</sup>**

Xemium<sup>®</sup> Fungicide

**Cotegra<sup>®</sup>**

Fungicide

HARVEST MANAGEMENT

**Eragon<sup>®</sup> LQ**

Powered by **Kixor<sup>®</sup>** Herbicide

POST-HARVEST

**Distinct<sup>®</sup>**

Herbicide

**Zidua<sup>®</sup> SC**

Herbicide



Contact your BASF **AgSolutions<sup>®</sup>** Retail Representative for more information.

CANOLA

Crop Solutions

CORN

SOYBEANS

CEREALS

CANOLA

POTATOES

POST-HARVEST

RESOURCES

**InVigor**<sup>®</sup>**BASF**  
We create chemistry

# Hybrids as unique as your fields.

With high yields, exceptional performance, industry-leading Pod Shatter Reduction and clubroot-resistant technologies from InVigor<sup>®</sup> hybrid canola, the proof is in the bin.

**NEW**  
**InVigor**  
**L357P**

A thrilling addition to the 300 series. A Pod Shatter Reduction hybrid built for growers looking to push higher yields in non-clubroot affected areas and offers very strong standability. This hybrid also features the added benefit of exceptional blackleg resistance.

**InVigor**  
**L345PC**

InVigor L345PC offers a significant jump in yield potential over InVigor L233P and features our patented Pod Shatter Reduction technology plus first generation clubroot resistance.<sup>1</sup> This hybrid is suitable for all growing zones.

**InVigor**  
**L233P**

A strong performer, InVigor L233P was grown on more acres in Canada than any other canola hybrid in 2019 and 2020.<sup>2</sup> Featuring patented Pod Shatter Reduction technology, this very early-maturing, high-yielding hybrid provides the harvest flexibility you can count on.

**InVigor**  
**L234PC**

Featuring Pod Shatter Reduction technology and second generation clubroot resistance<sup>1</sup>, this hybrid is a great fit for growers in known clubroot-affected areas. We recommend growing InVigor L234PC with second generation clubroot resistance after two cycles of growing first generation clubroot-resistant hybrids in clubroot-affected areas or when clubroot symptoms are noticed in first generation clubroot-resistant hybrids (whichever comes first).

**InVigor**  
**L255PC**

InVigor L255PC offers Pod Shatter Reduction and first generation clubroot resistance<sup>1</sup> and separates itself from other hybrids due to its very impressive standability. A great fit for growers in the mid to long growing zones.

<sup>1</sup> To predominant clubroot pathotypes found in Canada at the time of registration. InVigor L345PC and InVigor L255PC share the same first generation clubroot resistance profile. InVigor L234PC has this resistance profile plus it contains second generation multigenic clubroot resistance to additional clubroot pathotypes to help combat evolving clubroot pathotypes.

<sup>2</sup> 2019 and 2020 BPI (Business Planning Information) data.

# Features and benefits.

## Higher yields and return on investment.

- Consistently higher yield potential
- An industry leader in yield and performance for canola hybrids on the market

## Vigorous early-season growth.

- Early-season vigour means a greater ability to compete against weeds and insects, as well as earlier ground cover, capturing energy and producing higher yields

## Uniformity.

- Even emergence, uniform growth and uniform maturity means fewer green seeds and problems at harvest

## Seed quality.

- Industry-leading research and development, production and final field testing, all of which happen prior to any InVigor hybrid canola being sold

## Identifying your needs.

■ STRONG ■ VERY STRONG

Customer Needs	*NEW* InVigor L357P	InVigor L345PC	InVigor L233P	InVigor L234PC	InVigor L255PC
I want the <b>highest yield potential.</b>	VERY STRONG	VERY STRONG	VERY STRONG	VERY STRONG	VERY STRONG
I need a canola hybrid with very <b>strong standability.</b>	VERY STRONG	STRONG	STRONG	STRONG	VERY STRONG
I need <b>early-maturing</b> InVigor hybrids. Dark green = earliest-maturing hybrids. Green = earlier-maturing hybrids. <sup>1</sup>		STRONG	VERY STRONG	VERY STRONG	
I need a canola hybrid with <b>clubroot resistance.</b> <sup>2</sup>		STRONG		VERY STRONG	STRONG
I want a canola hybrid recommended for <b>straight cutting</b> that contains the patented Pod Shatter Reduction technology trait.	VERY STRONG	VERY STRONG	VERY STRONG	VERY STRONG	VERY STRONG
I want to use the <b>LibertyLink®</b> herbicide technology system.	VERY STRONG	VERY STRONG	VERY STRONG	VERY STRONG	VERY STRONG

<sup>1</sup> Note: Maturity and standability ratings are based on performance and data compiled from several InVigor internal trials over multiple years. Results may vary on your farm due to environmental factors and preferred management practices.

<sup>2</sup> InVigor L345PC and InVigor L255PC share the same first generation clubroot resistance profile. InVigor L234PC has this resistance profile plus contains second generation multigenic clubroot resistance to additional clubroot pathotypes to help combat evolving clubroot pathogens.



# No two canola fields are the same.

No two fields are the same. That's why InVigor canola hybrids are designed to address a wide range of challenges across the broadest spectrum of growing conditions. Multiple options mean multiple solutions for the challenges you face as a Canadian grower.

## MATURITY



Average maturity in days versus the average maturity in days of InVigor 5440 from InVigor internal trials.

## STANDABILITY



Please note: Information displayed on this chart is based on performance ratings and data compiled from several InVigor internal trials over multiple years. Results may vary on your farm due to environmental factors and preferred management practices.

# Shatter yield records. Not pods.

The patented Pod Shatter Reduction trait is unique in that it naturally strengthens pod seams and stems to give the plants excellent pod shatter characteristics and safely retain the seeds in the pod until you are ready to harvest. These yield-enhancing properties can result in a fuller pod, larger seeds and lower green seed counts. Pod Shatter Reduction hybrids continue to prove that they stand up to the elements.

## The Pod Shatter Reduction advantage.

- Helps protect your yield
- Harvest flexibility to delay swath or straight cut
- Reduces harvest loss from late fall harvests and overwintered canola
- Minimize the impact of late-season wind, hail and snow
- Longer pod fill resulting in larger seeds and maximizing yield
- Reduces volunteer canola

### TECH TIP

**Pod shatter:**  
Refers to the pre-harvest release of seeds, when the pod seam and connective tissue break apart and release seeds.



**Pod drop:**  
Indicates the loss of an entire pod from a weakened stem.



## InVigor keeps yield in the bin.

See the difference the patented Pod Shatter Reduction trait makes during adverse conditions for yourself. Below is a visual tool for how our Pod Shatter Reduction hybrids performed during hail, and high winds compared to leading competitors' hybrids.



**InVigor**  
**L233P**



**InVigor**  
**L345PC**



Dekalb® DKTF 92 SC  
with "excellent pod integrity"



Pioneer® brand 45CM39  
with Pioneer Protector®  
HarvestMax trait suitable  
for late harvest

**NEW**  
**InVigor**  
**L357P**

**InVigor**  
**L345PC**

**InVigor**  
**L233P**

**InVigor**  
**L234PC**

**InVigor**  
**L255PC**

Note: Results may vary depending on the type of equipment used (including settings), environmental factors and/or preferred management practices. The trial experienced adverse weather conditions. Yield data was not used for this comparison. The photos above demonstrate the differences in trait performance only.

Want to see the Pod Shatter Reduction difference? Check out the videos at [agsolutions.ca/WillitShatter](https://agsolutions.ca/WillitShatter).

# A better bag of seed.

InVigor seed count packaging makes it easier to achieve 5 to 7 plants/ft<sup>2</sup> and features four different thousand seed weight (TSW) ranges and recommended seeding rates for seeding approximately 10 acres per bag. Make sure you calibrate your seeding equipment according to the TSW range listed on your seed bag.

## Five advantages of InVigor RATE.

- **Optimizing yield:** Targeting an optimal plant population that will allow InVigor hybrids to perform even more consistently
- **Simplicity:** Seeding rate recommendations make it easier to achieve 5 to 7 plants/ft<sup>2</sup>
- **Planning:** Easier to predict the number of bags needed and cost, since each bag will seed the same number of acres
- **Consistency:** Each bag contains a similar number of seeds
- **Easy to understand:** The TSW ranges and recommended seeding rates are clearly marked on the bag, making it simple to calibrate your drill



For more information on InVigor RATE and seed count packaging, visit [agsolutions.ca/InVigorRATE](https://agsolutions.ca/InVigorRATE).



# Seeding as simple as A, B, C, D.

BAG RANGE		A	B	C	D
RECOMMENDED SEEDING RATE* LBS/AC		4.2 (~10 SEEDS/FT²)	4.7 (~10 SEEDS/FT²)	5.2 (~10 SEEDS/FT²)	5.7 (~10 SEEDS/FT²)
TSW RANGE (GRAMS)		4.0–4.4	4.5–4.9	5.0–5.4	5.5–5.9
BAG WEIGHT	LBS	42.2	47.0	51.8	56.7
	KG	19.1	21.3	23.5	25.7
# OF SEEDS/BAG		MINIMUM 4.25 MILLION SEEDS			
SEEDS APPROXIMATELY 10 ACRES PER BAG					

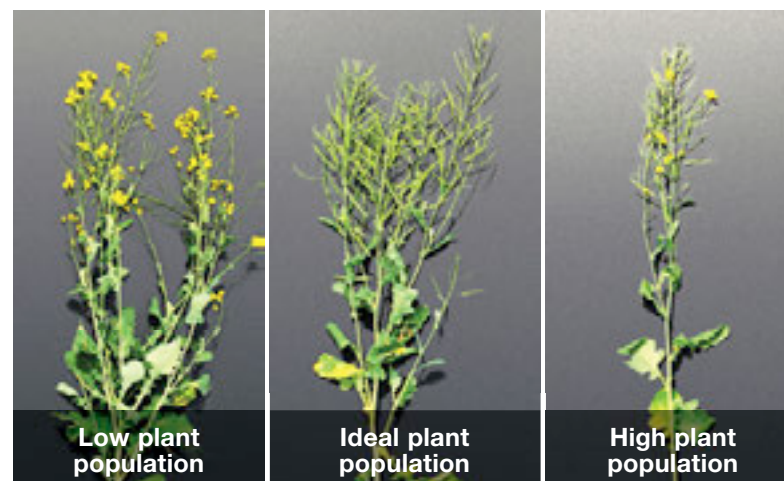
\*Recommended seeding rates are calculated according to seeding approximately 10 seeds/ft<sup>2</sup> and an average survivability of 60% to achieve 6 plants/ft<sup>2</sup>. Results may vary on your farm due to environmental factors and preferred management practices.

## The benefits of a targeted plant population.

Extensive research trials conducted by the BASF Agronomic Excellence team shows that a target plant population (TPP) of 5 to 7 plants/ft<sup>2</sup> helps optimize the yield, consistency and performance of InVigor hybrid canola.

**FACT:** InVigor RATE packaging offers growers more seed per bag for all TSWs greater than 5.0 g than traditional 50 lbs bags.

## Effect of seeding rate on plant populations.



Source: Agronomic Excellence Trial, Carman MB  
Results may vary on your farm due to environmental factors and preferred management practices.

# The dirt on clubroot.

Clubroot is a soil-borne disease in canola. Infected roots develop galls that impede water and nutrient uptake which can lead to lower yields. The best way to confirm the presence of clubroot is to dig up plants that appear to be dying or prematurely ripening. Infection leads to galls on the roots, ranging from tiny nodules to large club-shaped outgrowths. Galls are firm and white but become soft and greyish-brown as they mature and decay. Infected plants show signs of wilting, stunting and yellowing, but considerable damage can be done below ground before symptoms above ground begin to appear. The crop may also ripen prematurely and lead to shrivelled seeds.

## Clubroot management in the field.

Resting spores can last in the soil for up to 20 years. While there is no way to completely eradicate the disease, it's possible to slow down the spread and reduce the severity of infection.

### Practise good sanitation.

This helps reduce the transfer of diseases through contaminated soil and crop debris. Be sure to clean equipment prior to moving to your next field. Limit or eliminate external traffic on fields.

### Pull infected plants.

If you catch the disease early and there is a relatively small patch of visibly-affected plants, consider pulling the infected plants and either burn them or bury them in a landfill.

**Galls on infected roots**



Source: BASF, QC, 2019

**Patches of prematurely ripened canola could be a sign of clubroot**



Source: Strelkov, S., 2015. Found in clubroot disease of canola and mustard, Agri-Facts, Alberta Agriculture and Rural Development

### Use resistant hybrids.

Grow first generation clubroot-resistant hybrids at the first sign of clubroot in the field or if clubroot is present in your farming community. We recommend seeding a second generation clubroot-resistant hybrid in fields where first generation resistance has been utilized as part of an integrated management plan for two cycles, ideally prior to any visible clubroot symptoms.

### Control weeds and volunteers.

Cruciferous weeds, such as wild mustard and shepherd's-purse, can serve as hosts for clubroot in non-canola years.

### Rotate crops.

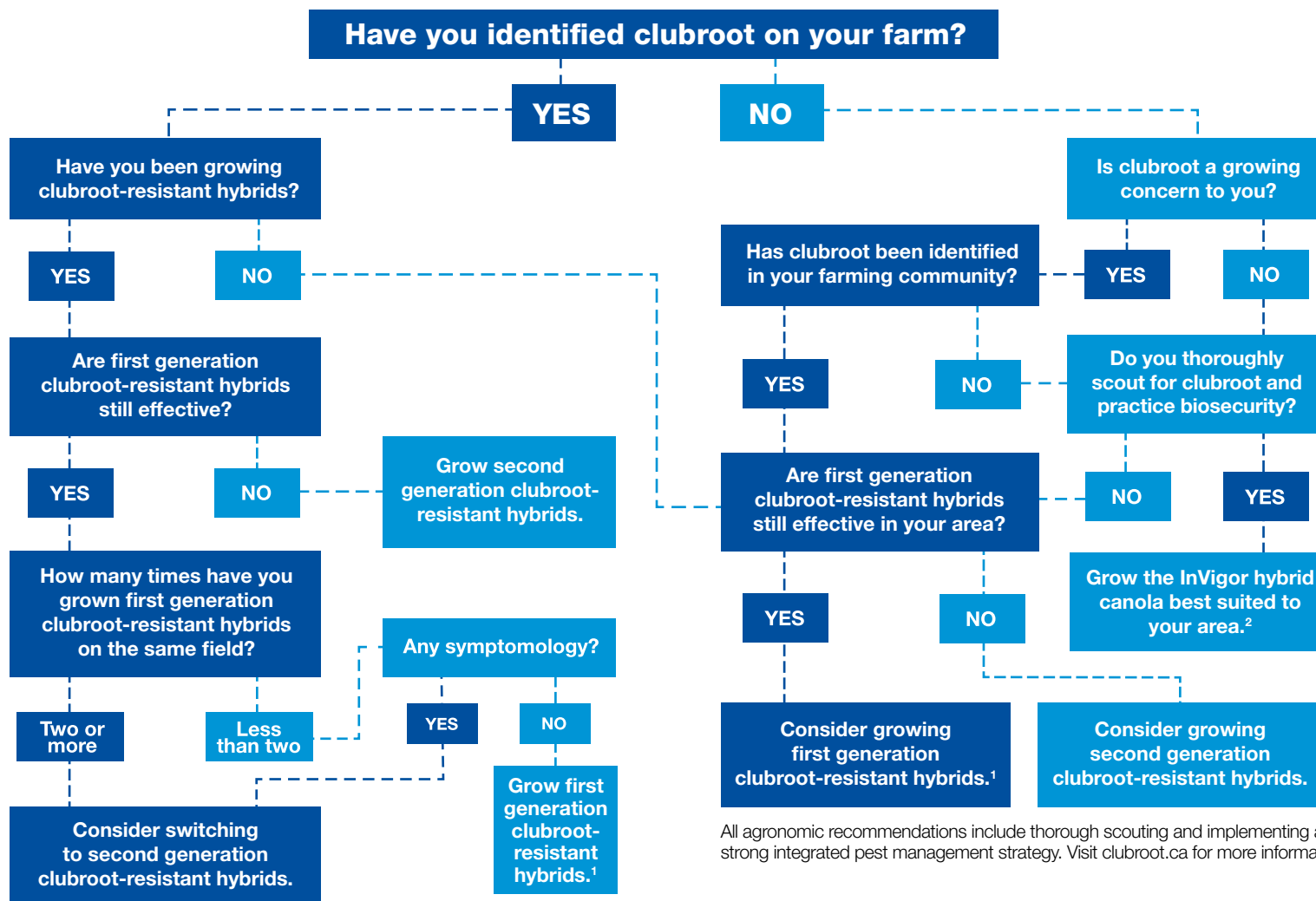
A one-in-three-year or greater rotation is recommended.

### Scout crops regularly and carefully.

Assess the field as a whole and look for patches of crop showing wilting, premature ripening or stress symptoms. Pay particular attention to field entrances and areas of high traffic. Dig up plants throughout the season to monitor for visible symptoms.

For everything clubroot, visit **clubroot.ca** or our helpful FAQ page at **agsolutions.ca/clubrootFAQ**.

# Selecting a clubroot-resistant option for your InVigor hybrid canola.



All agronomic recommendations include thorough scouting and implementing a strong integrated pest management strategy. Visit [clubroot.ca](http://clubroot.ca) for more information.

<sup>1</sup> When growing clubroot-resistant hybrids, we recommend using first generation clubroot-resistant hybrids for two cycles OR until clubroot symptoms appear, whichever comes first, then consider switching to second generation clubroot-resistant hybrids. All InVigor clubroot-resistant hybrids have been developed to be resistant to the most predominant clubroot pathotypes found in Canada at the time of their registration.

<sup>2</sup> For more information on clubroot-resistant options from BASF, visit [agsolutions.ca/clubroot-east](http://agsolutions.ca/clubroot-east) or call **AgSolutions®** Customer Care at 1-877-371-BASF (2273).

**Results may vary on your farm due to environmental factors and preferred management practices.**



# Liberty® 200 SN

Herbicide

An excellent management tool for rotating chemistries to help keep resistance out of your fields.

- Group 10 chemistry provides broad-spectrum control of broadleaf and grassy weeds
- Flexible application timing, rates and tank mixes
- Quick, complete burndown of weeds

## TECH TIP

*To learn more about Liberty® 200 SN herbicide best management practices [click here](#).*

*All growers must sign a Liberty & Trait Agreement (LTA) prior to their first purchase of InVigor hybrid canola or Liberty 200 SN herbicide. For more information on LTAs [click here](#).*

<b>Active ingredient</b>	Glufosinate ammonium – Group 10
<b>Concentration</b>	200 g/L
<b>Formulation</b>	Solution
<b>One case contains</b>	2 x 10 L jugs Also available in 400 L tote

For use on:

GLYPHOSATE  
TOLERANT CANOLA

NO

LIBERTY  
TOLERANT  
CANOLA

YES

CONVENTIONAL  
CANOLA

NO

## Crop staging

For InVigor® hybrid canola with the LibertyLink® trait only

Apply from cotyledon to prior to bolting

## Weeds controlled

### Broadleaf weeds

Canada thistle<sup>1</sup>, Chickweed, Cocklebur, Eastern black nightshade, Field bindweed<sup>1</sup>, Jimsonweed<sup>2</sup>, Lady's thumb, Lamb's quarters, Perennial sow thistle, Redroot pigweed, Shepherd's-purse, Stinkweed, Velvetleaf, Wild buckwheat, Wild mustard, Wormseed mustard

### Grasses

Barnyard grass, Bristly foxtail, Fall panicum, Giant foxtail, Green foxtail, Large crabgrass, Proso millet, Quackgrass<sup>3</sup>, Wild oats, Witchgrass, Yellow foxtail

## Application rates

One case treats 20 acres. One tote treats 400 acres.

<b>Liberty 200 SN</b>	1.0 L/ac (2.5 L/ha)
<b>Ammonium sulfate (optional)</b>	2.4 L/ac (6 L/ha)

## Water volume

Ground application Minimum 80 L/ac (20 gal/ac)

## Pre-harvest interval

60 days from date of treatment (or last treatment when a second application has been made).

## Follow crops

**Anytime after application** (LibertyLink varieties only):

Canola, field corn, soybeans

**70 days after application:** Barley, oats, rye, triticale, wheat

**120 days after application:** All other crops

<sup>1</sup> Apply at 2 L/ha when weeds are 1-6 leaf stage.

<sup>2</sup> For control of jimsonweed, apply Liberty 200 SN herbicide at a rate of 2.5 L/ha when the weeds are in the 1-6 leaf stage.

<sup>3</sup> Apply at 2.5 L/ha when quackgrass is in the 1-4 leaf stage.

# SELECT®

Herbicide

Post-emergent control of the toughest grassy weeds in canola.

- Wide window of application
- Tank-mix flexibility for enhanced weed control
- No follow-crop restrictions
- Complements Liberty 200 SN herbicide for enhanced control of grassy weeds



<b>Active ingredient</b>	Clethodim – Group 1
<b>Formulation</b>	Emulsifiable concentrate
<b>One case contains</b>	1 x 3 L jug of Select® herbicide 1 x 9 L jug of Amigo® adjuvant

## Crop staging

Apply from the cotyledon stage up to early bolting and when weeds are actively growing

## Weeds controlled

Barnyard grass  
Fall panicum  
Green foxtail  
Large crabgrass  
Persian dandelion  
Proso millet  
Quackgrass  
Smooth crabgrass  
Volunteer canary grass  
Volunteer cereals  
Volunteer corn  
Wild oats  
Witchgrass  
Yellow foxtail

## Water volume

Ground application  
Minimum 60 L/ac (15 gal/ac)

## Pre-harvest interval

60 days after application for canola.

## Application rates

**Standard rate:** one case treats 40 acres.

**High rate:** one case treats 20 acres.

**Liberty 200 SN tank-mix rate:** one case treats 60 acres.

<b>Select<sup>1</sup></b>	77 to 154 ml/ac (190 to 380 ml/ha)
<b>Amigo adjuvant<sup>2</sup></b>	0.5 to 1.0% v/v (5 to 10 L per 1000 L spray solution)

## Tank-mix recommendation and order

When tank mixing Liberty 200 SN and Select for InVigor canola hybrids

<b>1</b>	<b>Ammonium sulphate</b> 2.4 L/ac (6 L/ha)
<b>2</b>	<b>Amigo adjuvant</b> 0.5% v/v (5 L per 1000 L spray solution)
<b>3</b>	<b>Liberty 200 SN</b> 0.8 to 1.0 L/ac (2.0 to 2.5 L/ha)
<b>4</b>	<b>Select</b> 50 ml/ac (125 ml/ha) <sup>3</sup>

<sup>1</sup> Consult the label for rates to control specific weeds.

<sup>2</sup> Use Amigo adjuvant at 0.5% v/v for the 40 and 60 acre/case application rates (50 and 77 ml/ac) of Select.  
Use at 1.0% v/v for the 20 acre/case application rate (154 ml/ac) of Select.

<sup>3</sup> Label rate states 25 ml/ac (63 ml/ha).



## A more advanced fungicide that helps maximize your canola yield potential.<sup>1</sup>

- Tank mixed with your canola system herbicide, Priaxor® fungicide combines the active ingredient Xemium® with the proven plant health benefits<sup>2</sup> of **AgCelence®**
- Multiple modes of action for increased performance and reduced risk of developing fungicide resistance
- Increased growth efficiency and better management of minor stress<sup>1</sup>

### Taller plants with Priaxor on canola



Source: BASF Research Authorization trials, Rosetown, SK, 2014

<b>Active ingredients</b>	Fluxapyroxad – Group 7 Pyraclostrobin – Group 11
<b>Formulation</b>	Liquid suspension
<b>One case contains</b>	2 x 9.6 L jugs

## Priaxor®

Xemium® Fungicide

### Crop staging

2 to 6 leaf (rosette)

In areas of high blackleg pressure, apply Priaxor earlier for best results

### Diseases controlled

Alternaria black spot  
(*Alternaria brassicae* and *A. raphani*)

Blackleg  
(*Leptosphaeria maculans*)

### Application rates

One case treats 160 acres.

<b>Priaxor</b>	120 ml/ac (300 ml/ha)
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### Water volume

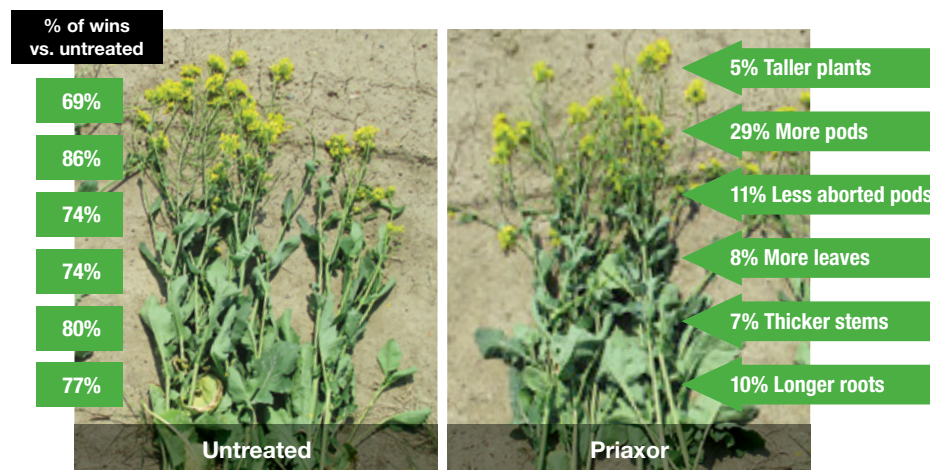
Ground application  
Minimum 40 L/ac (10 gal/ac)

Aerial application  
20 L/ac (5 gal/ac)

### Pre-harvest interval

21 days after application for canola.

### Percentage wins – Priaxor vs. untreated



Priaxor sprayed at the 2- to 6-leaf stage.

Source: AgSolutions® Performance Trials and Research Authorization Trials, 2014 n=35

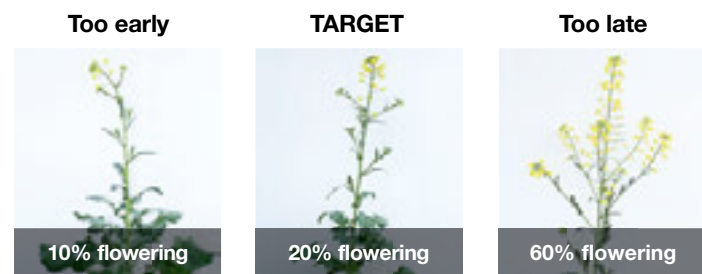
<sup>1</sup> All comparisons are to untreated, unless otherwise stated.

<sup>2</sup> AgCelence benefits refer to products that contain the active ingredient pyraclostrobin.



## The new standard for sclerotinia management.

- Delivers industry-leading disease management for your canola
- Combines the two leading active ingredients that target sclerotinia in a convenient liquid premix



Ideal fungicide application timing is between 20% and 50% flowering or prior to significant petal drop. This is because the largest number of flowers will be open and the greatest number of petals will be covered by the fungicide application. Part of the fungicide application will penetrate the canopy to help protect other infection sites, including leaf axils.

20% flowering	50% flowering
<ul style="list-style-type: none"> <li>• Approximately 15 open flowers and pods on the main stem</li> <li>• Fungicide applications should begin</li> </ul>	<ul style="list-style-type: none"> <li>• Number of open flowers and pods on the main stem exceeds 20</li> <li>• Canola field will be at its most yellow</li> <li>• Optimal fungicide application window is closing</li> </ul>

<b>Active ingredients</b>	Boscalid – Group 7 Prothioconazole – Group 3
<b>Formulation</b>	Suspension concentrate
<b>One case contains</b>	2 x 9.8 L jugs

### Crop staging

20 to 50% flowering

### Diseases controlled

Sclerotinia stem rot  
(*Sclerotinia sclerotiorum*)

### Application rates

One case treats 70 to 80 acres.

<b>Cotegra®</b>	240 to 280 ml/ac (600 to 700 ml/ha) <sup>1</sup>
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### Water volume

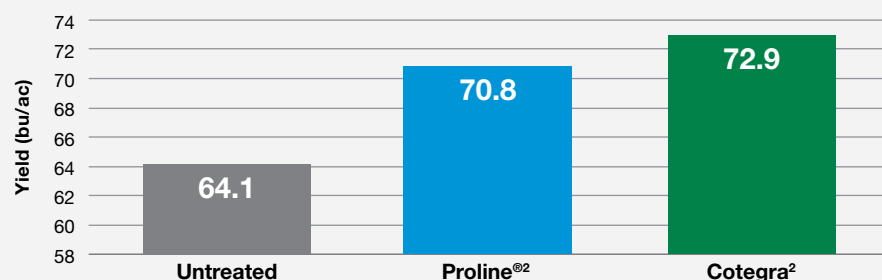
Ground application  
Minimum 80 L/ac (20 gal/ac)

Aerial application  
20 L/ac (5 gal/ac)

### Pre-harvest interval

36 days after application for canola.

### Cotegra: Performance when it matters



Average incidence over 16 trials was 80.4% with 16 of 16 trials having >50% incidence.

Source: 16 RCBD Research and Commercial Development (RCD) trials. 2016-2017, 2019<sup>3</sup>

### TECH TIP

With *xarvio™ FIELD MANAGER* and *Zone Spray* you can optimize your fungicide application and avoid treating areas with no economic benefit, saving you time and money. Download the free app at [www.xarvio.ca](http://www.xarvio.ca).

<sup>1</sup> The recommended application rate is 240 ml/ac. The 280 ml/ac rate is only recommended for severe disease conditions.

<sup>2</sup> For all trials, Cotegra was applied at the 240 g a.i./ha (80 ac/case) rate and Proline was applied at the 150 g a.i./ha (80 ac/case) rate. <sup>3</sup> Trials were conducted under conditions favourable to the onset of disease to test product performance under high disease pressure.

# Eragon® LQ

Powered by **Kixor®** Herbicide

PRE-HARVEST

The ultimate crop and weed dry down in canola.

- Complete crop and weed dry down
- Easier crop cutting to reduce operator stress
- Harvest more bushels per hour and cover more acres per liter of fuel<sup>1</sup>



## Active ingredient

Saflufenacil – Group 14

## Formulation

Water-based suspension concentrate

## One case contains

4 x 1.182 L jugs

## Crop staging

Apply when the canola crop has reached 80% seed colour change on the main stem. Canola timing for application cannot be determined by pod colour. Pods must be opened to determine the amount of seed colour. Canola flowers upwards, so the lowermost pods will contain the first mature seeds, while the upper pods will contain the last maturing seeds. Seeds on the bottom 2/3 to 3/4 of the plant will have changed from green to dark brown or black in canola.

## Application rates

One case treats 80 acres when tank mixed with glyphosate.

## Recommended use pattern

<b>Eragon® LQ</b>	59 ml/ac (146 ml/ha)
<b>Merge® adjuvant<sup>2</sup></b>	400 ml/ac (1 L/ha)
<b>Glyphosate<sup>2</sup></b>	1.0 L/ac (2.5 L/ha)

## Water volume

Ground application      Minimum 80 L/ac (20 gal/ac)

## Pre-harvest interval

3 days after application for canola.

## Follow crops

**In the first spring following a fall application:** Barley, canola, corn (field, sweet), oats, soybeans, triticale, wheat (durum, spring, winter)

**In the second spring following a fall application:** All crops can be grown

<sup>1</sup> PAMI, 2017, Research Report. Straight cutting canola in Manitoba: Comparison of pre-harvest aids.

<sup>2</sup> Glyphosate and Merge adjuvant (required) are not included in the case.

Access the Eragon LQ staging guide at [agsolutions.ca/eragonlq-guide](https://agsolutions.ca/eragonlq-guide).

# Steps to a better straight cut.

If you are planning to straight cut your canola this upcoming season, below are some factors you should consider:

## **Consider a straight cutting suitable hybrid.**

InVigor Pod Shatter Reduction (PSR) hybrids contain the patented PSR trait, and a reduced propensity for pod drop. This combination provides the ideal hybrid for straight cutting. These hybrids deliver high yield potential even when left standing in the field during challenging weather conditions.

## **Manage disease preventatively.**

Diseases (e.g. blackleg, clubroot, sclerotinia) can cause uneven maturity, premature ripening, pod drop and shatter loss. Lodging reduces standability, hindering the straight cutting process. Take a preventative approach that includes crop rotation, hybrid selection and foliar fungicides.

## **Monitor seeding rate to achieve desired target plant population.**

Growers should strive for a target plant population of 5 to 7 plants/ft<sup>2</sup> to ensure a uniform stand, which in turn allows the field to mature evenly.

## **Eliminate weeds.**

Clean fields are easier to straight cut. Weeds, when still green, can cause both harvest and storage issues.

## **Look out for green plant material.**

Monitor your harvested canola seed, even if it comes off dry, as there is a greater chance of plant material making it into the sample.

## **Consider a pre-harvest herbicide.**

Eragon LQ herbicide tank mixed with glyphosate provides a complete crop and weed dry down for an easier harvest.

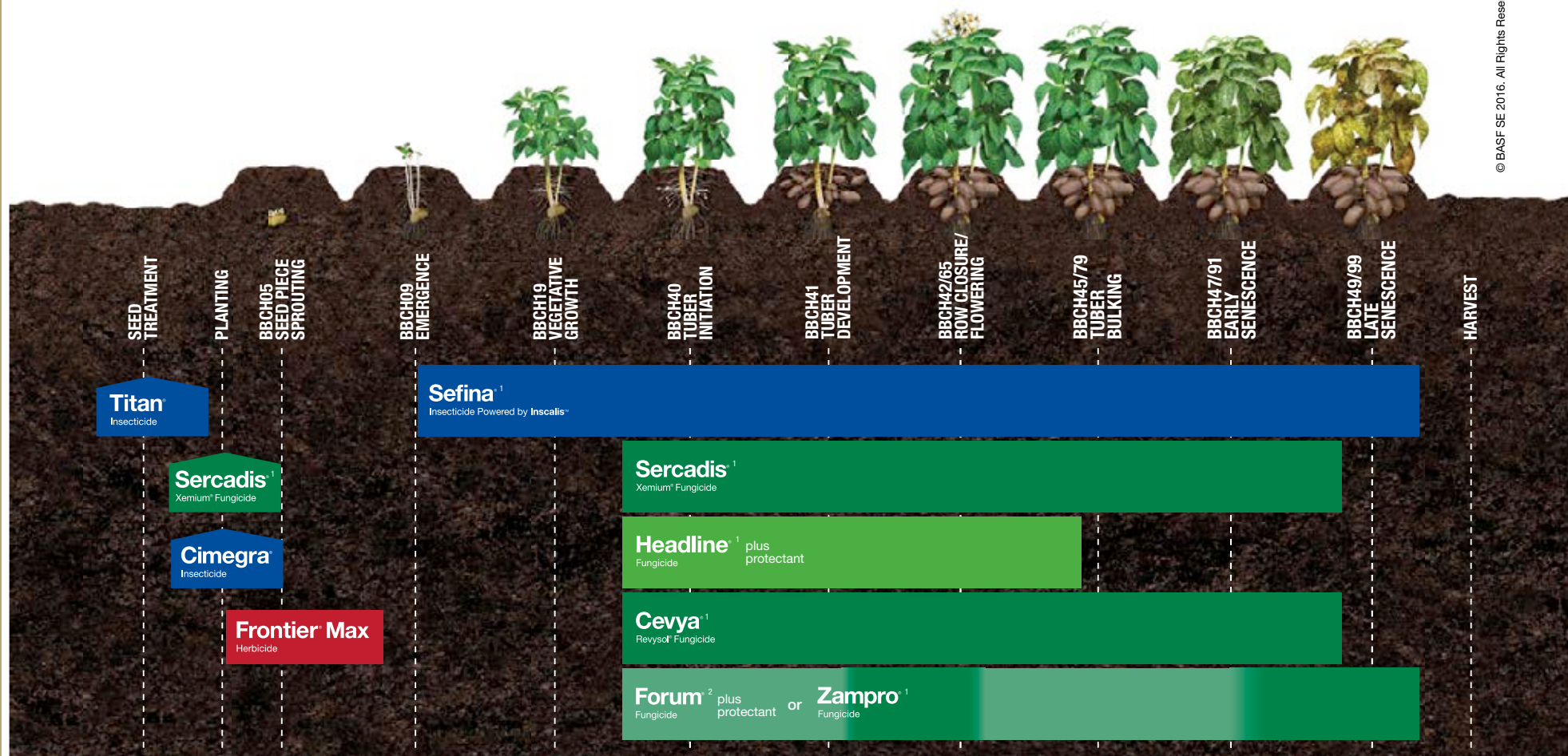
## **Maintain appropriate combine settings and reel speeds.**

You must re-evaluate all of your combine settings when straight cutting, which could involve slower harvest speeds. If you are using a reel, ensure the speed of the reel matches the speed of your combine.





# Solutions for potatoes.



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Staging graphics depicted here are for quick reference only. Refer to individual product pages and product labels on [agsolutions.ca](http://agsolutions.ca) or call AgSolutions<sup>®</sup> Customer Care at 1-877-371-BASF (2273) for detailed staging information.

 Darker areas reflect recommended application period for Forum<sup>®</sup> fungicide.

<sup>1</sup> Do not exceed the total number of sequential applications or total number of applications per season as stated by specific product labels.

<sup>2</sup> To reduce the risk of the development of fungicide resistance, tank mix Forum fungicide with other fungicides. Do not apply more than three (3) applications per season.

# BASF lead recommendations.

Select the solution that's right for your operation.

## INSECT MANAGEMENT

**Cimegra**<sup>NEW</sup>  
Insecticide

**Titan**<sup>®</sup>  
Insecticide

**Sefina**<sup>®</sup>  
Insecticide Powered by **Inscalix**<sup>®</sup>

## WEED MANAGEMENT

**Frontier**<sup>®</sup> **Max**  
Herbicide

## DISEASE MANAGEMENT

**Headline**<sup>®</sup>  
Fungicide

**Sercadis**<sup>®</sup>  
Xemium<sup>®</sup> Fungicide

**Cevya**<sup>NEW</sup>  
Revysol<sup>®</sup> Fungicide

**Forum**<sup>®</sup>  
Fungicide



Contact your BASF **AgSolutions**<sup>®</sup> Retail Representative for more information.

# Cimegra®

Insecticide

NEW

New Cimegra® insecticide provides control of prevalent and difficult to control chewing insects, including wireworm, for in-season management and reduction of resident populations.

- Unique mode of action that delivers lasting efficacy and no known resistance
- Convenience of simplified handling
- Can easily be incorporated into an integrated pest management strategy



<b>Active ingredient</b>	Broflanilide – Group 30
<b>Formulation</b>	Suspension concentrate
<b>One case contains</b>	2 x 3 L jugs

## Treatment

Apply in-furrow spray to uniformly cover the seed pieces and surrounding soil. Do not apply Cimegra to the soil surface of a closed furrow.

## Pests controlled

**In-furrow applications:** Wireworm<sup>1</sup>

## Application rates

**One case treats 60 acres (24 hectares).**

## In-furrow application

<b>Cimegra<sup>2</sup></b>	100 ml/ac (250 ml/ha)
<b>For 90 cm (36") row spacing<sup>3</sup></b>	2.3 ml per 100 metres of row

## Resistance management

Insecticide use should be based on an IPM program that includes scouting and record keeping, and considers cultural, biological and other chemical control practices. Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or IPM recommendations for the specific site and pest problems in your area.

<sup>1</sup> Including *Agriotes obscurus*, *Agriotes sputator*, *Conoderus* sp., *Hypnoides bicolor*, *Limoni* sp., *Limoni* sp., *Melanotus cribulosus*, *Melanotus* sp. and *Selatosomus destructor*.

<sup>2</sup> Do not exceed 100 ml/ac (250 ml/ha).

<sup>3</sup> For different row spacing, see label for calculation.



# Titan®

Insecticide

A broad-spectrum seed-piece insecticide that can also be applied in-furrow for greater flexibility.

- Controls major above-ground pests, including aphids, Colorado potato beetle, flea beetle and leafhopper
- Reduces tuber damage caused by wireworms
- Easy-to-use liquid formulation



<b>Active ingredient</b>	Clothianidin – Group 4
<b>Formulation</b>	Suspension
<b>One case contains</b>	2 x 3 L jugs

## Treatment

Apply as a seed-piece treatment or apply as a narrow band in-furrow

## Pests controlled

**Seed-piece treatment:** Buckthorn aphid (*Aphis nasturtii*), Colorado potato beetle (*Leptinotarsa decemlineata*), foxglove aphid (*Aulacorthum solani*), green peach aphid (*Myzus persicae*), potato aphid (*Macrosiphum euphoribae*), potato flea beetle (*Epitrix cucumeris*)<sup>1</sup>, potato leafhopper (*Empoasca fabae*), wireworm (*Agriotes obscurus*, *A. lineatus*, *Limonius agonus*, *Melanotus* spp., *M. communis*)<sup>2,3</sup>

**In-furrow applications:** Colorado potato beetle (*Leptinotarsa decemlineata*), potato leafhopper (*Empoasca fabae*)

## Application rates

### Seed-piece treatment

<b>Aphids (on label), Colorado potato beetle, potato flea beetle, potato leafhopper</b>	10.4 to 20.8 ml per 100 kg potato seed pieces
<b>Wireworm (suppression)</b>	20.8 ml per 100 kg potato seed pieces

### In-furrow application

<b>Colorado potato beetle, leafhoppers</b>	2.0 to 3.33 ml per 100 m row
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## Resistance management

When using Titan® insecticide as a seed-piece treatment or in-furrow application, do not apply subsequent Group 4 insecticides that growing season.

<sup>1</sup> Control of overwintered adults and suppression of second generation.

<sup>2</sup> Suppression only.

<sup>3</sup> May reduce the damage caused by other wireworm species.

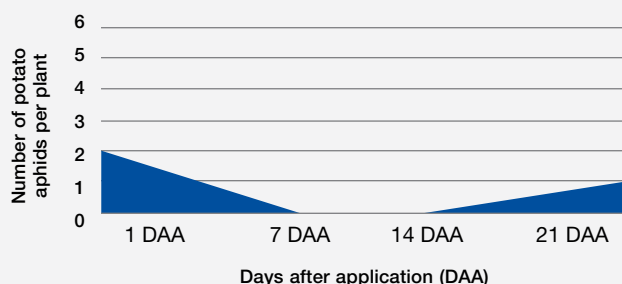
# Sefina®

Insecticide Powered by **Inscalix®**

A lasting barrier that protects against labeled piercing and sucking insects.

- Quickly halts feeding, which reduces production losses and virus transmission
- Extended control of labeled pests
- Powered by a unique mode of action that provides extended control of labeled insect pests that have developed resistance
- Effective tool in an integrated pest management strategy with low impact on beneficial insects, including predatory and parasitic insects
- Now registered for Group 17 and 18 crops, including alfalfa

**Efficacy of Sefina® insecticide on potato aphids**



<b>Active ingredient</b>	Afidopyropen – Group 9D
<b>Formulation</b>	Dispersion concentrate
<b>One case contains</b>	2 x 3.24 L

## Crop timing

Apply between emergence to harvest during all life stages

## Pests controlled

Green peach aphid (*Myzus persicae*)  
 Potato aphid (*Macrosiphum euphoribae*)  
 Silverleaf whitefly (*Bemisia argentifolii*)  
 Sweet potato whitefly (*Bemisia tabaci*)

## Application rates<sup>1,2</sup>

One case treats 16 to 80 acres (6 to 32 hectares).

<b>Green peach aphid and potato aphid control</b>	81 ml/ac (200 ml/ha)
<b>Silverleaf whitefly and sweet potato whitefly</b>	283 to 405 ml/ac (0.7 to 1.0 L/ha)

## Pre-harvest interval

7 days after application.

## Resistance management

Do not make more than two (2) sequential applications of Sefina insecticide before using an effective insecticide with a different mode of action.



Potato aphid  
(*Macrosiphum euphoribae*)



Green peach aphid  
(*Myzus persicae*)

<sup>1</sup> Allow a minimum of 7 days between applications.

<sup>2</sup> Do not apply more than 1 L/ac (2.5 L/ha) per year.







# Frontier® Max

Herbicide

Protect potato yields through the critical weed-free period.

- Pre-emergent control of annual grasses and key broadleaf weeds, including biotypes resistant to triazine and Group 2 herbicides
- Consistent performance in challenging weather conditions
- Residual activity for reduced weed pressure throughout crop development.

## Consistent performance



Source: BASF Canada, PEI, 2012

<b>Active ingredient</b>	Dimethenamid-P – Group 15
<b>Formulation</b>	Emulsifiable concentrate
<b>One case contains</b>	2 x 9 L jugs

## Crop timing

Pre-emergence to crop and weeds. Apply after planting and before potatoes emerge from the final hilling of the season.

## Weeds controlled

Barnyard grass, Crabgrass (large, smooth), Eastern black nightshade<sup>1,2</sup>, Fall panicum, Foxtail (giant, green, yellow), Old witchgrass, Redroot pigweed<sup>1,2</sup>, Yellow nutsedge<sup>3</sup>

## Application rates

One case treats 46 to 59 acres (19 to 24 hectares).

<b>Frontier Max</b>	<b>Application rates based on % organic matter</b>		
<b>Soil type</b>	<b>Organic matter ≤ 3%</b>	<b>3% &lt; Organic matter &lt; 7%</b>	<b>7% &lt; Organic matter &lt; 10%</b>
Coarse textured soils	305 ml/ac (756 ml/ha)	305 ml/ac (756 ml/ha)	348 ml/ac (860 ml/ha)
Medium textured soils	305 ml/ac (756 ml/ha)	348 ml/ac (860 ml/ha)	390 ml/ac (963 ml/ha)
Fine textured soils	305 ml/ac (756 ml/ha)	348 ml/ac (860 ml/ha)	390 ml/ac (963 ml/ha)

Apply at the higher rates in the table on fine textured or high organic soils and for heavier weed problems.

**Pre-harvest interval:** 40 days for potatoes.

**Restricted entry interval:** 24 hours.

**Resistance management:** Rotate Frontier Max or other Group 15 herbicides in a growing season (sequence) or among growing seasons, with different herbicide Groups that control the same weeds in a field. Use tank mixtures with herbicides from a different Group.

<sup>1</sup> Includes Group 2-resistant and triazine-resistant biotypes.

<sup>2</sup> Controlled at 390 ml/ac (963 ml/ha); lower rates provide suppression only.

<sup>3</sup> Suppression only.

RESEARCH  
UPDATE

# Zidua® SC

Herbicide

Zidua® SC herbicide provides early-season residual suppression of key annual grasses and broadleaf weeds.

- Residual activity controls germinating weed seedlings before or soon after crop emergence
- Group 15 chemistry helps suppress tough weeds

## RESEARCH UPDATE

This product is currently in registration review for use on potatoes under the *Pest Control Products Act*. The information presented here is for research purposes only. This product cannot be used in Canada on potatoes at this time, unless explicit authorization has been obtained from Health Canada to use this product for the purpose of conducting research under the Pest Control Products Regulations.



POTATOES

Weed Management

CORN

SOYBEANS

CEREALS

CANOLA

POTATOES

POST-HARVEST

RESOURCES

RESEARCH  
UPDATE**Serifel<sup>®</sup>**

Fungicide

Serifel<sup>®</sup> fungicide is an innovative biological fungicide that forms a shield of protection on plants' surfaces to protect against disease. Research is underway against early blight, and in-furrow against rhizoctonia.

- Complements chemistry-based programs and helps manage the potential for resistance
- With no recordable residues, Serifel fungicide provides greater flexibility by extending the window of application, especially near harvest
- Can be used for organic production – EcoCert<sup>®</sup> and OMRI listed<sup>®</sup>

**RESEARCH UPDATE**

This product is currently in registration review for use on potatoes under the *Pest Control Products Act*. The information presented here is for research purposes only. This product cannot be used in Canada on potatoes at this time, unless explicit authorization has been obtained from Health Canada to use this product for the purpose of conducting research under the Pest Control Products Regulations.







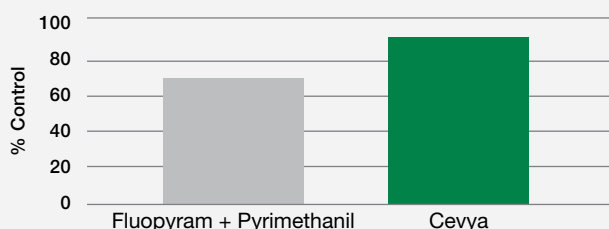
Revysol® Fungicide

NEW

Cevya® fungicide is powered by Revysol® to provide fast, systemic, continuous pre- and post-infection control of key diseases.

- Fast and continuous control of key diseases in potatoes, fruits and vegetables
- Preventative and post-infection control
- Unique, new binding activity to control biotypes that may have developed resistance to other Group 3, 7, 9 and 11 fungicides

Early blight control



Source: BASF, n=3

Active ingredient	Mefentrifluconazole – Group 3
Formulation	Suspension concentrate
One case contains	2 x 4 L jugs

#### Crop timing

7 to 14 day interval

#### Diseases controlled

Early blight (*Alternaria solani*)

#### Application rates

One case treats 80 to 107 acres (32 to 43 hectares).

Cevya	75 to 100 ml/ac (190 to 250 ml/ha) <sup>1</sup>
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#### Pre-harvest interval

7 days after application.

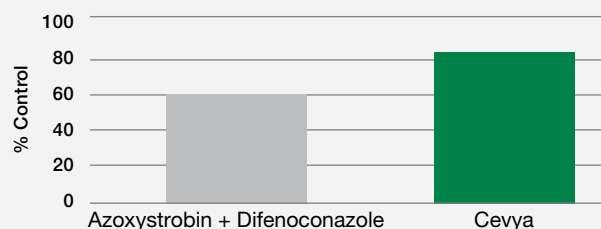
#### Rainfastness

1 hour.

#### Resistance management

Cevya is an excellent resistance management tool to include in an IPM program. It can be used in combination or rotation with other chemistries to prevent the development of resistant strains. To limit the potential for development of resistance, rotate the use of Cevya or other Group 3 fungicides with different Groups that control the same pathogens.

Early blight control



Source: BASF, n=3

<sup>1</sup> Do not apply more than 455 ml/ac (1.125 L/ha) per year.

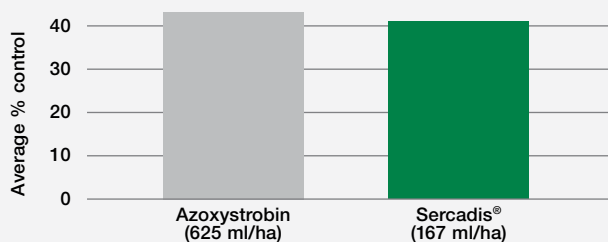
# Sercadis®

Xemium® Fungicide

Innovative chemistry for consistent, continuous control of key diseases.

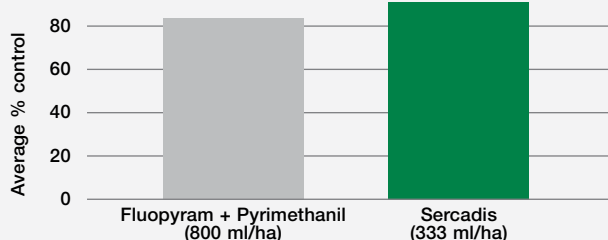
- Control of early blight, white mold and rhizoctonia canker
- Timing and tank-mix flexibility to adapt to the season's needs
- Highly systemic activity helps protect new growth

**Rhizoctonia black scurf control**



Source: Summary of two BASF trials, 2010

**White mold control**



Source: BASF Trial, Oregon, 2010

<b>Active ingredient</b>	Fluxapyroxad – Group 7
<b>Formulation</b>	Suspension
<b>One case contains</b>	2 x 1.35 L jugs

## Crop timing

<b>For rhizoctonia canker (soil-borne)</b>	At planting (in-furrow spray)
<b>For early blight</b>	Preventatively, from tuber initiation to row close as part of a regular early-blight control program
<b>For white mold</b>	Begin applications at flowering when there is a risk of disease

Use of a non-ionic surfactant at 0.125% v/v is recommended for foliar applications.

## Diseases controlled

**In-furrow applications:** Rhizoctonia canker (*Rhizoctonia* spp.)

**Foliar applications:** Early blight (*Alternaria solani*), white mold (*Sclerotinia sclerotiorum*)

## Application rates

One case treats 20 to 40 acres (8 to 16 hectares).

## In-furrow applications

<b>Rhizoctonia canker</b>	135 ml/ac (333 ml/ha) 36" rows: 30 ml per 1000 m of row
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## Foliar applications

<b>Early blight</b>	67 to 135 ml/ac (167 to 333 ml/ha)
<b>White mold</b>	135 ml/ac (333 ml/ha)

Refer to the label for more information on product rates and row spacing.

**Pre-harvest interval:** 7 days for potatoes.

**Rainfastness:** 1 hour.

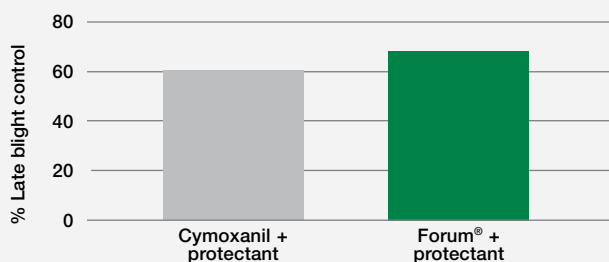
**Restricted entry interval:** 12 hours.

**Resistance management:** May be tank mixed with a non-Group 7 fungicide when such use is permitted. Do not apply more than two (2) sequential applications of Sercadis before alternating to a fungicide with a different mode of action that controls the same pathogens.

Excellent control of late blight in potatoes, both in the field and into storage.

- Highly systemic fungicide for control of late blight in potatoes
- Antisporulant activity controls spores and stops the spread of disease
- Easy-to-use liquid formulation

**Curative late blight control**



Source: BASF, average of 7 trials with ratings taken 1 to 4 months after harvest

<b>Active ingredient</b>	Dimethomorph – Group 40
<b>Formulation</b>	Suspension concentrate
<b>One case contains</b>	2 x 4.5 L jugs

### Crop timing

Apply on 5 to 10 day interval

### Diseases controlled

Late blight (*Phytophthora infestans*)

Tuber blight in storage (*Phytophthora infestans*)<sup>1</sup>

### Application rates

One case treats 50 acres (20 hectares).

<b>Forum</b>	182 ml/ac (450 ml/ha)
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### Pre-harvest interval

4 days for potatoes.

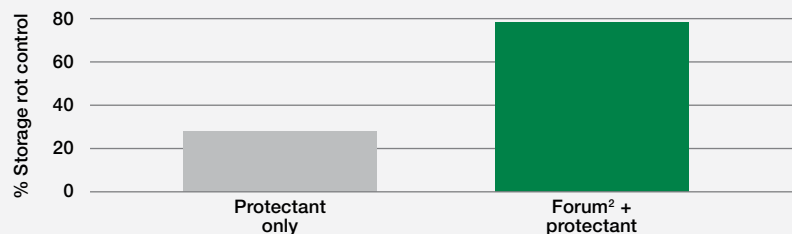
### Restricted entry interval

12 hours.

### Resistance management

In order to reduce the risk of developing fungicide resistance, Forum fungicide should be used in a tank mix or in rotation with a fungicide from a different FRAC Group labeled for control of late blight.

**Storage rot control**



Source: BASF, average of 7 trials with ratings taken 1 to 4 months after harvest

<sup>1</sup> Suppression only.

<sup>2</sup> Applied pre-harvest.



# Headline®

Fungicide

Headline® fungicide provides systemic control of both early blight and late blight, the two most devastating diseases of potatoes.

- Proven, effective control of early and late blight (sensitive strains only)
- Will not wash off; it's systemic and rainfast in under 1 hour to ensure long-lasting control, even under adverse conditions
- Excellent tank-mix or rotation partner with fungicides of a different mode of action

Headline at tuber initiation yield trial



Source: Felix Farms

<b>Active ingredient</b>	Pyraclostrobin – Group 11
<b>Formulation</b>	Emulsifiable concentrate
<b>One case contains</b>	2 x 6.5 L jugs

## Crop timing

Prior to row closure or when conditions become favourable for the development of disease (whichever comes first)<sup>1</sup>

## Diseases controlled

Early blight (*Alternaria solani*)

Late blight (*Phytophthora infestans*)

## Application rates

One case treats 48 to 72 acres (19 to 29 hectares).

<b>Headline</b>	180 to 270 ml/ac (450 to 670 ml/ha) <sup>2</sup>
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## Pre-harvest interval

6 days.

## Restricted entry interval

12 hours.

## Resistance management

To limit the potential for development of resistance DO NOT apply more than one (1) application before rotating to another mode of action for at least one application. No more than three (3) applications should be made per season.

<sup>1</sup> Headline fungicide should be used preventatively.

<sup>2</sup> Under high disease pressure and during rapid growth, use the higher rate and tank mix with a multisite fungicide such as Bravo® 500 Agricultural Fungicide. Refer to the respective tank-mix partner label for rates, additional recommendations, restrictions and precautions.

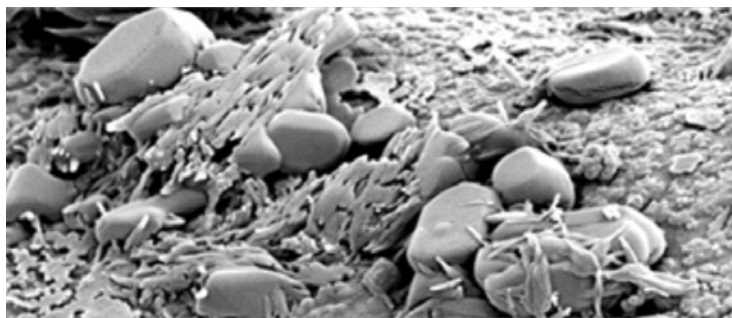
# Zampro®

Fungicide

Powerful control of late blight that recharges with moisture.

- Multiple modes of action to control late blight
- Antisporulant, protectant and systemic disease control prevents initial infection and stops disease spread
- Recharges with moisture

## Zampro® fungicide on leaf



Ametoctradin is tightly bound to the waxy cuticle and rapidly absorbed.  
Magnification: 3.0 μm

<b>Active ingredients</b>	Dimethomorph – Group 40 Ametoctradin – Group 45
<b>Formulation</b>	Suspension concentrate
<b>One case contains</b>	4 x 4.14 L jugs

## Crop timing

Apply on 5 to 10 day interval

Apply preventatively, prior to disease development

During periods of high disease pressure, use a higher rate and shorter interval

## Diseases controlled

Late blight (*Phytophthora infestans*)

Tuber blight (*Phytophthora infestans*)<sup>1</sup>

## Application rates

One case treats 41 to 51 acres (17 to 21 hectares).

<b>Late blight</b>	324 to 404 ml/ac (0.8 to 1.0 L/ha) <sup>2</sup>
<b>Tuber blight</b>	404 ml/ac (1.0 L/ha)

## Rainfastness

2 hours.

## Resistance management

Do not make more than two (2) sequential applications before alternating to another effective fungicide with a different mode of action.

<sup>1</sup> When used in accordance to the label recommendations, Zampro also reduces tuber blight when applied immediately prior to or after vine kill.

<sup>2</sup> Addition of spreading/penetrating adjuvants are recommended.

# Don't get caught up in weeds. Stay ahead of them.

Have you thought about post-harvest solutions? Fall is a busy time, but it's also the perfect time to control perennial and winter annual weeds.

## Challenges

Perennial and winter annual weeds including annual bluegrass, Canada fleabane, chickweed, dandelion, field bindweed, scentless chamomile and sow thistle present different challenges:

- Perennials are tough to control once they've established deep, extensive root systems
- Winter annuals germinate in the fall and continue to grow through early winter, bringing them back the following spring

## Benefits

The benefits of using a post-harvest herbicide can really make a difference in your field:

- Cleaner fields in the spring
- Faster soil warming
- Faster plant growth due to a warmer and drier seedbed
- Less disease and insect pressure
- Excellent weed control



<sup>1</sup> Source: Howard F. Schwartz, Colorado State University, Bugwood.org

<sup>2</sup> Source: Chris Evans, University of Illinois, Bugwood.org

<sup>3</sup> Source: Forest and Kim Starr, Starr Environmental, Bugwood.org



# Find the herbicide that works for your field.

POST-HARVEST

**Distinct®**  
Herbicide

**Engenia®**  
Herbicide

**Zidua® SC<sup>NEW</sup>**  
Herbicide

Contact your BASF **AgSolutions®** Retail  
Representative for more information.



POST-HARVEST

Weed Management

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# Distinct®

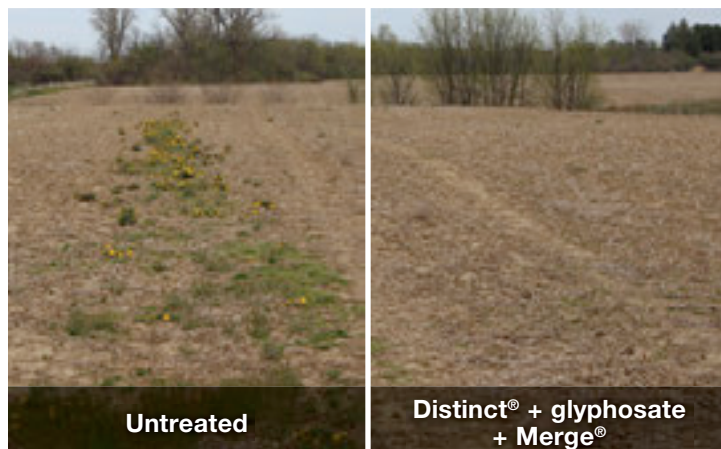
Herbicide

POST-HARVEST

Complements glyphosate for superior post-harvest weed control.

- Multiple modes of action with glyphosate to control resistant biotypes post-harvest
- Keeps fields cleaner to set them up for success the next season
- Excellent follow-crop flexibility that includes canola, cereals, corn and soybeans

**Weed control in spring, following previous September application**



Source: BASF, St-Joachim ON, May 2020

<b>Active ingredients</b>	Dicamba – Group 4 Diflufenzopyr – Group 19
<b>Formulation</b>	Wettable granules
<b>One case contains</b>	2 x 2.32 kg jugs

## Crop staging

Prior to first significant frost

## Weeds controlled<sup>1</sup>

Biennial wormwood<sup>2</sup>  
Canada thistle<sup>3</sup>  
Common cocklebur<sup>4</sup>  
Common ragweed  
Dandelion  
Lady's thumb  
Lamb's quarters  
Perennial sow thistle<sup>5,6</sup>  
Redroot pigweed  
Velvetleaf  
Volunteer canola<sup>7</sup>  
Waterhemp  
Wild buckwheat

<sup>1</sup> Tank mixed with glyphosate at 115 g/ac.

<sup>2</sup> Apply at 2- to 8-leaf.

<sup>3</sup> Top growth in summer application, control in a post-harvest application.

<sup>4</sup> Apply at cotyledon to 6-leaf.

<sup>5</sup> Suppression only.

<sup>6</sup> Apply at 2- to 10-leaf.

<sup>7</sup> Apply at cotyledon to 4-leaf.

<sup>8</sup> Glyphosate and Merge adjuvant (required for optimum activity) are not included in the case.

## Application rates

One case treats 40 acres.

<b>Distinct</b>	115 g/ac (285 g/ha)
<b>Merge adjuvant<sup>8</sup></b>	400 ml/ac (1 L/ha)
<b>Glyphosate<sup>8</sup></b>	See label for rate

## Water volume

Ground application only  
40 to 80 L/ac (10 to 20 gal/ac)

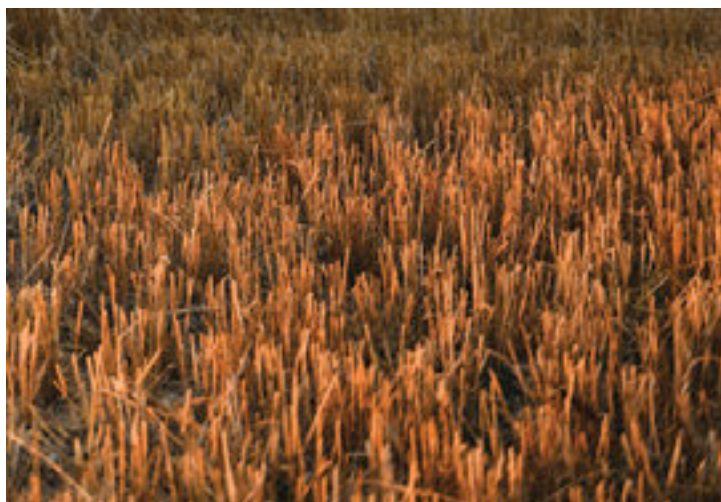
## TECH TIP

*Apply the preferred fall herbicide, Distinct, if you are not planting winter wheat.*

- *Select the correct rate of glyphosate based on weed species and size to mix with Distinct; it can take a few weeks to see symptomology in cooler temperatures.*
- *If a frost event occurs, wait 24 to 48 hours before applying and add Merge (400 ml/ac). Weeds such as perennial sow thistle are more effectively controlled AFTER the first frost, which triggers the movement of nutrients to the roots.*

An advanced dicamba formulation with lower volatility properties.

- More highly concentrated liquid formulation for easier handling and a lower use rate
- Effective resistance management tool for Group 2-, 14-, triazine- and glyphosate-resistant biotypes



<b>Active ingredient</b>	Dicamba – Group 4
<b>Formulation</b>	Solution
<b>One case contains</b>	2 x 8.09 L jugs Also available in 121.2 L shuttle

### Crop staging

Apply to actively growing weeds

### Weeds controlled<sup>1</sup>

Buckwheat (tartary, wild)  
Canada fleabane<sup>2</sup>  
Canada thistle<sup>3</sup>  
Cleavers  
Corn spurry  
Cow cockle  
Field bindweed<sup>3</sup>  
Green smartweed  
Lady's thumb  
Lamb's quarters  
Mustards  
Perennial sow thistle<sup>3</sup>  
Ragweed (common, false, giant)  
Redroot pigweed  
Russian pigweed  
Velvetleaf

### Application rates

One case treats 40 acres.

One shuttle treats 300 acres.

<b>Engenia®</b> <sup>4,5</sup>	404 ml/ac (1 L/ha)
<b>Glyphosate</b> <sup>6</sup>	See label for rate

### Water volume

Ground application

Minimum 40 L/ac (10 gal/ac)

Use higher water volumes to ensure adequate coverage.<sup>5</sup>

<sup>1</sup> Controlled by Engenia alone at 200 to 400 ml/ac (0.5 to 1 L/ha).

<sup>2</sup> Post-emergence only.

<sup>3</sup> Apply Engenia herbicide annually for three years at the flowering stage of bindweed and the budding stage of thistles.

<sup>4</sup> See label for a complete list of additional available tank mixes and their rates. Tank-mix options are not included in the case.

<sup>5</sup> See label for water rate application.

<sup>6</sup> Glyphosate (required for optimum activity) is not included in the case.



**Zidua® SC**

Herbicide

POST-HARVEST

NEW

Residual control of key annual grasses and select broadleaf weeds.

- Group 15 chemistry delivers control of grassy weeds such as annual bluegrass, as well as resistant pigweed and waterhemp
- Residual activity controls late-season germinating seedlings
- Convenient liquid formulation

**Bluegrass control in the spring following a fall application**



Source: BASF Research Trial, Ridgetown ON, 2017

<b>Active ingredient</b>	Pyroxasulfone – Group 15
<b>Formulation</b>	Suspension concentrate
<b>One case contains</b>	2 x 4.05 L jugs

### Crop staging

Post-harvest

### Weeds controlled

#### **Broadleaf weeds**

Lamb's quarters<sup>1</sup>  
Redroot pigweed  
Waterhemp

#### **Grasses**

Annual bluegrass  
Barnyard grass  
Crabgrass (large)  
Foxtail (giant, green, yellow)  
Ryegrass (Italian)  
Wild oats<sup>1</sup>

### Application rates

One case treats 83 acres.

<b>Zidua SC</b>	97 ml/ac (240 ml/ha)
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### Water volume

Ground application      Minimum 40 L/ac (10 gal/ac)

<sup>1</sup> Suppression only.



CORN

SOYBEANS

CEREALS

CANOLA

POTATOES

POST-HARVEST

RESOURCES





Resources are ready for you.  
(And your crops.)

CORN

SOYBEANS

CEREALS

CANOLA

POTATOES

POST-HARVEST

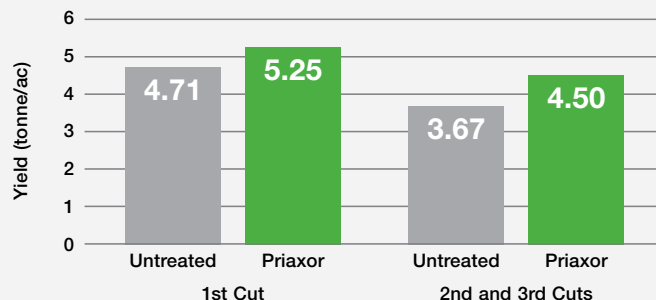
RESOURCES



Provides proven disease control and unique **AgCelence®** benefits<sup>1</sup> that can help increase yield and quality potential in alfalfa.<sup>2</sup>

- First cut application resulted in improved disease control and an increase in yield due to increased leaf retention at the bottom of the plant<sup>2</sup>
- Second and third cut applications resulted in improved disease control and increased yield and protein levels for higher quality<sup>2</sup>

Increased alfalfa yield with Priaxor® fungicide



Source: AgSolutions® Performance Trials, ON & QC, 2017-2019, 1st, 2nd & 3rd cuts had 8 and 13 observations respectively

<b>Active ingredients</b>	Pyraclostrobin – Group 11 Fluxapyroxad – Group 7
<b>Formulation</b>	Liquid suspension
<b>One case contains</b>	2 x 9.6 L jugs

## Priaxor®

Xemium® Fungicide

ALFALFA

### Crop staging

4 to 8 inches in height. For best results, harvest a minimum of 21 days after Priaxor application.<sup>3</sup>

### Diseases controlled

Common leaf spot  
(*Pseudopeziza medicaginis*)  
Blossom blight  
(*Sclerotinia sclerotiorum*)<sup>4,5</sup>

### Application rates

One case treats 160 acres.

<b>Priaxor</b>	120 ml/ac (300 ml/ha) <sup>5</sup>
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### Pre-harvest interval

14 days

### Increased leaf retention



Source: AgSolutions® Performance Trials, Ontario, 2018

### Better and faster regrowth 21 days after treatment



Source: AgSolutions® Performance Trials, Quebec, 2017

### TECH TIP

*Target 4- to 8-inch tall alfalfa. Therefore, if targeting 2nd or 3rd cut, the alfalfa regrowth is at the ideal timing roughly 7 days after the previous cut. For best results, apply at least 21 days prior to harvest.*

<sup>1</sup> AgCelence benefits refer to products that contain the active ingredient pyraclostrobin. <sup>2</sup> All comparisons are to untreated, unless otherwise stated. <sup>3</sup> A maximum of two applications per season is allowed. <sup>4</sup> Suppression only. <sup>5</sup> Apply Priaxor at the increased rate of 180 ml/ac for suppression of blossom blight.

# Dry bean solutions you can depend on.

Dry beans are a high value crop that come with production challenges such as yield loss from weeds and disease. That's why BASF offers a lineup of solutions to help manage these issues.

## Become familiar with all of your dry bean options.

Information presented is for quick reference only. Always refer to product label.

Herbicide <sup>1</sup>	Timing	Rate	Tips	Dry bean classes
Frontier <sup>®</sup> Max	PPI	350 to 390 ml/ac	Can incorporate up to 7 days after application. Strong on nightshade (use the high rate if nightshade is present).	All except adzuki beans
Prowl <sup>®</sup> H2O	PPI	960 ml/ac	Good on sandy soil. Incorporate as part of a tank mix.	All
Pursuit <sup>®</sup>	PP, PPI, PRE	126 ml/ac	For broad-spectrum control of grasses and broadleaf weeds, apply PPI as part of a tank mix.	All
Basagran <sup>®</sup> Forté	POST	700 to 900 ml/ac	Use the high rate if the weeds have more than four leaves. Apply after the 1 <sup>st</sup> trifoliolate until the 3 <sup>rd</sup> trifoliolate. Spray in the middle of the day on small, actively growing weeds using a minimum of 20 gal/ac of water.	All except adzuki beans
Poast <sup>®</sup> Ultra	POST	445 ml/ac	Strong on grasses.	All

PPI = pre-plant incorporated PP = pre-plant PRE = pre-emergence POST = post-emergence



### TECH TIP

*For complete weed control in your dry beans, apply a pre-plant incorporated tank mix of Frontier Max + Prowl H2O + Pursuit.<sup>2</sup> In addition to three modes of effective action on broadleaf weeds and grasses, this tank mix will provide extended residual weed control.*

Fungicide	Disease	Timing	Rate	Tips	Dry bean classes
Priaxor®	Anthrachnose Powdery mildew Rust	Beginning of flower or the onset of symptoms	120 to 180 ml/ac	Use the high rate for white mold suppression.	All
Cotegra®	White mold	20-50% flowering and again 7-14 days after the first application if disease persists or weather conditions are favourable for disease development	400 ml/ac	Can be applied twice per season. Rotate to a fungicide with a mode of action other than a Group 3 or 7 before making a second application of Cotegra.	All

## TECH TIP

*Priaxor can be applied in a tank mix with Cotegra at the beginning of flowering as the 1st fungicide pass.*

**NOTE: Always check with your buyer or processor prior to applying a harvest aid in dry beans to avoid limiting market access.**

Harvest Aid <sup>3</sup>	Timing	Rate	Tips	Dry bean classes
Eragon® LQ <sup>4</sup>	Apply when stems are green to brown, pods are mature (yellow, brown) and 80-90% of leaves have dropped.	59 ml/ac + 400 ml/ac of Merge® adjuvant	Spray in the middle of a sunny day with a higher water volume. Avoid spraying on overcast days or at dawn and dusk.	Check with your grain buyer.
Ignite® <sup>5</sup>	Apply when approximately 50-75% of the bean pods have naturally changed colour from green to yellow or brown.	1.2 L/ac	Use when lamb's quarters are the predominant weed.	

## TECH TIP

Eragon LQ or Ignite?	Activity on grasses?	Surfactant required?	Use on seed dry bean?	Use on soybean?	Spray on sunny days?	Pre-harvest interval?
Eragon LQ	No	Yes	Yes	Yes	Yes	2 days
Ignite	Yes	No	No	No	Yes	9 days

<sup>1</sup> Dry common bean varieties may vary in tolerance to herbicides. Since not all dry common bean varieties have been tested for tolerance to the listed herbicides, first use of any of the listed herbicides should be limited to a small area of each variety to confirm tolerance prior to adoption as a general field practice. Additionally, consult your seed supplier for information on the tolerance of specific varieties of dry common beans to the listed herbicides. <sup>2</sup> Make sure all components of the tank mix can be applied to your specific dry bean variety. <sup>3</sup> Check with your grain buyer before applying. <sup>4</sup> When tank mixing with glyphosate, consult the glyphosate label or talk to your grain buyer for information regarding use on specific varieties of dry beans. <sup>5</sup> Do not apply to dry beans grown for seed.

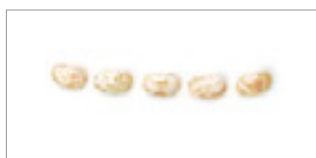


# Is your dry bean field ready for Eragon LQ herbicide?

## Application timing for Eragon® LQ herbicide.<sup>1</sup>

From a field perspective, the timing for individual dry bean varieties looks similar. Please look to the field images here for a general comparison of optimal and too early timing.

**NOTE: Always check with your buyer or processor prior to applying a harvest aid in dry beans to avoid limiting market access.**



### Too early for application

No pods have turned brown and green pods are found all through the canopy. Application at this stage may cause a reduction in seed size and have a negative effect on yield and quality.



### Optimal timing

Approximately 90% of the pods will have a colour change from green to yellow and/or light brown. 80% to 90% of the leaves will have dropped. The stems are green to brown in colour.

#### TECH TIP

*Optimize your coverage.*

- 1. Use a minimum of 20 gal/ac of water.*
- 2. Avoid spraying when dew is present, on an overcast day or before a cold front; apply during midday for a faster burndown.*
- 3. It's better to apply too late than too early; a later application can reach growing points previously covered by leaves to mitigate regrowth.*

<sup>1</sup> When tank mixed with glyphosate, consult the glyphosate label or talk to your grain buyer for information regarding use on specific varieties of dry beans.

Learn more about herbicide timing for different varieties of dry beans in the staging guide at [agsolutions.ca/eragonlq-guide](https://agsolutions.ca/eragonlq-guide).

# Select your residual herbicide with confidence.

Applying the best broadleaf herbicide is essential for control of broadleaf weeds. But what about grassy weeds? Ensure that you're covered for both weed types with a grass herbicide tank-mix partner.

**Select a residual grass herbicide that suits your operation, for maximum performance.**

	Frontier® Max	Prowl® H2O	Zidua® SC
Group	15	3	15
Crops	Herbicide-tolerant soybeans	Herbicide-tolerant soybeans	Herbicide-tolerant soybeans
	Conventional/IP soybeans	Conventional/IP soybeans	Conventional/IP soybeans (confirm with processor prior to application)
	Corn	Corn	Corn
	Dry beans	Dry beans	—
	—	Horticulture (see label for full crops)	—
Use if you have	Nutsedge	Crabgrass	Waterhemp
	Nightshade	—	Pigweed
Moisture requirement	½"	½ - ¾"	½ - ¾"
Ideal soil type	Medium to fine	Coarse	Coarse, medium and fine. Do not apply on peat or muck soils with more than 7% organic matter.

Information presented is for quick reference only. Always refer to product label.

Waterhemp  
Source: BASF



# Identifying corn stages.

## 1. Leaf-over method

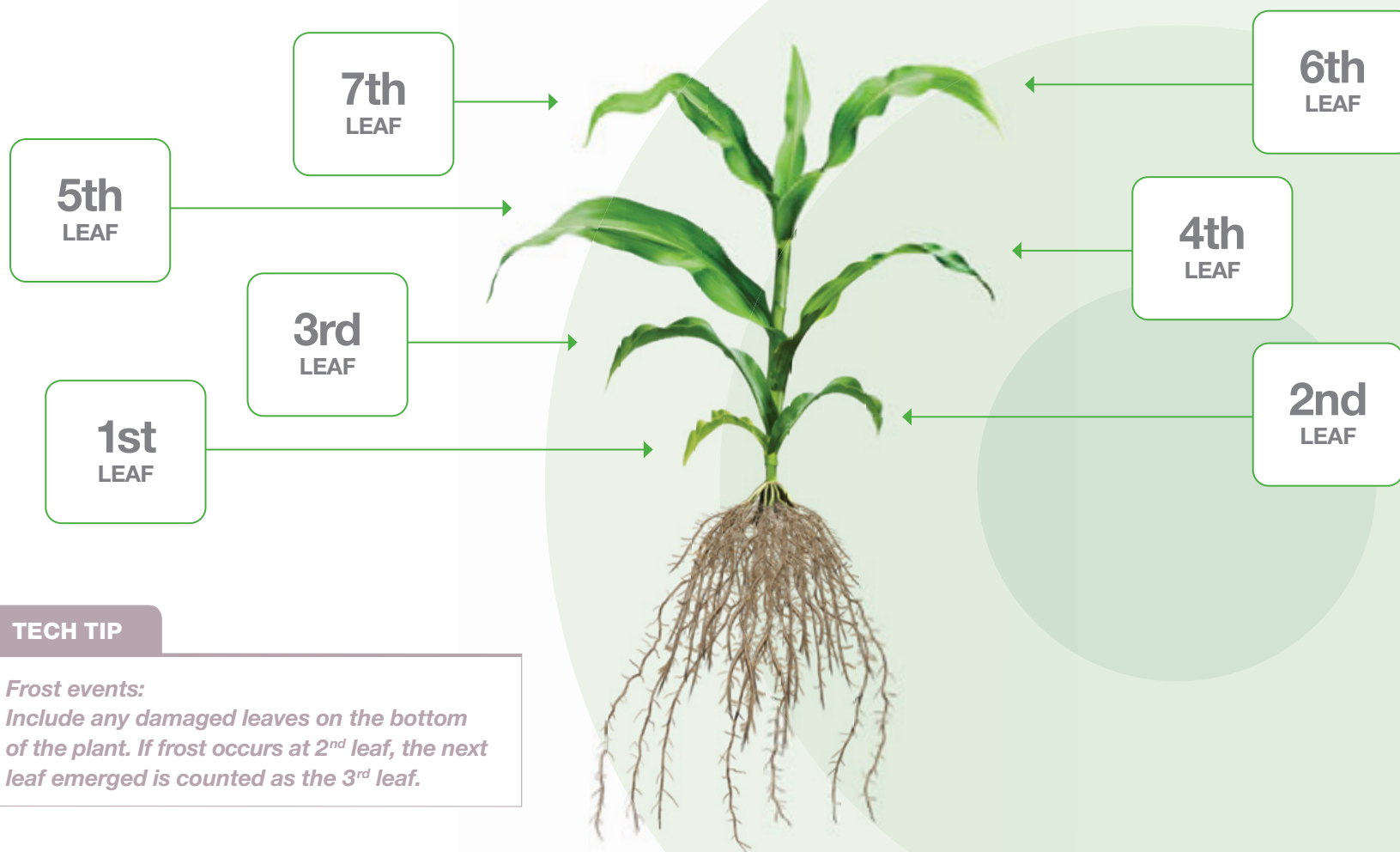
Count the number of leaves that hang over or become horizontal. Most herbicide labels in Canada use the leaf-over method to articulate staging. There are seven leaves hanging over in the image below, so it would be the 7-leaf stage.

## 2. Leaf-collar method

Count all visible leaf collars on the plant. The leaf-collar method is used primarily in the United States to identify the vegetative (V) stage of corn. There are six leaf collars in the image below, so it would be at the V6 stage.

## 3. Leaf-tip method

Count the number of leaf tips. In the plant below, there are eight leaf tips.





# Identifying soybean stages.

## R1: Beginning bloom.

The 1<sup>st</sup> open flower appears on any main stem node.

## R2: Full bloom.

An open flower appears on one of the top two stem nodes.

## R3: Beginning pod.

A 3/16-inch pod appears on one of the four upper main stem nodes.

## R4: Full pod.

A 3/4-inch pod appears on one of the four upper main stem nodes.





# Spray your best with Liberty 200 SN herbicide.



Maintaining sufficient water volumes is critical with a contact herbicide. Spray Liberty® 200 SN herbicide with a minimum 20 gallons per acre for good contact and optimal coverage.



Add ammonium sulfate (AMS) for enhanced activity on tough weeds.



For control of difficult grassy weeds such as wild oats, foxtail barley, volunteer barley and others, include Select® herbicide in your Liberty 200 SN tank mix.



Liberty 200 SN performs best when applied on relatively warm (10°C or more) and sunny days. Cloudy skies, windy conditions or days that are either excessively wet or dry can hinder product performance.



For optimal coverage, nozzle selection and droplet size are critical. Aim for medium to coarse droplets of 350 microns.



In canola, if considering a second pass of Liberty 200 SN, apply it in the reverse direction. Using the same tracks, go back through your crop to target any foliage that could have been sheltered during the first pass. In Liberty-tolerant soybeans, a post application of Liberty 200 SN should be part of a planned two-pass program, following a strong residual program.



Keep it slow. While the temptation is there to get everything covered as quickly as possible, spraying too quickly can drastically reduce control. Keep your sprayer speeds under 24 km/hr (15 mph) to avoid drift and keep control.

# Liberty & Trait Agreement.

The Liberty & Trait Agreement (LTA) is a contract between BASF and a grower customer which grants the grower with a limited license to possess and use certain innovative traits and technologies which include LibertyLink® certified canola seed, LibertyLink certified soybean seed and Liberty® 200 SN herbicide.

## Some LTA basics.

- All growers must sign the LTA prior to their first purchase of InVigor® hybrid canola and/or Liberty 200 SN herbicide
- The LTA remains valid from the date of sign-up until the grower or BASF terminates the LTA
- Growers signing the LTA agree to use these products strictly in accordance with certain terms and conditions; by way of example:
  - Seed can only be used by the grower to plant a commercial crop in Canada. The resulting harvested crop can only be sold into the commercial grain system;
  - Growers are not permitted to plant or grow a crop from the harvested grain, nor use the crop, grain or these products for breeding or research;
  - Liberty 200 SN herbicide can only be used on permitted or authorized crops
- Growers signing the LTA consent to the use of transactional information to assist in the administration and enforcement of the LTA. This includes procedures for monitoring and safeguarding the intellectual property of BASF, such as audit rights

## Access to innovation.

The LTA is more than just a contract. Ultimately, it is how growers help support our breeding research and development, which amplifies our ability to bring new hybrids to market with innovative trait technologies and yield enhancements.

## How to obtain an LTA.

1. Contact your authorized LibertyLink seed and/or Liberty 200 SN herbicide retailer;
2. Call **AgSolutions®** Customer Care at 1-877-371-2273 for further details.





# Spray system hygiene.

## Comprehensive cleaning is crucial.

Non-dicamba-tolerant soybeans are extremely sensitive to dicamba. Even with as **little as 3 ml of formulated product OR 355 ml of leftover spray solution** in a 1000-gallon spray tank sprayed at 10 gallons per acre.

**BEFORE** and **AFTER** using a herbicide, thoroughly clean the sprayer and spray system (including fill lines, nurse trucks, pumps, etc.) by performing a triple rinse procedure using a detergent-based commercial tank cleaner.

## Common contamination points.

Pesticide residue left in or on any container or equipment used to store, transfer or apply products can be a source of contamination. Everything that a herbicide has touched during the process of handling and mixing must be cleaned. While every mixing and loading setup is different, there are some common contamination points that need to be cleaned with a triple rinse prior to and after using a herbicide.

Prior to the sprayer*	On the sprayer**
Mini bulk lines	Tank
Transfer pumps	Hoses/fill line
Mixing vats	Inductor
Transfer hoses	Screens
Manifolds	Line filters
Overhead fill lines	Recirculation lines
Nurse truck tanks	End caps/dead zones
Agitation pumps	Pump
In-line filters/screens	Outside surfaces of the sprayer

\* Be sure to take extra care when re-filling water supply tanks. Using hoses that have not been rinsed to re-fill clean water tanks can hold enough dicamba to contaminate water supply tanks.

\*\* Be sure to actuate all valves and solenoids during each rinse to ensure all of the plumbing is rinsed thoroughly. Don't forget the inductor as a point of contamination if used to mix the load.

## Group 4-herbicide injury on non-herbicide-tolerant soybeans

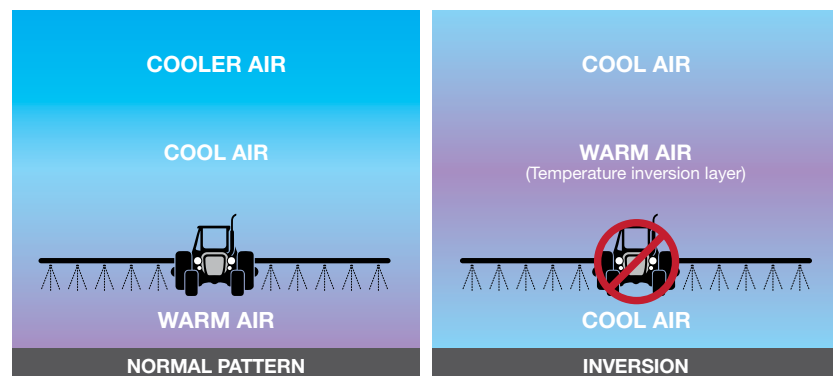


## Basic procedure for spray system cleanout.

1. Drain tank of all remaining spray solution.
2. Begin first rinse using water.
  - Rinse all parts of spray system plumbing thoroughly
  - Ensure all surfaces are visually clean
  - Clean all screens, pumps, hoses, end caps, recirculation lines, etc.
  - Actuate all solenoids and valves to ensure clean water flows through all lines
  - Drain all rinsate<sup>1</sup>
3. Begin second rinse using water and **a detergent-based commercial tank cleaner**.
  - Fill all lines, screens, strainers, plumbing, etc. with detergent and water solution
  - Allow cleaning agent to sit in all plumbing for at least 15 minutes or as advised by the label of the cleaner
  - Flush the solution through the entire system and drain excess rinsate<sup>1</sup>
4. Begin third rinse process using water.
  - Rinse tank walls and fill all plumbing
  - Allow water to flow through the entire system thoroughly prior to draining rinsate<sup>1</sup>
5. Record spray cleanout procedure and date.

<sup>1</sup> Dispose of rinsate according to label requirements.

# Recognizing temperature inversions.



## How temperature inversions form.

During daytime hours, solar radiation warms the earth's surface and, during days with little cloud cover, convection creates winds and gusts that transport air vertically. As sunset nears, the earth's surface is no longer heated by the sun. As a result, heat from the warmer air is transferred back to the soil, creating a layer of cooler, denser air near the soil surface. This process creates a temperature inversion, where the cool air at ground level has warmer air above it through the very lowest levels of the atmosphere.

Spraying pesticides during an inversion can result in the off-target movement of small droplets as physical drift which never reach their intended target. This is not to be confused with volatility, which is when a liquid droplet converts to a gas after it has reached its intended target.

## Impact of temperature inversions on pesticide applications.

Temperature inversions can negatively impact pesticide applications by trapping small droplets in the cool air of the inversion layer. These small droplets can then travel long distances, either downslope to low-lying areas or in an unpredictable manner with the light and variable winds. To avoid off-target movement of pesticides due to inversions, be mindful of inversions during the following spray timings.

**Mornings:** One of the worst times to spray is when overnight skies were clear and wind speeds are low. Inversions can persist for one to two hours after sunrise on a calm day.

**Late afternoon/early evening:** The lowest five feet closest to the ground can sometimes begin to form an inversion three to four hours before sunset. Evening inversions are riskier for off-target movement because they are very persistent and will intensify until after sunrise.

**Nighttime:** Inversions may have already been established and continue to intensify until after dawn.

## Conditions most likely to favour an inversion:

- Clear skies during late afternoon and during the night
- Dry soil surface
- Windspeeds < 4 mph (6 km/hr) that result in no air mixing
- Low areas, valleys or basins where cool air will sink and collect. Inversions will form in these areas sooner, persist longer and be more intense

## How to identify if an inversion exists:

- Morning dew
- Morning fog (indicates that an inversion existed prior to fog formation)
- Smoke or dust hanging in the air or moving laterally
- Overnight cloud cover is 25% or less
- Inversions can begin forming three to four hours before sunset and can persist until one to two hours after sunrise
- Measure air temperature 6 to 12 inches above the soil and 8 to 10 feet above the soil. An inversion exists if measured air temperature at 8 to 10 feet above the soil is higher than the measured air temperature at 6 to 12 inches above the soil. Be sure the instrument is shaded and not influenced by solar heating

Content adapted from: Enz, J.W., Hofman, V., and Thostenson, A., Air Temperature Inversions: Causes, Characteristics, and Potential Effects on Pesticide Spray Drift, NDSU Extension Service, Publication AE1705, 2014, <http://www.omafr.gov.on.ca/english/crops/hort/news/hortmatt/2014/13hrt14a2.htm>.

Visit [agsolutions.ca/applicationstewardship](https://agsolutions.ca/applicationstewardship) to learn more.  
Access the Engenia Spray Tool at [engenaspraytool.ca](https://engenaspraytool.ca).

# Growing weed challenges. Here's how to stay ahead.

Glyphosate-resistant (GR) Canada fleabane (resistant to Group 2 and 9) and GR waterhemp (resistant to Group 2, 5, 9 and post-applied Group 14) are both found in Ontario and Quebec.<sup>1,2</sup> GR Canada fleabane can grow on various soils<sup>3</sup> and both weeds can emerge throughout the growing season, particularly during the spring and fall.<sup>4</sup> Canada fleabane can produce up to one million seeds per plant<sup>5</sup> which can travel up to 500 km through the air affecting fields each season.<sup>6</sup> Waterhemp is difficult to control once it passes four inches in height, requiring constant scouting. This weed can reach up to 12 feet in height while producing an average of almost 300,000 seeds per female plant.<sup>7,8</sup>

## How to identify Canada fleabane.

1. Young leaves are hairy, round and oval with 2-3 notches in the margins and a round apex that later tapers.<sup>9</sup> The leaves are dull green, turning pale green at flowering.<sup>10</sup> The stem is erect and branched in the upper part.<sup>9</sup> The fall-emerged plants will grow in a rosette.
2. Canada fleabane reproduces by seeds and, at the reproductive stage, has fuzzy, white-green flowers with a yellow centre. There are multiple flowers on each stem.<sup>9</sup>



Source: BASF



Source: BASF

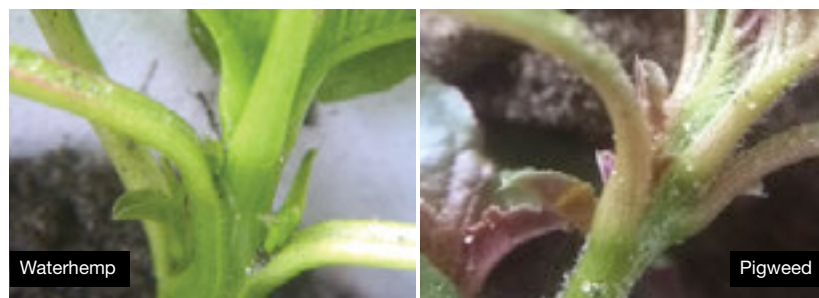
## How to control Canada fleabane.

	Glyphosate-tolerant corn	Glyphosate-tolerant soybeans	Dicamba-tolerant soybeans	Liberty®-tolerant soybeans	Enlist E3™ soybeans	Conventional/ IP soybeans
Pre-plant/ Pre-emergence	Integrity® herbicide + glyphosate	Eragon® LQ herbicide or Integrity or Optill® herbicide + metribuzin + glyphosate	Engenia® herbicide + Eragon LQ or Integrity or Optill	Eragon LQ or Integrity or Optill + metribuzin + glyphosate	Eragon LQ or Integrity or Optill + metribuzin + glyphosate	Eragon LQ or Integrity + Conquest® LQ herbicide
Post-emergence	Marksman® herbicide + glyphosate	–	Engenia (early post-emergence if necessary)	Liberty 200 SN	Liberty 200 SN	–
Pre-harvest (if required)	–	Eragon LQ	Eragon LQ	Eragon LQ	Eragon LQ	Eragon LQ
Post-harvest	Distinct® herbicide	Distinct	Distinct	Distinct	Distinct	Distinct



## How to identify waterhemp.

1. Often confused for pigweed, waterhemp has smooth, hairless stems (left) while pigweed has thick hairs (redroot) or thin hairs (smooth or green) on the stem (right).



Source: BASF, ON, 2017

2. The first true leaves of waterhemp are long, narrow and glossy (left). The other *Amaranthus* weeds (except Palmer amaranth) have hairy, egg-shaped leaves (right).



Source: BASF, ON, 2017

## How to control waterhemp.

	Glyphosate-tolerant corn	Glyphosate-tolerant soybeans	Dicamba-tolerant soybeans	Liberty-tolerant soybeans	Enlist E3™ soybeans	Conventional/IP soybeans
Pre-plant/ Pre-emergence	Integrity or Zidua® SC herbicide + Marksman <sup>11</sup>	Zidua SC + Eragon LQ or Integrity or Optill	Zidua SC + Engenia + Eragon LQ or Integrity or Optill	Zidua SC	Zidua SC	Zidua SC (Check with your grain buyer.) <sup>12</sup>
Post-emergence	Marksman <sup>11</sup> + Armezon® Pro herbicide or Zidua SC	Zidua SC	Engenia (up to 2nd trifoliolate)	Liberty 200 SN or Zidua SC	Liberty 200 SN or Zidua SC	Zidua SC (Check with your grain buyer.) <sup>12</sup>
Pre-harvest	-	Eragon LQ	Eragon LQ	Eragon LQ	Eragon LQ	Eragon LQ
Post-harvest	-	Distinct	Distinct	Distinct	Distinct	Distinct

### TECH TIP

#### Key management tips for both Canada fleabane and waterhemp:

- Use at least two effective modes of action for consistent control
- Apply when they are small and actively growing
- Use higher water volumes to ensure adequate coverage
- Spray during the middle of the day
- Control in each crop, each year (including fall applications)

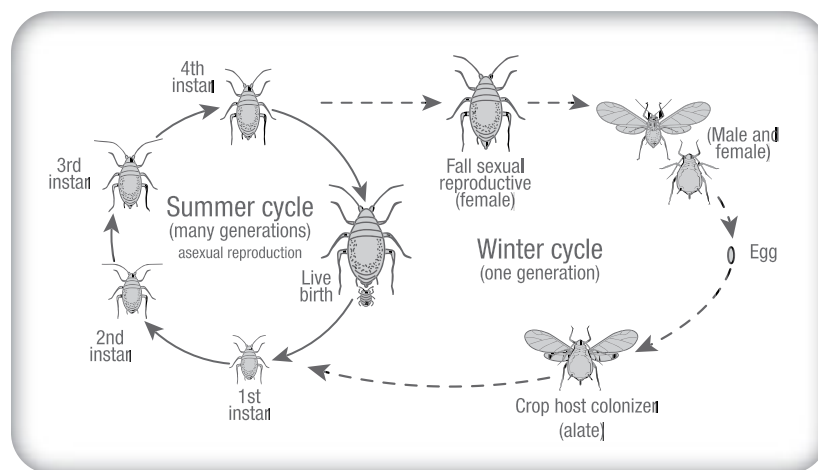
<sup>1</sup> Byker et al., 2013. <sup>2</sup> Schryver, 2017. <sup>3</sup> Weaver, 2001. <sup>4</sup> Main et al., 2004 / Van Acker, 2014. <sup>5</sup> Tozzi and Van Acker, 2014. <sup>6</sup> Shields et al., 2006. <sup>7</sup> Biology and the management of waterhemp, 2017. <sup>8</sup> Sellers et al., 2017. <sup>9</sup> A Field Guide to Broadleaf Weeds. <sup>10</sup> Identification Guide to the Weeds of Quebec. <sup>11</sup> Can only be applied once per season. <sup>12</sup> BASF is in the process of establishing import tolerances (maximum residue limits (MRLs)) for markets around the world. Talk to your grain buyer before applying to conventional or IP soybeans.

# Know your enemies, including aphids.

## Proper scouting techniques.

Developing effective integrated pest management strategies involves knowing what you're up against. Posing more threat to soybean growers than any other pest, aphids have a very complex life cycle with several generations per year.

- Soybean aphids lay eggs on common buckthorn – a woody shrub or small tree – which overwinter and hatch in the spring
- Wingless females emerge and produce more females without mating
- Third generation develops wings and flies to colonize on soybeans
- More wingless generations are produced until it becomes overcrowded, and winged adults are produced to disperse to other plants or fields
- Towards the fall, winged males and females are produced, which fly to buckthorn to mate and begin the life cycle again



Sefina® insecticide is now registered for Group 17 and 18 crops, including alfalfa. To learn more, visit [agsolutions.ca](http://agsolutions.ca).

## Aphids get around.

Aphids can migrate from nearby fields or from great distances – even the USA – via storm fronts. Fields seeded early are prone to infestations as aphids move from buckthorn to soybeans in the spring. Late-planted fields are prone to the summer migration of adults from other soybean fields. And any field under drought stress or potassium deficiency can be more prone to injury. Aphid populations can grow to extremely high levels under favourable conditions.

## Check your fields for enemies. And allies.

### Natural enemies.

While scouting your soybeans for aphids, it's also a good idea to look out for natural enemies. They're beneficial because they help limit aphid populations from rapidly expanding. Some examples include ladybugs, lacewings and larva of hoverflies.

### Economic thresholds.

When deciding on whether or not to use an insecticide, it's important to follow economic thresholds of 250 aphids/plant and increasing populations on 80% of plants. Damage is typically only of economic concern from R1 to R5.



Soybean aphid



Ladybug

# Got aphids? You also have choices.

## Seed treatments.

Some seed treatments contain an insecticide component that's registered for soybean aphids. However, their level of control may not be as long-lasting, providing only early-season protection from aphids.

## Foliar insecticides.

It's preferable to use an insecticide that targets a pest specifically versus a broad-spectrum product. Targeted insecticides used in an integrated pest management strategy are the best way to reduce aphids and the chances of population rebound.

## Consider insect scouting timing your best defense.

It's essential to evaluate insect pests in order to effectively manage them. To do that, growers should consider recent weather and scout their fields.

Scouting is one of the most important management strategies for insect control because it allows for proper identification, evaluation of prevalence and severity and determination of thresholds for each pest. The proper time to scout is dependent on the insect of concern as shown in the calendar below. Once growers reach spray thresholds, there are numerous strategies to manage populations and ensure a healthy crop. Growers can rely on biological control, cultural practices and chemical options. In order to optimize these management strategies, growers should monitor spray threshold levels with sweep nets, sticky traps or simply walk the fields.

If growers find an insect pest they cannot identify, or a pest they believe is new in their region, they should submit it to their Provincial Entomologist or a lab.

## Get familiar with the Canadian insect scouting calendar.

INSECTS					
MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER
	ALFALFA CATERPILLAR				
	BEAN LEAF BEETLE				
	CUTWORMS				
	SEEDCORN MAGGOT				
	SLUGS			SLUGS	
	THISTLE CATERPILLAR				
	WIREWORMS				
	POTATO LEAFHOPPER				
	GRASSHOPPERS				
	JAPANESE BEETLE				
	LYGUS BUGS				
	SOYBEAN APHIDS				
	TWO-SPOTTED SPIDER MITES				
	GREEN CLOVERWORM				

Adapted from Manitoba Pulse & Soybean Growers.



# Need product details? We've got them right here.

Key information to keep you moving.

ST = Seed Treatment    H = Herbicide    F = Fungicide    I = Insecticide

Information presented is for quick reference only. Always refer to product label.

Product	Armezon®	Armezon PRO	Basagran® Forté	Caramba®	Cevya®	Cimegra®	Clean Sweep®
Active Ingredient(s)	Topramezone	Dimethenamid-P, Topramezone	Bentazon	Metconazole	Mefentrifluconazole	Broflanilide	Imazethapyr, Bentazon
Concentration	336 g/L	630 g/L, 12.5 g/L	480 g/L	90 g/L	400 g/L	100 g/L	240 g/L, 480 g/L
Type	H	H	H	F	F	I	H
Group	27	15, 27	6	3	3	30	2, 6
Formulation	Liquid suspension	Emulsifiable concentrate	Liquid	Liquid	Suspension concentrate	Suspension concentrate	Solution, Liquid
Ground Water Volume L/ac, gal/ac <sup>a</sup>	40-80, 10-20	40, 10	Minimum 40, 10	Minimum 80, 20	Minimum 40, 10	Minimum 20, 5	80-120, 20-30
Aerial Application	No	No	No	Yes	Yes	No	No
Rainfast (Hours)	Dependent on the glyphosate used	Dependent on the glyphosate used	6-8	1	Avoid application when heavy rain is forecast	Avoid application when heavy rain is forecast	6-8
REI (Hours)	12	24	12	12 <sup>b</sup>	12	N/A	12
Pre-Harvest Interval (Days)	45 for corn harvest (silage, fodder or grain)	80 for corn; 45 for grazing or feeding treated corn forage, silage, fodder or grain to livestock	Do not graze treated alfalfa or cut for hay within 20 days of application. See label for other crops.	30 for barley, oats, rye, wheat, and soybeans; 20 for field corn and popcorn; 18 for hand harvesting sweet corn; 7 for mechanical harvesting sweet corn	7 for potatoes	N/A	100 for soybeans
Storage	Protect from freezing.	Store in a cool, dry area.	Protect from freezing.	Protect from freezing.	Store above 5°C.	Protect from freezing.	Protect from freezing.
Bulk Density (g/cm <sup>3</sup> )	1.12	1.12	1.19	1.05	1.15	1.06	N/A

<sup>a</sup> Use higher water volumes to ensure adequate coverage. <sup>b</sup> Except for hand harvesting corn (18 days) and hand-set irrigation in corn (3 days).

ST = Seed Treatment    H = Herbicide    F = Fungicide    I = Insecticide

Information presented is for quick reference only. Always refer to product label.

Product	Conquest® LQ	Cotegra®	Distinct®	Engenia®	Eragon® LQ pre-plant	Eragon LQ pre-harvest	Forum®
Active Ingredient(s)	Imazethapyr, Metribuzin	Prothioconazole, Boscalid	Diflufenzopyr, Dicamba	Dicamba	Saflufenacil	Saflufenacil	Dimethomorph
Concentration	240 g/L, 480 g/L	150 g/L , 250 g/L	20% a.e., 50% a.e.	600 g/L	342 g/L	342 g/L	500 g/L
Type	H	F	H	H	H	H	F
Group	2, 5	3, 7	4, 19	4	14	14	40
Formulation	Solution, Suspension concentrate	Suspension concentrate	Wettable granule	Solution	Water-based suspension concentrate	Water-based suspension concentrate	Suspension concentrate
Ground Water Volume L/ac, gal/ac <sup>a</sup>	40-80, 10-20	Minimum 80, 20	40-80, 10-20	Minimum 40, 10	40-80, 10-20	Minimum 80, 20	20-40, 5-10 for concentrate, 90-650, 24-172 for dilute
Aerial Application	No	Yes	No	No	No	No	Yes
Rainfast (Hours)	Avoid application if heavy rain is forecast	3	4	4	Dependent on the glyphosate used	Dependent on the glyphosate used	2
REI (Hours)	12	24	12	12	12	12	12
Pre-Harvest Interval (Days)	100 for soybeans and dry beans. See label for other crops.	21 for dry beans and soybeans; 36 for canola	See label.	Roundup Ready 2 Xtend® soybeans: 7-10 for soybean forage, 13-15 for soybean hay; 30 for corn; 7 for grazing of lactating dairy animals; 30 to harvest forage or cut hay or spring barley, wheat, rye, winter wheat and oats	60 for barley, corn (field, sweet), soybeans, oats and wheat (spring, winter, durum)	2 for dry beans; 3 for soybeans. Do not graze or feed treated dry bean or soybean hay or straw to livestock. 3 for canola, wheat, barley and triticale. For wheat, barley, and triticale, straw can be used as feed or grazed 3 days or more after a pre-harvest weed management application.	4 for potatoes
Storage	Protect from freezing.	Protect from freezing.	Store in a cool, dry area.	Keep dry.	Protect from freezing.	Protect from freezing.	Protect from freezing.
Bulk Density (g/cm <sup>3</sup> )	N/A	1.15	0.61	1.24	1.15	1.15	1.15

<sup>a</sup>Use higher water volumes to ensure adequate coverage.

ST = Seed Treatment    H = Herbicide    F = Fungicide    I = Insecticide

Information presented is for quick reference only. Always refer to product label.

Product	Frontier® Max	Headline®	Headline AMP	ILEVO®	Ignite®	Integrity®	Liberty® 200 SN
Active Ingredient(s)	Dimethenamid-P	Pyraclostrobin	Metconazole, Pyraclostrobin	Fluopyram	Glufosinate ammonium	Saflufenacil, Dimethenamid-P	Glufosinate ammonium
Concentration	720 g/L	250 g/L	55 g/L, 146 g/L	600 g/L	150 g/L	68 g/L, 600 g/L	200 g/L
Type	H	F	F	ST	H	H	H
Group	15	11	3, 11	7	10	14, 15	10
Formulation	Emulsifiable concentrate	Emulsifiable concentrate	Liquid	Suspension	Solution	Emulsifiable concentrate	Solution
Ground Water Volume L/ac, gal/ac <sup>a</sup>	40-80, 10-20	Minimum 40, 10 (For potatoes: minimum 80, 20)	40-80, 10-20	Uniform distribution on the seed	Minimum 45, 12	40-80, 10-20	Minimum 80, 20
Aerial Application	No	Yes	Yes	No	No	No	No
Rainfast (Hours)	Avoid application if heavy rain is forecast.	Avoid application when heavy rain is forecast.	1	N/A	4	1	4
REI (Hours)	24	12	12 <sup>c</sup>	N/A	12	12	24
Pre-Harvest Interval (Days)	40 for potatoes. See label for other crops.	3 for potatoes. See label for other crops.	Wheat, barley, oats, rye and triticale; do not apply later than end of flowering. 20 for field corn, popcorn and seed corn; 13 for hand harvesting sweet corn, 7 for mechanical harvesting sweet corn	N/A	9 for dry beans	100 for field corn; 60 for sweet corn and soybeans	86 for corn; 70 for soybeans; 60 for canola. 20 for grazing treated corn or soybean fields.
Storage	Store in a cool, dry area.	Protect from freezing.	Protect from freezing.	Store in a cool, dry area.	Protect from freezing.	Store in an unheated, dry area.	Protect from freezing.
Bulk Density (g/cm <sup>3</sup> )	1.13	1.06	1.06	1.24	1.11	1.09	1.10

<sup>a</sup> Use higher water volumes to ensure adequate coverage. <sup>c</sup> Except for hand harvesting or hand detasseling corn (13 days) and hand-set irrigation in corn (1 day).



ST = Seed Treatment

H = Herbicide

F = Fungicide

I = Insecticide

Information presented is for quick reference only. Always refer to product label.

Product	Marksman®	Optill®	Poast® Ultra	Priaxor®	Prowl® H2O	Pursuit®	Sefina®
Active Ingredient(s)	Dicamba, Atrazine	Imazethapyr, Saflufenacil	Sethoxydim	Fluxapyroxad, Pyraclostrobin	Pendimethalin	Imazethapyr	Afidopyropen
Concentration	132 g/L, 261 g/L	50.2%, 17.8%	450 g/L	167 g/L, 333 g/L	455 g/L	240 g/L	50 g/L
Type	H	H	H	F	H	H	I
Group	4, 5	2, 14	1	7, 11	3	2	9D
Formulation	Suspension	Water dispersible granule	Emulsifiable concentrate	Liquid suspension	Microcapsule suspension	Solution	Emulsifiable concentrate
Ground Water Volume L/ac, gal/ac <sup>a</sup>	40-80, 10-20	40-80, 10-20	20-80, 5-20	40-80, 10-20	40-80, 10-20	40-160, 10-40	Minimum 40-80, 10-20
Aerial Application	No	No	Yes	Yes	No	No	Yes
Rainfast (Hours)	Avoid application if heavy rain is forecast.	3	1	1	N/A	Avoid application if heavy rain is forecast.	Avoid application if heavy rain is forecast.
REI (Hours)	12	12	12	12	24 <sup>d</sup>	12	12
Pre-Harvest Interval (Days)	60 for corn. Do not graze or cut for fodder before crop maturity (ear emergence).	100	70 for alfalfa and canola; 80 for dry beans, soybeans and potatoes	21 for canola, corn and soybeans; 7 for sweet corn; 14 for alfalfa. See label for other crops.	100 for soybeans. See label for other crops.	100 for soybeans, dry beans, and imazethapyr- tolerant corn. Do not graze treated crops or cut for hay.	0 for crop Group 17 & 18 (alfalfa), 7 for potatoes and soybeans
Storage	Store in a cool, dry area.	Store in a cool, dry area.	Store in a cool, dry area.	Protect from freezing.	Protect from freezing.	Protect from freezing.	Store in a cool, dry area.
Bulk Density (g/cm <sup>3</sup> )	1.17	0.51	1.00	1.16	1.18	1.11	1.03

<sup>a</sup> Use higher water volumes to ensure adequate coverage. <sup>d</sup> Except for application to soybeans, fruit trees and direct-seeded green onions in muck. For direct-seeded green onions in muck soils and transplanted leeks in muck soils, do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 5 days for scouting, 7 days for hand-set irrigation and 16 days for hand weeding.

ST = Seed Treatment

H = Herbicide

F = Fungicide

I = Insecticide

Information presented is for quick reference only. Always refer to product label.

Product	Select®	Sercadis®	Stamina®	Titan®	Zampro®	Zidua® SC
Active Ingredient(s)	Clethodim	Fluxapyroxad	Pyraclostrobin	Clothianidin	Ametoctradin, Dimethomorph	Pyroxasulfone
Concentration	240 g/L	300 g/L	200 g/L	600 g/L	300 g/L, 225 g/L	500 g/L
Type	H	F	ST	I	F	H
Group	1	7	11	4	45, 40	15
Formulation	Emulsifiable concentrate	Suspension	Water-based suspension	Suspension	Suspension	Suspension concentrate
Ground Water Volume L/ac, gal/ac <sup>a</sup>	Minimum 60, 15	Minimum 40, 10	Uniform distribution on the seed	See label.	Minimum 80, 20	Minimum 40, 10
Aerial Application	Yes	Yes	No	No	Yes	No
Rainfast (Hours)	1	1	N/A	N/A	2	Avoid application if heavy rain is forecast
REI (Hours)	12	12	N/A	12	12	12
Pre-Harvest Interval (Days)	60 for canola; see label for other crops.	7 for potatoes	N/A	N/A	4 for potatoes	Not specified. Follow the application timing for the crop on the label. Harvest can occur at crop maturity.
Storage	Store in a cool, dry area.	Protect from freezing.	Protect from freezing.	Protect from freezing.	Protect from freezing.	Protect from freezing.
Bulk Density (g/cm <sup>3</sup> )	0.96	N/A	1.09	1.25	1.11	1.21

<sup>a</sup> Use higher water volumes to ensure adequate coverage.

# Get the mode of action that's right for your operation.

Knowing all of your mode-of-action options allows you to use multiple modes of effective action for resistance management in your operation.

## Herbicides

Group	Mode of Action	BASF Products
1	Acetyl CoA Carboxylase (ACCase) Inhibitors	Poast® Ultra and Select®
2	ALS (Acetolactate Synthase) Inhibitors	Pursuit®, component in Clean Sweep®, Conquest® LQ and Optill®
3	Mitosis (Microtubule Assembly) Inhibitors	Prowl® H2O
4	Synthetic Auxins	Engenia®, component in Distinct® and Marksman®
5	Photosystem II Inhibitors (different binding site than 6 & 7)	Component in Conquest LQ and Marksman
6	Photosystem II Inhibitors (different binding site than 5 & 7)	Basagran® Forté, component in Clean Sweep
9	EPSP (5-enolpyruvylshikimate-3-phosphate) Synthase Inhibitor	Glyphosate <sup>1</sup>
10	Glutamine Synthetase Inhibitors	Liberty® 200 SN and Ignite®
14	Protoporphyrinogen Oxidase (PPO) Inhibitors	Eragon® LQ, component in Integrity® and Optill
15	Mitosis (Very Long Chain Fatty Acids Synthesis) Inhibitors	Frontier® Max, Zidua® SC, component in Armezon® PRO and Integrity
19	Inhibition of auxin transport	Component in Distinct
27	Carotenoid Biosynthesis (p-hydroxyphenyl pyruvate dioxygenase [HPPD]) Inhibitors	Armezon, component in Armezon PRO

## Fungicides

Group	Mode of Action	BASF Products
3	Sterol Biosynthesis (Demethylation) Inhibitors	Caramba®, Cevya®, component in Cotegra® and Headline® AMP
7	Respiration (Complex II: Succinate-dehydrogenase) Inhibitors	Sercadis, component in Cotegra and Priaxor
11	Respiration (Complex III: Quinone Outside) Inhibitors	Stamina®, Headline, component in Headline AMP and Priaxor
40	Cell Wall Biosynthesis (Cellulose Synthase)	Forum and component in Zampro®
45	Respiration (Complex III: Quinone outside, stagmatellin binding type) Inhibitors	Component of Zampro

## Insecticides

Group	Mode of Action	BASF Products
4	Nicotinic Acetylcholine Receptor Competitive Modulator	Titan®
9D	Chordotonal Organ TRPV Channel Modulator	Sefina®
30	GABA-Gated Chloride Channel Allosteric Modulator	Cimegra®

<sup>1</sup> Not a product of BASF.



# Quick reference guide for crop rotation.

Scan over your crop rotation options all in one place, so that you can be confident when planting next season.

Information presented is for quick reference only. Always refer to product label.

Herbicide	Armezon®	Armezon Pro	Basagran® Forté <sup>2</sup>	Clean Sweep®	Conquest® LQ	Distinct®	Engenia® <sup>10</sup>	Eragon® LQ (Fall Application) <sup>14</sup>	Eragon LQ (Spring Application)	Frontier® Max
Alfalfa	FS <sup>1</sup>	FS	0 D	B	B	30 D				
Barley	B	B	<1 M	FS <sup>4</sup>	FS <sup>4</sup>	30 D	0 D <sup>4</sup>	FS	CF <sup>15</sup> /FS	100 D <sup>17</sup>
Beans (Kidney)	B	B		CF <sup>5</sup> /FS	CF <sup>5</sup> /FS	30 D			FS	0 D
Beans (White)	FS <sup>1</sup>	FS	0 D	CF <sup>5</sup> /FS	CF <sup>5</sup> /FS	30 D			FS	0 D
Canola	FS	FS	< 1 M	CF <sup>5,6</sup> /FS <sup>6</sup>	<sup>8</sup>	30 D		FS	FS	
Corn (Field)	CF/FS	CF/FS	0 D	CF <sup>5,7</sup> /FS	CF <sup>5,7</sup> /FS	30 D	0 D	FS	CF <sup>15</sup> /FS	0 D
Corn (Seed)	B	B	0 D	B	B	30 D				0 D <sup>18</sup>
Corn (Sweet)	B	B	< 1 M	B	B	30 D		FS	CF <sup>15</sup> /FS	0 D
Oats	B	B	< 1 M	B	<sup>9</sup>	30 D	0 D	FS	CF <sup>15</sup> /FS	100 D <sup>17</sup>
Potatoes	FS <sup>1</sup>	FS	< 1 M	B	B	30 D				FS
Rye	B	B	<1 M <sup>3</sup>	B	<sup>9</sup>	30 D	0 D <sup>11</sup>			100 D <sup>17</sup>
Soybeans	FS <sup>1</sup>	FS	0 D	CF <sup>5</sup> /FS	CF <sup>5</sup> /FS	30 D	0 D <sup>12</sup>	FS	CF <sup>15,16</sup> /FS	0 D
Sugar beets	B	B	< 1 M	B	<sup>8</sup>	30 D				
Wheat (Spring)	FS	FS	< 1 M	FS	FS <sup>9</sup>	30 D	0 D <sup>13</sup>	FS	CF <sup>15</sup> /FS	100 D <sup>17</sup>
Wheat (Winter)	4 M	4 M	< 1 M	100 D <sup>5</sup> /FS	100 D <sup>5,9</sup> /FS	30 D	0 D	FS	CF <sup>15</sup> /FS	100 D <sup>17</sup>
Other Crops	B	B		B	B	30 D	120 D	<sup>14</sup>		11 M <sup>17</sup>

FS = Can be planted the following season. CF = Can be planted in case of crop failure. D = Days M = Months

B = Conduct a field bioassay (a test strip grown to maturity) to confirm crop safety prior to seeding any rotational crops.

Information presented is for quick reference only. Always refer to product label.

Herbicide	Ignite <sup>®</sup>	Integrity <sup>®</sup>	Liberty <sup>®</sup> 200 SN	Marksman <sup>®2</sup>	Optill <sup>®</sup>	Poast <sup>®</sup> Ultra	Prowl <sup>®</sup> H2O	Pursuit <sup>®</sup>	Select <sup>®</sup>	Zidua <sup>®</sup> SC (Fall Application)	Zidua SC (Spring Application)
Alfalfa	0 D			10 M	B	0 D	B	B	0 D <sup>22</sup>	B	B
Barley	70 D	100 D	70 D	10 M	FS <sup>4</sup>		B	FS <sup>4</sup>		B	11 M <sup>23</sup>
Beans (Kidney)	0 D <sup>19</sup>				FS		CF <sup>15, 21</sup> /FS <sup>21</sup>	CF <sup>5</sup> /FS	0 D	B	B
Beans (White)	0 D <sup>19</sup>			10 M	FS		CF <sup>15, 21</sup> /FS <sup>21</sup>	CF <sup>5</sup> /FS	0 D	B	B
Canola	0 D		0 D	22 M	B	0 D	B	B	0 D	B	12 M <sup>23</sup>
Corn (Field)	0 D	0 D	0 D	B	FS		CF <sup>15, 21</sup> /FS	CF <sup>5, 7</sup> /FS		FS	CF <sup>15</sup> /FS
Corn (Seed)				4 M	B		B	B		B	B
Corn (Sweet)		0 D			B		B	B		B	B
Oats	70 D	100 D	70 D	10 M	B		B	B		B	11 M <sup>23</sup>
Potatoes	0 D			22 M	B	0 D	B	B	0 D	B	B
Rye	70 D	100 D	70 D	10 M <sup>3</sup>	B		B	B		B	B
Soybeans	0 D		0 D	10 M	CF <sup>15</sup> /FS	0 D	CF <sup>15, 21</sup> /FS	CF <sup>5</sup> /FS		FS	CF <sup>15</sup> /FS
Sugar beets		22 M <sup>20</sup>		22 M	B	0 D	B	B		B	B
Wheat (Spring)	70 D	100 D	70 D	10 M	FS		B	FS		B	FS <sup>23</sup>
Wheat (Winter)	70 D	100 D	70 D	10 M	100 D <sup>5, 15</sup> /FS		B	100 D <sup>5</sup> /FS		B	4 M
Other Crops	120 D	11 M	120 D		B	30 D	B	B	30 D	B	B

<sup>1</sup> If the maximum seasonal application rate was 37 ml/ha. <sup>2</sup> None listed on label. Information based on OMAFRA's 2018 Publication 75A, Guide to Weed Control: Field Crops. <sup>3</sup> Applies to fall rye only. <sup>4</sup> Spring barley only.

<sup>5</sup> Soil preparation for re-planting should be no deeper than 10 cm. <sup>6</sup> Imazethapyr-tolerant canola only. <sup>7</sup> Only imazethapyr-tolerant corn can be used in case of crop failure. <sup>8</sup> Can be sensitive to a component of Conquest LQ (Sencor<sup>®</sup>) and may be injured if planted in soil treated with Conquest LQ during the year of application or the following crop year. <sup>9</sup> Fall seeded or seeded as a cover crop can be injured when seeded within the same season as the application of a component of Conquest LQ (Sencor). <sup>10</sup> If using for perennial rosette control in summerfallow or perennial weed control in summerfallow and stubble, refer to the label for recropping restrictions.

<sup>11</sup> Spring rye only. <sup>12</sup> Roundup Ready 2 Xtend<sup>®</sup> soybeans only. <sup>13</sup> Do not apply to durum wheat. <sup>14</sup> All crops can be planted the second spring after application. <sup>15</sup> A second application of the product cannot be made in the rescue crop. <sup>16</sup> Rate restrictions apply. Soybeans can only be grown as plant back crops provided that a maximum use rate of 73 ml/ha was used in the previous crop. <sup>17</sup> In mineral soil, if applied to muck soils, a field bioassay must be done. <sup>18</sup> Inbred lines grown in Southern Ontario only. <sup>19</sup> Not grown for seed. <sup>20</sup> 22 months at the 1.1 L/ha rate, 11 months for lower rates. <sup>21</sup> See label for crop dependent restrictions. <sup>22</sup> Seedling alfalfa. <sup>23</sup> At the total seasonal rate of 120-240 ml/ha.

# Mixing order for tank mixes.

Ensure tank-mix compatibility by using the proper mixing order:



**W**ettable powders, flowable  
Distinct®, Optill®



**A**gitate<sup>1</sup>, **A**nti-foaming compounds, buffers



**M**icrocapsule suspension  
Prowl® H2O



**L**iquid and soluble

Armezon®, Basagran® Forté, Caramba®, Cevya®, Cimegra®, Clean Sweep®, Conquest® LQ, Cotegra®, Engenia®, Eragon® LQ, Forum®, Headline® AMP, Ignite®, Liberty® 200 SN, Marksman®, Priaxor®, Pursuit®, Sercadis®, Titan®, Zampro®, Zidua® SC



**E**mulsifiable concentrates

Armezon PRO, Frontier® Max, Headline, Integrity®, Poast® Ultra, Sefina®, Select®



**G**lyphosate  
(high load, containing adjuvant)



**S**urfactants  
ex. Merge®

<sup>1</sup> Do not over-agitate at any point in the process.

Always remember:

## W.A.M.L.E.G.S.

Always consult the label prior to mixing.

### TECH TIP

*WAMLEGS does not apply when tank mixing Select herbicide with Liberty 200 SN herbicide in LibertyLink® canola. The following order should be used:*

1. Ammonium sulphate
2. Amigo® adjuvant
3. Liberty 200 SN
4. Select

[Click here](#) for details on rates.



# Big operation? Get it in bulk.

Explore our bulk packaging options for select products this season. Designed for mobility and ease of storage, our totes, shuttles and drums are convenient solutions for high-volume users.

## Totes:

Available Products	Volume	Acres/Tote
<b>Integrity®</b> Powered by <b>Kixor®</b> Herbicide	450 L	1,000 to 1,500 (corn rate) 3,000 (soybean rate)
<b>Liberty 200 SN</b> Herbicide	400 L	400
<b>Marksman®</b> Herbicide	450 L	250 to 450
<b>Prowl® H2O</b> Herbicide	450 L	506
<b>Merge®</b> Surfactant	400 L	Rate will vary depending on tank mix

## Shuttles:

Available Products	Volume	Acres/Shuttle
<b>Armezon® PRO</b> Herbicide	121.5 L	300
<b>Basagran® Forté</b> Herbicide	130 L	145 to 185
<b>Engenia®</b> Herbicide	121.2 L	300 to 600
<b>Caramba®</b> Fungicide	128 L	320

**Submit all tote and shuttle orders to BASF retailers by December 1, 2020.**

For more information about products available in totes, shuttles and drums, contact your BASF **AgSolutions** Retail Representative or call **AgSolutions** Customer Care at 1-877-371-BASF (2273).

<sup>1</sup> Image shown is not representative of the totes for Liberty 200 SN and Merge.



## Drums:

Available Products	Volume	Acres/Tote
<b>Ignite®</b> Herbicide	100 L	50 to 100

## TECH TIP

*When using a pump with any bulk containers, ensure the pump is calibrated and properly agitate prior to use. Refer to product label or speak to your BASF AgSolutions® Retail Representative for more information.*

# BASF Ag Rewards

## 2021 Eastern Grower Program

### Elite Bonus

Purchase \$100,000 or more of BASF Products (including InVigor® hybrid canola seed) and receive a 1% reward on all BASF Products (excluding InVigor hybrid canola seed).

For a quick way to calculate your possible rewards, visit our online rewards calculator at [agsolutions.ca/eastrewardscalculator](https://agsolutions.ca/eastrewardscalculator)



**Offer period: October 1, 2020 – September 30, 2021**

To be eligible for the Baseline, Bonus and Elite Rewards, growers must purchase at least \$5,000 in BASF Crop Protection Products.<sup>1</sup> Purchases must include products from at least two segments, with a minimum of 40 acres from each segment.

Segment 1			Segment 2		Segment 3		Segment 4		Segment 5
Cimegra®, and Titan® insecticides	Integrity® herbicide	Eragon® LQ, and Optill® herbicides	Engenia® and Marksman® herbicides	Conquest® LQ, Liberty® 200 SN and Pursuit® herbicides, and Sefina® insecticide	Armezon® PRO and Zidua® SC herbicides	Frontier® Max and Prowl® H20 herbicides, and Forum® fungicide	Cevya®, Headline®, and Priaxor® fungicides	Caramba®, Cotegra® and Sercadis® fungicides	

Baseline Rewards	Purchase from all five Segments	12%	12%	12%	12%	12%	12%	12%	12%
	Purchase from four Segments	7%	7%	7%	7%	7%	7%	7%	7%
	Purchase from three Segments	5%	5%	5%	5%	5%	5%	5%	5%
	Purchase from two Segments	3%	3%	3%	3%	3%	3%	3%	3%

Bonus Rewards	Kixor® Herbicides + Engenia Bonus <sup>2</sup> Purchase a minimum of 40 acres each of Kixor herbicides (Integrity and/or Eragon LQ and/or Optill) <u>and</u> Engenia or Marksman		Add 2%	Add 2%	Add 2%				
	Corn Herbicide Bonus <sup>2</sup> Purchase a minimum of 40 acres each of Armezon PRO or Zidua SC <u>and</u> Engenia or Marksman.				Add 2%	Add 2%			
	Fungicide Bonus <sup>2</sup> Purchase a minimum of 200 acres from any product (or combination of products) in Segments 4 and/or 5.							Add 3%	Add 3%
	Integrity Bonus <sup>2</sup> Purchase a minimum of 160 acres of Integrity.		Add 7%						

MAXIMUM TOTAL SAVINGS	12%	21%	14%	16%	12%	14%	12%	15%	15%
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CALCULATE YOUR SAVINGS									
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<sup>1</sup> Qualifying BASF Crop Protection Products now include InVigor hybrid canola seed. In order for InVigor hybrid canola and Liberty 200 SN herbicide to qualify as a BASF Product, Growers are required to sign, or have already signed, a Liberty and Trait Agreement (LTA) and operate in full compliance as per the requirements outlined within the signed LTA (see Section 5 of the Official Terms and Conditions for more details).

<sup>2</sup> See Section 5 of the Official Terms and Conditions on the pages to follow for additional details on the Bonus Rewards.



BASF Ag Rewards - 2021 Eastern Grower Program  
Official Terms and Conditions

1. **Offer Period:** The 2021 Grower Rewards Program (Eastern Canada) (the **"Offer"**) is administered by BASF Canada Inc. o/a BASF Canada (**"BASF"**) and begins on October 1, 2020 at 7:00 a.m. Eastern Time (**"ET"**) and ends on September 30, 2021 at 11:59 p.m. ET (the **"Offer Period"**).
2. **Eligibility:** The Offer is open to Canadian growers who: (i) reside in Ontario, New Brunswick, Nova Scotia, Newfoundland and Labrador, Prince Edward Island, British Columbia (excluding the Peace River Region of British Columbia) and Quebec (the **"Program Area"**); (ii) are the owner, operator or designated representative of a farm located in the Program Area (the **"Farm"**); and (iii) have reached the legal age of majority in their province of residence (each, an "Eligible Participant"). These Official Terms and Conditions (the **"Terms"**) govern this Offer and must be followed by all Eligible Participants at all times. By agreeing to participate in the Offer, each Eligible Participant is signifying his/her agreement to unconditionally comply with, and be legally bound by, these Terms. This Offer is not available to buying groups, relationship groups (including but not limited to any BASF reward group) or any individual or entity other than an Eligible Participant as defined above.
3. **How to Qualify for the Offer:** To qualify for the Offer, an Eligible Participant must fully comply with these Terms (as determined by BASF in its sole and absolute discretion) and must, during the Offer Period, make purchases from an authorized Canadian retailer that consist of \$5,000 or more (exclusive of fees and taxes, calculated using the Suggested Retail Price (**"SRP"**), of the following BASF Products (the **"BASF Product(s)"**):
- **Herbicides:** ARMEZON®, ARMEZON PRO, ASSIGNMENT®, BANVEL® II, BASAGRAN®, BASAGRAN FORTÉ, CLEAN SWEEP®, CONQUEST® LQ, DISTINCT®, ENGENIA®, ERAGON® LQ, FRONTIER® MAX, INTEGRITY®, LIBERTY® 200 SN, MARKSMAN®, OPTILL®, OUTLOOK®, POAST® ULTRA, PROWL® H2O, PURSUIT®, SELECT® and ZIDUA® SC
  - **Fungicides:** ACROBAT®, CARAMBA®, CEVYA®, COTEGRA®, FORUM®, HEADLINE®, HEADLINE AMP, LANCE®, PRIAXOR®, SERCADIS®, TWINLINE® and ZAMPRO®
  - **Seed:** INVIGOR® CANOLA SEED
  - **Insecticides:** CIMEGRA®, SEFINA® and TITAN®

For information on the SRP of the BASF Products listed in these Terms, please contact your authorized Eastern Canadian retailer.

All decisions regarding whether or not an Eligible Participant has qualified for the Offer will be made by BASF in its sole and absolute discretion and shall be considered to be final and binding without right of appeal. Additionally, Eligible Participants must earn a minimum Total Reward (as defined by Section 8 below) of \$50 to Qualify for the Offer.

4. **How to Qualify for a Baseline Reward:** To be eligible to earn a Baseline Reward (a **"Baseline Reward"**), an Eligible Participant must (i) qualify for the Offer in accordance with Section 3; and (ii) purchase (from an authorized Canadian retailer in the Program Area) a minimum of forty (40) acres of qualifying reward products (each a **"Qualifying Reward Product"**) in any two (2) or more of the five (5) BASF segments (each, a **"Segment"**) as set-out below. For the avoidance of any doubt: (i) there is a minimum purchase threshold of forty (40) acres of Qualifying Reward Products per Segment; and (ii) an Eligible Participant must purchase Qualifying Reward Products from at least two (2) Segments. The percentage of the Baseline Reward that an Eligible Participant is eligible to receive off the SRP, exclusive of taxes, will be determined as follows:

(Minimum 40 acres per segment to qualify)	Segment 1			Segment 2		Segment 3		Segment 4	Segment 5
	Cimegra® and Titan® insecticides	Integrity® herbicide	Eragon® LQ and Optill® herbicides	Engenia® and Marksman® herbicides	Conquest® LQ, Liberty® 200 SN and Pursuit® herbicides, and Sefina® insecticide	Armezon® PRO and Zidua® SC herbicides	Frontier® Max and Prowl® H2O herbicides, and Forum® fungicide	Cevya®, Headline®, Headline AMP and Priaxor® fungicides	Caramba®, Cotegra® and Sercadis® fungicides
Purchase from all Five Segments	12%	12%	12%	12%	12%	12%	12%	12%	12%
Purchase from Four Segments	7%	7%	7%	7%	7%	7%	7%	7%	7%
Purchase from Three Segments	5%	5%	5%	5%	5%	5%	5%	5%	5%
Purchase from Two Segments	3%	3%	3%	3%	3%	3%	3%	3%	3%

\*The qualifying acres for Pursuit in Segment 2 will be 39.

The following table shows the BASF brand to which each Qualifying Reward Product belongs. Each Qualifying Reward Product shown in this table will each count as one (1) Qualifying Reward Product for the purposes of this Offer:

BASF Brands	Qualifying Reward Product
ACROBAT, FORUM	FORUM
LANCE, COTEGRA	COTEGRA
ENGENIA, BANVEL II	ENGENIA
ERAGON LQ, ERAGON	ERAGON LQ
FRONTIER MAX, OUTLOOK	FRONTIER MAX

5. **How to Qualify for a Bonus Reward:** An Eligible Participant who qualifies for the Offer in accordance with Section 3 and for a Baseline Reward in accordance with Section 4 is eligible to earn one (1) of more bonus rewards (each, a **"Bonus Reward"**), as follows:

Bonus Reward	Requirements to Qualify: NOTE: All orders/purchases outlined herein must be made through an authorized Eastern Canadian retailer. All Bonus Rewards are calculated using the SRP.
Kixor Herbicides + Engenia Bonus	To qualify, during the Offer Period an Eligible Participant must: <ul style="list-style-type: none"><li>• Purchase a minimum of forty (40) acres of Engenia and/or Marksman herbicide(s); <b>and</b></li><li>• Purchase a minimum of forty (40) acres of the following Kixor herbicide products: Eragon LQ, and/or Integrity, and/or Optill herbicide(s)</li></ul>
Corn Herbicide Bonus	To qualify, during the Offer Period an Eligible Participant must: <ul style="list-style-type: none"><li>• Purchase a minimum of forty (40) acres of Engenia and/or Marksman herbicide(s); <b>and</b></li><li>• Purchase a minimum of forty (40) acres of Armezon PRO herbicide and/or Zidua SC herbicide(s)</li></ul>
Fungicide Bonus	To qualify, during the Offer Period an Eligible Participant must: <ul style="list-style-type: none"><li>• Purchase a minimum of two hundred (200) acres of Caramba, and/or Cevya, and/or Cotegra, and/or Headline, and/or Headline AMP, and/or Priaxor, and/or Sercadis fungicide(s)</li></ul>
Integrity Bonus	To qualify, during the Offer Period an Eligible Participant must: <ul style="list-style-type: none"><li>• Purchase a minimum of one hundred and sixty (160) acres of Integrity herbicide</li></ul>

IMPORTANT NOTE REGARDING INVIGOR

In order for InVigor canola and Liberty 200 SN herbicide to qualify as a BASF Product, the Eligible Participant must sign, have in full force and effect and continuously comply with the Liberty and Trait Agreement (the **"LTA"**) respecting the purchase and use of LibertyLink® Seed and Liberty 200 SN herbicide (as those terms are defined in the LTA). This Offer is void on all products if any products are used on seed, or plants grown from seed, derived from certified InVigor hybrid canola seed or if InVigor hybrid canola seed or Liberty 200 SN herbicide is used contrary to the LTA.

To obtain information about the LTA, and to complete an LTA, Eligible Participants should call **AgSolutions®** Customer Care at 1-877-371-BASF (2273) or email (basf@basf-agolutions.ca). Signed LTA Forms must be promptly submitted by the Eligible Participant's authorized Eastern Canadian Retailer either by mail, fax or online via BASF's LTA Portal.

The percentage of the Bonus Reward(s), if any, that will be added to an Eligible Participant's Baseline Reward will be determined as follows:

	(Minimum 40 acres per segment to qualify)	Segment 1			Segment 2		Segment 3		Segment 4	Segment 5
		Cimegra® and Titan® insecticides	Integrity® herbicide	Eragon® LQ and Optill® herbicides	Engenia® and Marksman® herbicides	Conquest® LQ, Liberty® 200 SN and Pursuit® herbicides, and Sefina® insecticide	Armezon® PRO and Zidua® SC herbicides	Frontier® Max and Prowl® H2O herbicides, and Forum® fungicide	Cevya®, Headline®, Headline AMP and Priaxor® fungicides	Caramba®, Cotegra® and Sercadis® fungicides
Baseline Reward	Purchase from all Five Segments	12%	12%	12%	12%	12%	12%	12%	12%	12%
	Purchase from Four Segments	7%	7%	7%	7%	7%	7%	7%	7%	7%
	Purchase from Three Segments	5%	5%	5%	5%	5%	5%	5%	5%	5%
	Purchase from Two Segments	3%	3%	3%	3%	3%	3%	3%	3%	3%
Bonus Rewards	Kixor Herbicides + Engenia Bonus		Add 2%							
	Corn Herbicide Bonus				Add 2%		Add 2%			
	Fungicide Bonus								Add 3%	
	Integrity Bonus		Add 7%							
	Max Total Savings	12%	21%	14%	16%	12%	14%	12%	15%	15%

By way of example only: If an Eligible Participant qualifies for the Offer in accordance with Section 3 and purchased 160 acres of Integrity + 200 acres of Caramba + 100 acres of Engenia, the Eligible Participant would be eligible for a Baseline Reward of 5% on Integrity, a Baseline Reward of 5% on Caramba, and a Baseline Reward of 5% on Engenia. In addition, the Eligible Participant would be eligible for the Integrity Bonus and would receive a Bonus Reward of 7% on Integrity. In addition to the Integrity bonus, the Eligible Participant would be eligible for the Fungicide bonus and would receive a Bonus Reward of 3% on Caramba.

By way of example only: If an Eligible Participant qualifies for the Offer in accordance with Section 3 and purchased 100 acres of Eragon LQ + 100 acres of Engenia, the Eligible Participant would be eligible for, a Baseline Reward of 3% on Eragon LQ, and a Baseline Reward of 3% on Engenia. The Eligible Participant would also be eligible for a Kixor Herbicides + Engenia Bonus and would receive a Bonus Reward of 2% on Eragon LQ, and a Bonus Reward of 2% on Engenia.



By way of example only: If an Eligible Participant qualifies for the Offer in accordance with Section 3 and purchased 200 acres of Integrity, the Eligible Participant would not be eligible for a Baseline Reward, nor any Bonus Reward(s).

By way of example only: If an Eligible Participant qualifies for the Offer in accordance with Section 3 and purchased 200 acres of Headline AMP + 200 acres of Caramba, the Eligible Participant would be eligible for a Baseline Reward of 3% on Headline AMP and a Baseline Reward of 3% on Caramba. In addition, the Eligible Participant would be eligible for the Fungicide Bonus and would receive a Bonus Reward of 3% on Headline AMP and Caramba purchases.

6. **How to Qualify for an Elite Reward:** An Eligible Participant who (i) qualifies for the Offer in accordance with Section 3; (ii) qualifies for a Baseline Reward in accordance with Section 4; and (iii) makes purchases during the Offer Period from an authorized Eastern Canadian retailer that consist of \$100,000 CAD or more (exclusive of fees and taxes) of BASF Products is eligible to earn an additional reward related to all Elite Qualifying Products (as defined below) purchased by the Eligible Participant from an authorized Eastern Canadian retailer during the Offer Period (the **"Elite Reward"**). The value of the Elite Reward is calculated as 1% of the SRP (exclusive of fees and taxes) of the Elite Qualifying Products purchased which qualify for the Elite Reward (the **"Elite Reward Percentage Value"**). The following are each an Elite Qualifying Product (the **"Elite Qualifying Products"**):
  - a. **Herbicides:** ARMEZON, ARMEZON PRO, ASSIGNMENT, BANVEL II, BASAGRAN, BASAGRAN FORTÉ, CLEAN SWEEP, CONQUEST LQ, DISTINCT, ENGENIA, ERAGON LQ, FRONTIER MAX, INTEGRITY, LIBERTY 200 SN, MARKSMAN, OPTILL, OUTLOOK, POAST ULTRA, PROWL H2O, PURSUIT, SELECT and ZIDUA SC
  - b. **Fungicides:** ACROBAT, CARAMBA, CEVYA, COTEGRA, FORUM, HEADLINE, HEADLINE AMP, LANCE, PRIAXOR, SERCADIS, TWINLINE and ZAMPRO
  - c. **Insecticides:** CIMEGRA, SEFINA and TITAN
7. **Reward Percentage Value and Bonus Reward Calculation:** BASF will determine the reward percentage value (the **"Reward Percentage Value"**) that an Eligible Participant is eligible to receive pursuant to these Terms. The Reward Percentage Values outlined in Sections 4, 5 and 6 represent the percentage that BASF will use to calculate the amount of the Baseline Reward (and, as applicable, Bonus Reward(s)) collectively, the **"Total Reward on Qualifying Reward Products"**) that an Eligible Participant is eligible to receive as a reward, exclusive of taxes, on each case of the applicable Qualifying Reward Product(s) purchased in accordance with these Terms. The Elite Bonus Reward outlined in Section 6 represents the percentage that BASF will use to calculate the amount that an Eligible Participant is eligible to receive as a reward, exclusive of taxes, on each case of the applicable Elite Qualifying Products purchased in accordance with these Terms (the **"Total Reward on Elite Qualifying Products"**).
8. The calculation of Total Reward on Qualifying Reward Products and the Total Reward on Elite Qualifying Products (collectively, the **"Total Reward"**) will be based on SRP in the Program Area multiplied by the corresponding Reward Percentage Values and Elite Reward Percentage Value for the applicable Qualifying Reward Products and Elite Qualifying Products, respectively. Retailers have complete autonomy to determine the resale pricing for the products described herein and may choose to sell such products at prices which are different from those suggested by BASF. Total Rewards will be calculated on a per acre basis, using all Qualifying Reward Products and Elite Qualifying Products purchased, including partial cases.
 

Prior to qualifying for the Offer, the Eligible Participant will be required to accept and agree to be legally bound by these Terms. In addition, the Eligible Participant will have the opportunity to agree to the terms and conditions contained within the BASF Grower Privacy Consent and the BASF Commercial Electronic Messages Consent (collectively, the **"Consent Forms"**). Copies of the Consent Forms can be obtained by contacting **AgSolutions** Customer Care at 1-877-371-BASF (2273). An Eligible Participant may subsequently withdraw his/her consent to receive electronic communications at anytime without affecting their eligibility for this Offer.

If an Eligible Participant completes all of the foregoing steps in accordance with these Terms (as determined by BASF in its sole and absolute discretion), then the Eligible Participant will be eligible to qualify for the Offer and to receive a Total Reward. **There is a limit of one (1) Total Reward per Farm.**
9. **Products and Related Conditions:** For the purposes of the Offer, the BASF Products will have the following label rates:

Qualifying Product	Application Rate <sup>1</sup>	Unit Size	Acres/ Unit	Qualifying Product	Application Rate <sup>1</sup>	Unit Size	Acres/ Unit
ACROBAT		Case	80	HEADLINE AMP		Case	40
ARMEZON PRO		Case	40	INTEGRITY		Case	60
BANVEL II		Case	40	INVIGOR CANOLA SEED	10 acres	Bag	-
CARAMBA		Case	40	LANCE		Case	25
CIMEGRA		Case	60	LIBERTY 200 SN		Case	20
CLEAN SWEEP		Case	20	MARKSMAN		Case	20
CONQUEST LQ		Case	40	OPTILL		Case	120
COTEGRA		Case	70	OUTLOOK		Case	52
CEVYA		Case	20	PRIAXOR		Case	160
ENGENIA		Case	40	PROWL H2O		Case	20
ERAGON		Case	120	PURSUIT		Case	39
ERAGON LQ		Case	160	SEFINA		Case	80
FORUM		Case	50	SERCADIS		Case	20
FRONTIER MAX		Case	60	TITAN		Case	44
HEADLINE		Case	72	ZIDUA SC		Case	80

<sup>1</sup> Seeding rate varies depending on variety and are subject to change, please visit [agsolutions.ca](https://www.basf.com/en/tools/legal/data-protection.html) for updates.

10. **Verification:** BASF reserves the right, in its sole and absolute discretion, to require proof of identity and/or eligibility (in a form acceptable to BASF); (i) for the purposes of verifying an Eligible Participant's eligibility to participate in this Offer; (ii) for the purposes of verifying the legitimacy of any Data (as defined below in Section 12b); BASF Products/Qualifying Reward Products/Elite Qualifying Products and/or other information; and/or (iii) for any other reason BASF deems necessary, in its sole and absolute discretion, for the purposes of administering this Offer in accordance with BASF's interpretation of the letter and spirit of these Terms. Failure of an Eligible Participant to provide such proof of compliance with these Terms in writing to the complete satisfaction of BASF may result in disqualification in the sole and absolute discretion of BASF. All determinations regarding whether or not an Eligible Participant is eligible to earn a Total Reward in accordance with these Terms (and, if so, the amount of such Total Reward) will be made by BASF in its sole and absolute discretion.

If it is discovered by BASF that any Eligible Participant (or any person or entity purporting to be an Eligible Participant) has attempted to use multiple names, multiple identities and/or any other means not expressly sanctioned by these Terms to participate in or disrupt this Offer, then he/she may be disqualified from the Offer in the sole and absolute discretion of BASF.

11. **Notification and Confirmation:** If an Eligible Participant has been deemed by BASF, in its sole and absolute discretion, to be eligible to qualify for the Offer and to receive a Total Reward, then the Eligible Participant may be notified by a representative of BASF. If an Eligible Participant: (i) cannot accept (or is unwilling to accept) the Total Reward for any reason; and/or (ii) is determined to be in violation of BASF's interpretation of the letter and/or spirit of these Terms (all as determined by BASF in its sole and absolute discretion); then the Total Reward shall, in the sole and absolute discretion of BASF, be forfeited in its entirety and the Eligible Participant will be disqualified from participating in the Offer.
12. **Additional Conditions:**
  - a. This Offer does not apply to any Elite Qualifying Products and/or Qualifying Reward Products and/or BASF Products that are returned for any reason whatsoever or for any Elite Qualifying Products and/or Qualifying Reward Products and/or BASF Products purchased for resale.
  - b. Retailers are required to submit customer transactional data relating to orders and purchase transactions (the **"Data"**) on behalf of Eligible Participants to BASF. Offer eligibility will be determined by BASF, in its sole and absolute discretion, using this Data. All Data must be submitted by the retailer to BASF by no later than **October 9, 2021** in order for such Data to be eligible for the purposes of this Offer.
  - c. If an Eligible Participant who has earned a Total Reward pursuant to this Offer returns any BASF Products/Qualifying Reward Products/Elite Qualifying Products to a retailer after September 30, 2021, then the Eligible Participant shall be required to promptly return or repay the value of the Total Reward (or the applicable portion of the Total Reward) by contacting **AgSolutions** Customer Care at 1-877-371-BASF (2273). Failure to do so will result in a deduction from the Eligible Participant's future year's program reward(s). BASF also reserves the right to seek remedies and damages to the fullest extent permitted by law.
13. **General Conditions:** Please allow a minimum of eight (8) weeks for the Total Reward to be received from the time the Data is sent to BASF by a retailer. All Data is subject to verification and will be considered void if it cannot be verified to the complete satisfaction of BASF. The Total Reward must be accepted as awarded and is not transferable or assignable. BASF reserves the right, in its sole and absolute discretion, to substitute the Total Reward or a component thereof with a reward of equal or greater retail value.
14. This Offer is subject to all applicable federal, provincial and municipal laws. This Offer is void where prohibited or restricted by law. The decisions of BASF with respect to all aspects of this Offer are final and binding on all Eligible Participants without right of appeal.
15. BASF, its parent companies, associated and affiliated companies, agent suppliers, advertising/promotion agencies and any other entity involved in the development, production, administration or fulfillment of the Offer, and each of their respective officers, directors, employees, agents, representatives, successors and assigns (collectively, the **"Released Parties"**) will not be liable for: (i) any late, lost, misdirected, delayed, incomplete, incompatible or misdirected Data and/or other information (all of which is void); (ii) any failure(s), malfunction(s) or other problem(s) of any nature whatsoever; (iii) the failure of any order, purchase transaction, Data and/or other element(s) of this Offer to be received, captured or recorded for any reason whatsoever; (iv) anyone being incorrectly and/or mistakenly identified as an Eligible Participant, a Total Reward recipient or eligible Total Reward recipient; and/or (v) any combination of the above.
16. BASF reserves the right, in its sole and absolute discretion, to withdraw, suspend or amend this Offer in any way, or to amend these Terms in any way, without prior notice or obligation, in the event of: (i) any cause beyond the reasonable control of BASF that interferes with the proper conduct of this Offer as contemplated by these Terms, including, without limitation, any error, problem, tampering, unauthorized intervention, fraud or failure of any kind whatsoever; (ii) any accident, printing, administrative, or other error of any kind; and/or (iii) for any other reason that BASF deems necessary, in its sole and absolute discretion, to ensure that this Offer is conducted in accordance with BASF's interpretation of the letter and spirit of these Terms. Any attempt to undermine the legitimate operation of this Offer in any way (as determined by BASF in its sole and absolute discretion) may be a violation of criminal and civil laws and should such an attempt be made, BASF reserves the right to seek remedies and damages to the fullest extent permitted by law.
17. BASF reserves the right to require that an Eligible Participant sign BASF's form of declaration and release form prior to being confirmed as the recipient of the Total Reward.
18. By participating in this Offer and accepting the Total Reward, each Eligible Participant (i) confirms compliance with these Terms; (ii) acknowledges acceptance of the Reward (as awarded); and (iii) releases the Released Parties from any and all liability in connection with this Offer, the Eligible Participant's participation herein and/or the awarding and use/misuse of the Total Reward or any portion thereof.
19. If an Eligible Participant who is eligible to receive a Total Reward is deemed to be in violation of these Terms (as determined by BASF in its sole and absolute discretion), then the Eligible Participant may, in the sole and absolute discretion of BASF, be disqualified (and, if disqualified, will forfeit all rights to the Total Reward).
20. BASF reserves the right, in its sole and absolute discretion, to adjust any of the dates, timeframes and/or other Offer mechanics stipulated in these Terms, to the extent deemed necessary by BASF, for purposes of verifying compliance by any Eligible Participant or other information with these Terms, or as a result of any problems, or in light of any other circumstances which, in the opinion of BASF, in its sole and absolute discretion, affect the proper administration of the Offer as contemplated in these Terms, or for any other reason.
21. In the event of any discrepancy or inconsistency between the terms and conditions of these Terms and disclosures or other statements contained in any Offer-related materials and/or any instructions or interpretations of these Terms given by any representative of BASF, the terms and conditions of these Terms shall prevail, govern and control to the fullest extent permitted by law.
22. By participating in this Offer, each Eligible Participant expressly consents to BASF, its agents and/or representatives, storing, collecting, sharing and using any personal information submitted for the purpose of administering the Offer, managing, fulfilling and improving the offer and in accordance with BASF's privacy policy (<https://www.basf.com/en/tools/legal/data-protection.html>). This section does not limit any other consent(s) that an individual may provide to BASF or others in relation to the collection, use and/or disclosure of their personal information.
23. BASF reserves the right, in its sole and absolute discretion, to take whatever measures or actions it deems necessary to help ensure that the Offer is administered in accordance with BASF's interpretation of the letter and spirit of these Terms. **ANY INDIVIDUAL OR ENTITY DEEMED BY BASF AT ANY TIME TO BE IN VIOLATION OF BASF'S INTERPRETATION OF THE LETTER AND/OR SPIRIT OF THESE TERMS FOR ANY REASON WHATSOEVER IS SUBJECT TO DISQUALIFICATION IN THE SOLE DISCRETION OF BASF.**
24. The invalidity or unenforceability of any provision of these Terms shall not affect the validity or enforceability of any other provision. In the event that any provision is determined to be invalid or otherwise unenforceable or illegal, these Terms shall otherwise remain in effect and shall be construed in accordance with the terms as if the invalid or illegal provision were not contained herein.
25. To the fullest extent permitted by applicable law, all issues and questions concerning the construction, validity, interpretation and enforceability of these Terms or the rights and obligations of Eligible Participants, BASF or any of the other Released Parties in connection with the Offer will be governed by and construed in accordance with the domestic laws of the Province of Ontario and the federal laws of Canada applicable therein, without giving effect to any choice of law or conflict of law rules or provisions that would cause the application of any other jurisdiction's laws. The parties hereby consent to the exclusive jurisdiction and venue of the courts located in Ontario in any action to enforce (or otherwise relating to) these Terms or relating to this Offer.

## Always read and follow label directions.

**AgCelence, AgSolutions, ACROBAT, ARMEZON, ASSIGNMENT, BANVEL, BASAGRAN, BIOSTACKED, CARAMBA, CEVYA, CIMEGRA, CLEAN SWEEP, CONQUEST, COTEGRA, DISTINCT, ENGENIA, ERAGON, FORUM, FRONTIER, HEADLINE, IGNITE, ILEVO, INSCALIS, INTEGRAL, INTEGRITY, INVIGOR, KIXOR, LANCE, LIBERTY, LIBERTYLINK, MARKSMAN, MERGE, NODULATOR, OPTILL, OUTLOOK, POAST, PRIAXOR, PROWL, PURSUIT, REVYSOL, SEFINA, SERCADIS, SERIFEL, STAMINA, TITAN, TWINLINE, XEMIUM, ZAMPRO and ZIDUA** are registered trade-marks of BASF; and **xarvio** is a trade-mark of BASF; all used under license by BASF Canada Inc. **STAMINA** seed treatment, **CARAMBA, CEVYA, COTEGRA, FORUM, HEADLINE, HEADLINE AMP, LANCE, PRIAXOR, and/or SERCADIS** fungicides should be used in a preventative disease control program. © 2020 BASF Canada Inc.

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