Do what you do best. With new innovations.

At BASF, we are always working on new innovations because we believe in offering only the best for every acre. The 2020 Crop Production Guide covers everything from our most dependable products to information on emerging innovations from BASF research.

InVigor
Your top-performing hybrids just got stronger with the addition of the NEW InVigor® 300 series. It includes two new hybrids offering significant yield advancements and traits to support your farming needs.

InVigor RATE
InVigor RATE is here. For the 2020 season it will be easier to achieve the optimal population of 5 to 7 plants/ft² through NEW innovative seed-count packaging. It will feature four different thousand seed weight (TSW) ranges and recommended seeding rates for seeding approximately 10 acres per bag.

Sefina
Protect your soybeans and potatoes by applying the newest insecticide for fast acting, effective control of aphids with its unique mode of action.

Titan
Control major aboveground pests in potatoes, including aphids, Colorado potato beetle, flea beetle and leafhopper. Titan™ seed-piece insecticide can even be applied in-furrow, reduces tuber damage caused by wireworms and comes in an easy-to-use liquid formulation.

Cevya
Get fast and continuous pre- and post-infection control of key diseases in apple, grape, potato, and stone fruit with Cevya™ fungicide powered by Revysol; a NEW active ingredient. This fungicide is equipped with unique binding activity and it controls biotypes that may have developed resistance to other Group 3, 7, 9 and 11 fungicides.

ILEVO
Get proven, effective protection for soybeans against sudden death syndrome (SDS) and soybean cyst nematode (SCN).

For quick access to solution options and information click here
Learn more by visiting agsolutions.ca, contacting your BASF AgSolutions® Retail Representative or BASF retailer, or by calling AgSolutions Customer Care at 1-877-371-BASF (2273).
AgCelence refers to a portfolio of BASF products that provide benefits1 above and beyond conventional crop protection benefits:

- Broad spectrum disease control
- Improved plant vitality and tolerance against minor abiotic stress factors (including heat, drought, early-season frost and hail recovery)
- Improved grain quality and increased yield potential

You can see the proven AgCelence benefits in your crops when you use Priaxor®, Headline® AMP and Cabrio® Plus fungicides.

Corn leaf disease control with Priaxor fungicide.

Benefits backed by unique science.

Increased growth efficiency

- More effective photosynthesis and respiration leading to more sugar available for growth and yield
- Increased production of the enzyme responsible for converting nitrogen into a usable form

Result
Larger, greener plants, with more biomass and area for photosynthesis2

Better management of minor stress

- Stressed plants produce the hormone ethylene, signaling the plant to stop growth and set seed
- Treated plants produce less ethylene when exposed to minor cold, heat and drought stress
- Treated plants suppress the production of ethylene gas after significant stress events such as hail

Result
Continued growth under stress, longer viability and productivity for increased yield potential2

Overall benefits

- Protection against all major leaf diseases for healthier plants2
- Improved plant productivity through enhanced management of exposure to stress2
- Increased growth efficiency with more efficient capture and utilization of energy from the sun and nitrogen utilization2

1 AgCelence benefits refer to products that contain the active ingredient pyraclostrobin.

2 All comparisons are to untreated, unless otherwise stated.

Source: AgSolutions Performance Trials, ON, 2013
Solutions for herbicide-tolerant corn.

Staging graphics depicted here are for quick reference only. Refer to individual product pages and product labels for detailed staging information.

* In conventional field corn, apply from pre-emergence to 3rd leaf.
BASF lead recommendations.

Select the solution that’s right for your operation.

CROP ESTABLISHMENT

- **Stamina**
  - Fungicide Seed Treatment

WEED MANAGEMENT

- **Integrity**
  - Powered by **Kixor** Herbicide
  - OR
  - **Zidua SC**
    - Herbicide
  - followed by
  - **Marksman**
    - Herbicide
  - (if required)

DISEASE MANAGEMENT

- **Armezon PRO**
  - Herbicide
- **Priaxor**
  - Xemium Fungicide

POST-HARVEST

- **Distinct**
  - Herbicide
- **Headline AMP**
  - Fungicide
- **Caramba**
  - Fungicide

Contact your BASF AgSolutions® Retail Representative for more information.
The benefits\(^1\) 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\(^2\)
- Enhanced ability to manage exposure to minor environmental stress\(^2\)

**Formulation**
Water-based suspension

**Treatment**
Applied on-seed by select seed companies

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

**Seed treatment compatibility**
Stamina is compatible with insecticides such as Fortenza®. Call AgSolutions Customer Care for further information.

---

**TECH TIP**

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

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\(^1\) AgCelence benefits refer to products that contain the active ingredient pyraclostrobin.

\(^2\) All comparisons are to untreated, unless otherwise stated.
**Integrity**
Powered by Kixor® Herbicide

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

**Crop staging**
Pre-plant\(^1\), pre-plant incorporated, pre-emergence

**Weeds controlled\(^2\)**
**Broadleaf weeds**
- Common ragweed
- Eastern black nightshade\(^3\)
- Lamb’s quarters
- Redroot pigweed
- Velvetleaf
- Wild buckwheat
- Wild mustard

**Grasses**
- Barnyard grass
- Crabgrass (smooth, large)
- Fall panicum
- Foxtail (green, yellow, giant)
- Old witchgrass
- Yellow nutsedge\(^8\)

**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\(^4\)

<table>
<thead>
<tr>
<th>Product</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Integrity</strong></td>
<td>450 ml/ac (1.1 L/ha)</td>
</tr>
</tbody>
</table>

Set-up rate\(^5\)

<table>
<thead>
<tr>
<th>Product</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Integrity</strong></td>
<td>300 ml/ac (750 ml/ha)</td>
</tr>
</tbody>
</table>

or

<table>
<thead>
<tr>
<th>Product</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Integrity</strong></td>
<td>300 to 450 ml/ac (0.75 to 1.1 L/ha)</td>
</tr>
</tbody>
</table>

followed by

**Marksman®**\(^8\)
1.0 L/ac (2.5 L/ha)

**Glyphosate**\(^7\)
See label for rate

**Pre-harvest interval**
100 days after application for field corn.
60 days after application for sweet corn.

**Follow crops**
Anytime after application:
- Sweet and field corn

100 days after application:
- Cereals other than corn

11 months after application:
- All other crops

22 months after application:
- Sugar beets

\(^1\) Apply in tank mix with glyphosate.
\(^2\) Weeds listed are controlled when Integrity is applied at the full label rate of 0.45 L/ac. \(^3\) Pre-plant incorporated only. \(^4\) 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. \(^5\) 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. \(^6\) Integrity can be used with 28% UAN as a carrier. \(^7\) Glyphosate is sold separately.

**Active ingredients**
- Saflufenacil – Group 14
- Dimethenamid-P – Group 15

**Formulation**
Emulsifiable concentrate

**One case contains**
2 x 9 L jugs
Also available as 450 L tote

Source: BASF research trials, Ridgetown, ON, 2009
**Zidua SC**

Herbicide

Residual control of key annual grasses and select broadleaf weeds.

- Liquid Group 15 chemistry delivers control of resistant pigweed and common 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

**Crop staging**
Pre-plant\(^1\), pre-emergence, early post-emergence up to 4-leaf

**Weeds controlled**

**Broadleaf weeds**
Common waterhemp, Kochia\(^2\), Lamb’s quarters\(^2\), Redroot pigweed

**Grasses**
Barnyard grass, Crabgrass (large), Foxtail (green, yellow, giant), Ryegrass (Italian), Wild oats\(^2\)

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

<table>
<thead>
<tr>
<th>Rate by soil texture</th>
<th>Coarse</th>
<th>Medium-fine</th>
<th>Fine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zidua SC</td>
<td>101 ml/ac (250 ml/ha)</td>
<td>134 ml/ac (332 ml/ha)</td>
<td>169 ml/ac (417 ml/ha)</td>
</tr>
<tr>
<td></td>
<td>200 ml/ac (493 ml/ha)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Tank mix\(^3\)**
Apply pre-emergence up to 4-leaf

- **Zidua SC** 101 ml/ac (250 ml/ha)
- **Marksman**\(^4\) 1.0 L/ac (2.5 L/ha)
- **Glyphosate**\(^4,5\) See label for rate

**Water volume** – Ground application Minimum 40 L/ac (10 gal/ac)

**Follow crops**
Following spring after application:
Field corn, soybeans, spring wheat, chickpeas, lentils, field peas, flax
4 months following application:
Winter wheat

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**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.

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1 Up to 30 days before planting. 2 Suppression only. 3 Tank mix is supported and aligns with PMRA tank-mix guidelines, but is not on label. 4 Sold separately. 5 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 and glyphosate
- Armezon® PRO can also be applied in a tank mix with Marksman herbicide and glyphosate

**Crop staging**
- Pre-emergence to 8 leaf
- Emergence to 5 leaf (for tank mix)

**Weeds controlled**
- **Broadleaf weeds**
  - Common chickweed
  - Common lamb’s quarters
  - Common ragweed
  - Eastern black nightshade
  - Green pigweed
  - Lady’s thumb
  - Redroot pigweed
  - Velvetleaf
  - 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.

<table>
<thead>
<tr>
<th><strong>Active ingredients</strong></th>
<th><strong>Application rates</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethenamid-P – Group 15</td>
<td>Armezon PRO 405 ml/ac (1 L/ha)</td>
</tr>
<tr>
<td>Topramezone – Group 27</td>
<td>Marksman 1.0 L/ac (2.5 L/ha)</td>
</tr>
<tr>
<td><strong>Formulation</strong></td>
<td>Glyphosate 4,5,6</td>
</tr>
<tr>
<td>Emulsifiable concentrate</td>
<td>See label for rate or</td>
</tr>
<tr>
<td><strong>One case contains</strong></td>
<td>Armezon PRO 405 ml/ac (1 L/ha)</td>
</tr>
<tr>
<td>2 x 8.1 L jugs</td>
<td>Atrazine 4</td>
</tr>
<tr>
<td>Also available in</td>
<td>421 ml/ac (500 g ai/ha)</td>
</tr>
<tr>
<td>121.5 L shuttle</td>
<td>Glyphosate 4,5,6</td>
</tr>
<tr>
<td></td>
<td>See label for rate</td>
</tr>
</tbody>
</table>

**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.

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

Source: BASF research trial, Maryhill, ON, 2015
**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 waterhemp, pigweed and velvetleaf
- Flexible tank-mix application options for season-long weed control

**Active ingredients**

<table>
<thead>
<tr>
<th></th>
<th>Dicamba – Group 4</th>
<th>Atrazine – Group 5</th>
</tr>
</thead>
</table>

**Formulation**

<p>| |</p>
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Suspension</td>
</tr>
</tbody>
</table>

**One case contains**

- 2 x 10 L jugs
- Also available in 450 L tote

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**Crop staging**

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

**Weeds controlled**

Canada thistle\(^2\), Buckwheat (tartary, wild), Cleavers, Common cocklebur\(^3\), Common water hemp\(^5\), Corn spurry, Cow cockle, Field bindweed\(^6\), Green smartweed, Lady’s thumb, Lamb’s quarters\(^4\), Mustard (Indian, hare’s-ear, tumble, wild, wormseed), Perennial sow thistle\(^5\), Pigweed (redroot\(^6\), Russian), Ragweed (common\(^4\), false, giant), Spreading atriplex\(^5\), Velvetleaf, Volunteer adzuki beans

**Application rates**

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

**Tank mixes** Learn more

<table>
<thead>
<tr>
<th>Component</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marksman</td>
<td>1.0 L/ac (2.5 L/ha)</td>
</tr>
<tr>
<td>Armezon PRO(^6,7)</td>
<td>405 ml/ac (1 L/ha)</td>
</tr>
<tr>
<td>Glyphosate(^6,8)</td>
<td>See label for rate</td>
</tr>
</tbody>
</table>

**Planned 2-pass**

<table>
<thead>
<tr>
<th>Component</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marksman</td>
<td>1.0 L/ac (2.5 L/ha)</td>
</tr>
<tr>
<td>Integrity(^9,6)</td>
<td>300 to 450 ml/ac (0.75 to 1.1 L/ha)</td>
</tr>
<tr>
<td>Glyphosate(^6)</td>
<td>See label for rate</td>
</tr>
</tbody>
</table>

**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.

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

Crop staging
1 to 7 leaf

Weeds controlled

- Broadleaf weeds
  - Common chickweed
  - Common lamb’s quarters
  - Common ragweed
  - Eastern black nightshade
  - Fall panicum
  - Green pigweed
  - Kochia
  - Lady’s thumb
  - Redroot pigweed
  - Velvetleaf
  - Volunteer canola (all types)
  - Wild mustard

- Grasses
  - Barnyard grass
  - Crabgrass (large)
  - Foxtail (green, yellow)

Application rates
One case treats 160 acres.

For glyphosate-tolerant corn:

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Armezon</td>
<td>15 ml/ac (37 ml/ha)</td>
</tr>
<tr>
<td>Atrazine</td>
<td>420 ml/ac (500 g ai/ha)</td>
</tr>
<tr>
<td>Glyphosate</td>
<td>See label for rate</td>
</tr>
</tbody>
</table>

For seed, sweet corn:

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Armezon</td>
<td>15 ml/ac (37 ml/ha)</td>
</tr>
<tr>
<td>Atrazine</td>
<td>420 ml/ac (500 g ai/ha)</td>
</tr>
<tr>
<td>Assist</td>
<td>1.25% v/v (12.5 L per 1000 L spray solution)</td>
</tr>
<tr>
<td>28% UAN</td>
<td>1.25% v/v (12.5 L per 1000 L spray solution)</td>
</tr>
</tbody>
</table>

For conventional corn:

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Armezon</td>
<td>15 ml/ac (37 ml/ha)</td>
</tr>
<tr>
<td>Atrazine</td>
<td>420 ml/ac (500 g ai/ha)</td>
</tr>
<tr>
<td>Merge</td>
<td>0.25% v/v (2.5 L per 1000 L spray solution)</td>
</tr>
</tbody>
</table>

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 (silage, fodder or grain).

Follow crops
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.

Active ingredient
Topramezone – Group 27

Formulation
Liquid suspension

One case contains
4 x 600 ml jugs

1 The Armezon + atrazine + glyphosate tank-mix provides control of all the weeds on the glyphosate label, plus improved control of the weeds listed. 2 Suppression. 3 All types, including glyphosate resistant biotypes. Apply when kochia is less than 10 cm. 4 For control of secondary flushes, a sequential application of Armezon herbicide may be applied. 5 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), fields can only be seeded to winter wheat 4 months after application and spring wheat, field corn and canola the following year.
Proven and consistent. A more advanced fungicide that helps maximize your corn yield potential.\(^1\)

- Contains Xemium\(^{®}\), the active ingredient with unique mobility characteristics that provides more consistent and continuous disease control
- The proven benefits\(^2\) of AgCelence\(^{®}\) that deliver control of key diseases, increased growth efficiency and better management of minor stress to maximize yield potential\(^1\)
- Multiple modes of action for increased performance and reduced risk for the onset of fungicide resistance

**Crop staging**
V12 to silk browning

**Diseases controlled**

- Common rust (Puccinia sorghi)
- Eyespot (Aureobasidium zeae)\(^3\)
- Gray leaf spot (Cercospora zeae-maydis)
- Northern corn leaf blight (Setosphaeria turcica)

**Application rates**
One case treats 160 acres.

**Priaxor**
120 ml/ac (300 ml/ha)

**Water volume**
- Ground application
  40 to 80 L/ac (10 to 20 gal/ac)\(^4\)
- Aerial application
  20 L/ac (5 gal/ac)\(^5\)

**Pre-harvest interval**
- 21 days after application for corn.
- 7 days after application for sweet corn.

**Active ingredients**
Pyraclostrobin – Group 11
Fluxapyroxad – Group 7

**Formulation**
Liquid suspension

**One case contains**
2 x 9.6 L jugs

**Increased corn yield with Priaxor fungicide**

- **Source:** AgSolutions\(^{®}\) Performance Trials, ON & QC, 2014-2016, n= 149 on-farm trials

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\(^1\) All comparisons are to untreated, unless otherwise stated.  
\(^2\) AgCelence benefits refer to products that contain the active ingredient pyraclostrobin.  
\(^3\) Suppression.  
\(^4\) BASF recommends using higher water volumes to ensure adequate coverage and better activity on leaf disease.  
\(^5\) Class 2 pesticides, such as Priaxor, require a permit to be applied by aerial application in Ontario. No permit is required for an application on ground.
Improved disease control in corn combined with proven AgCelence benefits.¹

- Preventive 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 benefits¹ for better management of minor stress and increased standability and growth efficiency²

**Crop staging**
V12 to silk browning

**Diseases controlled**
- Anthracnose
  - *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.

| Headline AMP | 303 to 404 ml/ac (0.75 to 1.0 L/ha) |

**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.

**Active ingredients**
- Metconazole – Group 3
- Pyraclostrobin – Group 11

**Formulation**
- Liquid

**One case contains**
- 2 x 6.07 L jugs

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¹ AgCelence benefits refer to products that contain the active ingredient pyraclostrobin.
² All comparisons are to untreated, unless otherwise stated.

**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.
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

<table>
<thead>
<tr>
<th>Active ingredient</th>
<th>Metconazole – Group 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formulation</td>
<td>Liquid</td>
</tr>
<tr>
<td>One case contains</td>
<td>2 x 8.1 L jugs</td>
</tr>
<tr>
<td></td>
<td>Also available in</td>
</tr>
<tr>
<td></td>
<td>128 L shuttle and 400 L tote</td>
</tr>
</tbody>
</table>

**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.
- One tote treats 1,000 acres.

| Caramba® | 405 ml/ac (1.0 L/ha) |

**Active ingredient**
Metconazole – Group 3

**Formulation**
Liquid

**One case contains**
2 x 8.1 L jugs
Also available in
128 L shuttle and 400 L tote

**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 staging for Gibberella management - silk emergence to brown silk**

**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.
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 Priaxor® or Headline® AMP at tassel is the right choice. If you are concerned about quality and the impact of DON, applying a fungicide such as Caramba at silking is the right approach. And if you are targeting both yield and quality, tank mixing Headline AMP with Caramba at silking is effective.

<table>
<thead>
<tr>
<th></th>
<th>Priaxor</th>
<th>Headline AMP</th>
<th>Caramba</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Focus</strong></td>
<td>Leaf disease &amp; yield</td>
<td>Leaf disease &amp; yield</td>
<td>Quality</td>
</tr>
<tr>
<td><strong>Benefits</strong></td>
<td>- Consistent and continuous disease control through Xemium® translocation</td>
<td>- Preventative and post-infection activity on diseases</td>
<td>- Controls leaf diseases, suppresses fusarium and Gibberella ear rots, reducing DON</td>
</tr>
<tr>
<td></td>
<td>- Increased AgCelence® benefits1 for improved plant health and greener leaves2</td>
<td>- Increased AgCelence benefits1 for improved plant health and greener leaves2</td>
<td>- Increases grain yield and quality</td>
</tr>
<tr>
<td></td>
<td>- Multiple modes of effective action for resistance management</td>
<td>- Multiple modes of effective action for resistance management</td>
<td></td>
</tr>
<tr>
<td><strong>Application timing</strong></td>
<td>Can be applied earlier, but most consistent results are seen at full tassel (VT).</td>
<td>Can be applied earlier, but most consistent results are seen at full tassel (VT).</td>
<td>Full silking to silk browning (R1). If silks are dry, it’s too late.</td>
</tr>
<tr>
<td><strong>Rate</strong></td>
<td>120 ml/ac (300 ml/ha)</td>
<td>303 ml/ac (750 ml/ha)</td>
<td>405 ml/ac (1.0 L/ha)</td>
</tr>
</tbody>
</table>

1 AgCelence benefits refer to products that contain the active ingredient pyraclostrobin. 2 All comparisons are to untreated, unless otherwise stated.
Solutions for herbicide-tolerant soybeans.

Staging graphics depicted here are for quick reference only. Refer to individual product pages and product labels for detailed staging information.

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.

Staging graphics depicted here are for quick reference only. Refer to individual product pages and product labels for detailed staging information.

1 Frontier® Max herbicide can be applied pre-plant incorporated to pre-emergence.
BASF lead recommendations.

Select the solution that’s right for your operation.
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 nematicidal activity that demonstrates effectiveness across the SCN lifecycle, reducing the potential for root infection and damage

Active ingredient
Fluopyram - Group 7

Formulation
Suspension concentration

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 will treat 19,455 to 64,935 kg of seed, depending on rate.

ILEVO 77 to 257 ml/100 kg

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, call AgSolutions® Customer Care at 1-877-371-BASF (2273) or contact your BASF AgSolutions Retail Representative.

Crop Establishment

For use on:
YES

ILEVO yield benefit on soybeans.


1 Apply at 77 to 154 ml/100 kg for suppression of soybean cyst nematodes and root lesion nematodes.
2 Apply at 154 to 257 ml/100 kg to control Fusarium virguliforme (SDS).
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

Crop treatment
Applied on-seed exclusively by commercial seed treaters

Inoculant activity
Nodulator PRO 100 contains a minimum of $1 \times 10^{10}$ viable cells of *Bradyrhizobium japonicum* per gram.

Packaged separately: Integral biofungicide contains *Bacillus amyloliquefaciens* (no less than $2.2 \times 10^{10}$ viable spores per ml) and is required for the suppression of seedling diseases caused by *Rhizoctonia* and *Fusarium* spp.\(^1\)

Research has shown that applying the two beneficial biologicals present in the Nodulator PRO 100 preinoculant system can result in up to 6% more yield than the competition.\(^2\)

Application rates
One case of preinoculant will treat 4,536 kg (10,000 lbs) of seed.
Rate per 100 kg seed:
- Nodulator PRO 100 (inoculant + conditioner) 130 ml\(^3\)
- Integral 9 ml

Follow crop
No follow-crop restrictions.

Seed treatment compatibility

<table>
<thead>
<tr>
<th>Seed Treatment</th>
<th>Nodulator PRO 100 system on-seed survivability</th>
</tr>
</thead>
<tbody>
<tr>
<td>ApronMaxx® RTA</td>
<td>100 days</td>
</tr>
<tr>
<td>CruiserMaxx®</td>
<td>100 days</td>
</tr>
<tr>
<td>Vibrance® Beans</td>
<td>100 days</td>
</tr>
<tr>
<td>Lumisena™</td>
<td>100 days</td>
</tr>
</tbody>
</table>

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.

\(^1\) The biological fungicide activity of Integral is a PMRA registered label claim in Canada.
\(^2\) Source: BASF, 76 station years (n sites x n years).
\(^3\) Please refer to the product label for application rates without pesticides, as 139ml /100 kg is not sufficient for even seed coverage and requires additional liquid volume (water and/or pesticide).
Why settle on one bioactive, when you could have two?

Most inoculants offer *Bradyrhizobium japonicum*, a rhizobium essential to soybean inoculation. What sets our Biostacked® inoculants apart is the use of a second bioactive – *Bacillus amyloliquefaciens*.

**Better plant growth is rooted in *B. amyloliquefaciens***. This bacteria colonizes the crop’s roots to form a ‘protective sheath’ around the root system, providing multiple benefits:

- Stronger, healthier roots
- Accelerated nodulation
- Improved water and nutrient uptake
- Enhanced crop growth and vigour

**Built-in disease suppression.**

The physical barrier formed by *B. amyloliquefaciens* prevents harmful organisms from reaching the crop’s roots. A phenomenon known as “pathogen displacement”, it’s responsible for the suppression of seedling diseases caused by *Fusarium* spp. and *Rhizoctonia* spp.1

**Greater vigour for greater yields.**

Found in Integral biofungicide and Nodulator N/T Biostacked inoculants, *B. amyloliquefaciens* leads to stronger, healthier soybeans, putting your crop on the path to higher yield potential.

---

1 The biological fungicide activity of Integral is a PMRA registered label claim in Canada.
**Conquest® LQ**

*Herbicide*

For control of tough broadleaf weeds and annual grasses in conventional and Identity Preserved 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

**Crop staging**
- Early pre-plant, pre-plant incorporated, pre-emergence

**Weeds controlled**
- **Broadleaf weeds**
  - Eastern black nightshade
  - Lady’s thumb
  - Lamb’s quarters
  - Ragweed
  - Redroot pigweed
  - Velvetleaf
  - Wild mustard

- **Grasses**
  - Barnyard grass
  - Foxtail (green, yellow)
  - Old witch grass

**Application rates**
- One case treats 30 to 40 acres.

<table>
<thead>
<tr>
<th>Active ingredients</th>
<th>2 x dual chamber jugs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imazethapyr – Group 2</td>
<td>2.52 L Pursuit®</td>
</tr>
<tr>
<td>Metribuzin – Group 5</td>
<td>+ 6.88 L Sencor®</td>
</tr>
</tbody>
</table>

**Formulation**
- Liquid

**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**
- In next spring after application:
  - Field corn
  - Kidney beans
  - Spring barley
  - Spring wheat
  - Soybeans
  - White beans
  - Winter wheat

**Tech Tip**

*Ideal tank-mix partner with Eragon® LQ or Integrity® herbicide to provide multiple modes of effective action on glyphosate-resistant Canada fleabane.*

1 Some velvetleaf plants that germinate deeper in the soil and emerge late may escape treatment. 2 The 30 acre per case rate should be used in fields with heavier soils or higher weed infestations. 3 Winter wheat may be grown 100 days after the application of Conquest® LQ.
Frontier® Max Herbicide

Reliable control of tough broadleaf and grassy weeds.

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

Crop staging
Pre-plant incorporated\(^1\), pre-emergence\(^1\)

Weeds controlled
**Broadleaf weeds**
Eastern black nightshade\(^2\)
Redroot pigweed\(^3\)
Tall waterhemp\(^4\)

**Grasses**
Barnyard grass
Crabgrass (large, smooth)
Fall panicum
Foxtail (giant, green, yellow)
Old witchgrass
Yellow nutsedge\(^5\)

Weeds controlled

<table>
<thead>
<tr>
<th>Broadleaf weeds</th>
<th>Grasses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eastern black nightshade(^2)</td>
<td>Barnyard grass</td>
</tr>
<tr>
<td>Redroot pigweed(^3)</td>
<td>Crabgrass (large, smooth)</td>
</tr>
<tr>
<td>Tall waterhemp(^4)</td>
<td>Fall panicum</td>
</tr>
<tr>
<td></td>
<td>Foxtail (giant, green, yellow)</td>
</tr>
<tr>
<td></td>
<td>Old witchgrass</td>
</tr>
<tr>
<td></td>
<td>Yellow nutsedge(^5)</td>
</tr>
</tbody>
</table>

Application rates
One case treats 45 to 60 acres.

| Frontier® Max | 305 to 390 ml/ac (0.75 to 1 L/ha)\(^6\) |

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

Active ingredient
Dimethenamid-P – Group 15

Formulation
Emulsifiable concentrate

One case contains
2 x 9 L jugs

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\(^1\) Application stage is dependent on tank-mix partner.  
\(^2\) Pre-plant incorporated or pre-emergence only (390 ml/ac).  
\(^3\) Pre-plant incorporated (350 to 390 ml/ac) or pre-emergence (390 ml/ac) only.  
\(^4\) Suppression only.  
\(^5\) Pre-plant incorporated only (390 ml/ac). Lower rates provide suppression only.  
\(^6\) Rate depends on soil texture and organic matter content, see label for more information.
Eragon® LQ
Powered by Kiora® Herbicide

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

Crop staging
Pre-plant, pre-emergence

Weeds controlled
Broadleaf plantain
Canada fleabane
Common ragweed
Dandelion
Giant ragweed
Lady’s thumb
Lamb’s quarters
Perennial sow thistle
Prickly lettuce
Redroot pigweed
Shepherd’s purse
Stinkweed
Wild buckwheat
Wild mustard

Crop staging
Pre-plant, pre-emergence

Application rates
One case treats 160 acres.

Eragon LQ
30 ml/ac (73 ml/ha)  
Merge® adjuvant
400 ml/ac (1 L/ha)
Glyphosate
See label for rate

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

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,
wheel (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)

Active ingredient
Saflufenacil – Group 14

Formulation
Water-based suspension concentrate

One case contains
4 x 1.182 L jugs

Source: BASF research trials, Bryanston, ON, 2013

1 Controlled with a tank mix of Eragon LQ and glyphosate for pre-plant and pre-emergent applications. 2 Includes glyphosate-resistant biotypes. 3 Suppression only. 4 Top growth burndown control only. 5 Top growth only. 6 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. 7 Glyphosate (required for optimum activity) and Merge adjuvant (required) are not included in the case. See respective glyphosate label for application rate of glyphosate. 8 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

**Weeds controlled**

**Broadleaf weeds**
- Broadleaf plantain
- Canada fleabane
- Common ragweed
- Dandelion
- Giant ragweed
- Lady’s thumb
- Lamb’s quarters
- Perennial sow thistle
- Prickly lettuce
- Redroot pigweed
- Shepherd’s purse
- Stinkweed
- Wild buckwheat
- Wild mustard

**Grasses**
- Barnyard grass
- Crabgrass (large)
- Foxtail (green, yellow)

**Crop staging**

Pre-plant, pre-emergence

**Application rates**

<table>
<thead>
<tr>
<th></th>
<th>150 ml/ac</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrity</td>
<td>(370 ml/ha)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>400 ml/ac</th>
</tr>
</thead>
<tbody>
<tr>
<td>Merge adjuvant</td>
<td>(1.0 L/ha)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>See label for rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glyphosate</td>
<td></td>
</tr>
</tbody>
</table>

**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:
- Sweet and field corn
- Cereals other than corn
- All other crops
- Sugar beets

- 100 days after application:
- 11 months after application:
- 22 months after application:

**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.

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

---

**Active ingredients**

- Saflufenacil – Group 14
- Dimethenamid-P – Group 15

**Formulation**

- Emulsifiable concentrate

**One case contains**

- 2 x 9 L jugs
- Also available as 450 L tote

Source: BASF research trial, Ridgetown, ON, 2014
Residual control of key annual grasses and select broadleaf weeds.

- Group 15 chemistry delivers control of grasses as well as resistant pigweed and common waterhemp
- Residual activity controls germinating seedlings before or soon after crop emergence
- New convenient liquid formulation

**Crop staging**
Pre-plant², pre-emergence

**Weeds controlled**

**Broadleaf weeds**
Common waterhemp, Redroot pigweed, Kochia³, Lamb’s quarters³

**Grasses**
Barnyard grass, Crabgrass (large), Foxtail (giant, green, yellow), Ryegrass (Italian), Wild oats.³

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

<table>
<thead>
<tr>
<th>Rate by soil texture</th>
<th>Coarse</th>
<th>Medium-fine</th>
<th>Fine</th>
</tr>
</thead>
<tbody>
<tr>
<td>OM ≤ 3%</td>
<td>101 ml/ac (250 ml/ha)</td>
<td>134 ml/ac (332 ml/ha)</td>
<td>169 ml/ac (417 ml/ha)</td>
</tr>
<tr>
<td>3% &lt; OM &lt; 7%</td>
<td></td>
<td>169 ml/ac (417 ml/ha)</td>
<td></td>
</tr>
<tr>
<td>Fine</td>
<td></td>
<td>200 ml/ac (493 ml/ha)</td>
<td></td>
</tr>
</tbody>
</table>

**Water volume**
Ground application
Minimum 40 L/ac (10 gal/ac)

**Following spring after application:**
Field corn, soybeans, spring wheat, chickpeas, lentils, field peas, flax

**4 months following application:**
Winter wheat

---

¹ BASF is in the process of establishing import tolerances (maximum residue limits (MRLs)) for markets around the world. ² Up to 30 days before planting. ³ Suppression only.
Optill®
Powered by Kixor® Herbicide

Rapid burndown with residual control for cleaner fields in glyphosate-tolerant 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

Crop staging
Pre-plant, pre-emergence

Weeds controlled
Broadleaf weeds
- Broadleaf plantain
- Canada fleabane
- Common chickweed
- Common ragweed
- Dandelion
- Giant ragweed
- Lady’s thumb
- Lamb’s quarters
- Perennial sow thistle
- Prickly lettuce
- Redroot pigweed
- Shepherd’s purse
- Stinkweed
- Wild buckwheat
- Wild mustard

Grasses
- Barnyard grass
- Crabgrass (large)
- Foxtail (green, yellow)

Active ingredients
Imazethapyr – Group 2
Safufenacil – Group 14

Formulation
Water dispersible granules

One case contains
6 x 1.19 kg jugs

Application rates
One case treats 120 acres.

<table>
<thead>
<tr>
<th>Product</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optill</td>
<td>60 g/ac (147 g/ha)</td>
</tr>
<tr>
<td>Merge adjuvant</td>
<td>400 ml/ac (1.0 L/ha)</td>
</tr>
<tr>
<td>Glyphosate</td>
<td>See label for rate</td>
</tr>
</tbody>
</table>

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):
Soybeans, wheat (winter)

In next spring after application:
Barley (spring), dry beans, corn (field), soybeans, wheat (spring, winter)

Source: BASF research trials, Ridgetown, ON, 2012

1 In no-till or reduced tillage operations.
2 Includes glyphosate-resistant biotypes.
3 Adequate residual control may not be achieved on Group 2-resistant biotypes.
4 Includes control of triazine-resistant biotypes.
5 Suppression only.
6 Burndown only.
7 Top growth burndown only.
8 Top growth only.
9 Burndown and residual suppression only.
10 Glyphosate and Merge are not included. See respective glyphosate label for application rate of glyphosate.
11 A second application of Optill cannot be made in the rescue crop.
12 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.
**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

**Crop staging**

Early pre-plant, pre-plant incorporated

**Weeds controlled**

- Barnyard grass
- Crabgrass (large and smooth)
- Foxtail (green, yellow)
- Lamb’s quarters\(^1,2\)
- Redroot pigweed\(^2\)

**Application rates**

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

<table>
<thead>
<tr>
<th>Prowl® H2O</th>
<th>890 ml/ac (2.2 L/ha)</th>
</tr>
</thead>
</table>

**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
- Soybeans
- White and kidney beans

### TECH TIP

*If planning to use a vertical tillage implement, apply the herbicide prior to the tillage pass for better weed control.\(^3\)*

*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.*

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1. Suppression only. 2. Includes triazine-resistant biotypes. 3. Always read and follow label directions.
Clean Sweep®
Herbicide

As part of a 2-pass system, a post-emergent application of Clean Sweep® lets you take control of your weeds on contact.

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

Crop staging
Cotyledon to 3rd trifoliate

Weeds controlled
Broadleaf weeds
Bird rape, Canada thistle\(^1\), Cocklebur, Common ragweed, Eastern black nightshade, Field bindweed\(^1\), Flower-of-an-hour, Hairy galinsoga, Lady’s thumb, Lamb’s quarters, Redroot pigweed, Shepherd’s purse, Stinkweed, Velvetleaf, Wild buckwheat, Wild mustard, Yellow nutsedge\(^1\)

Grasses
Barnyard grass, Green foxtail, Large crabgrass\(^1\), Proso millet\(^1\), Witch grass, Yellow foxtail

Application rates
One case treats 20 acres.

<table>
<thead>
<tr>
<th>Product</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pursuit</td>
<td>126 ml/ac (311 ml/ha)</td>
</tr>
<tr>
<td>Basagran Forté</td>
<td>700 ml/ac (1.73 L/ha)</td>
</tr>
</tbody>
</table>

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

Pre-harvest interval
100 days after application for soybeans.

Follow crops
100 days after application:
Soybeans, winter wheat

In next spring after application:
Field corn, imazethapyr tolerant canola, kidney beans, soybeans, spring barley, spring wheat, white beans, winter wheat

Active ingredients
Imazethapyr – Group 2
Bentazon – Group 6

Formulation
Liquid

One case contains
2 x dual chamber jugs
1.26 L Pursuit®
+ 7 L Basagran® Forté

\(^1\) Suppression only.

Source: AgSolutions® Performance Trial, 2011
## Weed Management

Match these herbicides with your IP soybeans.

<table>
<thead>
<tr>
<th>Groups</th>
<th>Conquest® LQ</th>
<th>Optill®</th>
<th>Prowl® H2O</th>
<th>Frontier® Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staging</td>
<td>+ Prowl H2O</td>
<td>+ Frontier Max</td>
<td>+ Prowl H2O</td>
<td>+ Frontier Max</td>
</tr>
<tr>
<td>2, 3, 5</td>
<td>2, 5, 15</td>
<td>2, 3, 14</td>
<td>2, 14, 15</td>
<td>3, 2, 6</td>
</tr>
<tr>
<td>Rate</td>
<td>Conquest LQ: Pursuit 126-168 ml/ac, Sencor 344-459 ml/ac</td>
<td>Optill: 60 g/ac</td>
<td>Prowl H2O: 890 ml/ac</td>
<td>Frontier Max: 305-390 ml/ac</td>
</tr>
<tr>
<td>Water volume</td>
<td>10-20 gal/ac</td>
<td>10-20 gal/ac</td>
<td>10-20 gal/ac</td>
<td>10-20 gal/ac for Prowl H2O</td>
</tr>
<tr>
<td>Broadleaf weeds¹</td>
<td>Common ragweed Eastern black nightshade Lady’s thumb Lamb’s quarters Redroot pigweed Velvetleaf</td>
<td>Canada fleabane Common chickweed Common ragweed Dandelion Giant ragweed Lady’s thumb Lamb’s quarters Perennial sow thistle Redroot pigweed Shepherd’s purse Wild buckwheat</td>
<td>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 Velvetleaf Wild buckwheat</td>
<td>Canada thistle² Cocklebur Common ragweed Eastern black nightshade Field bindweed² Lady’s thumb Lamb’s quarters Redroot pigweed Shepherd’s purse Velvetleaf Wild buckwheat</td>
</tr>
<tr>
<td>Grasses²</td>
<td>Barnyard grass Crabgrass (large) Fall panicum Foxtail (green, yellow)</td>
<td>Barnyard grass Crabgrass (large) Fall panicum Foxtail (green, yellow) Old witch grass Yellow nutsedge</td>
<td>Barnyard grass Crabgrass (large) Fall panicum Foxtail (green, yellow) Old witch grass Yellow nutsedge</td>
<td>Barnyard grass Crabgrass (large) Fall panicum Foxtail (green, yellow) Old witch grass Proso millet² Yellow nutsedge²</td>
</tr>
<tr>
<td>PPI for soybeans</td>
<td>100 days</td>
<td>100 days</td>
<td>100 days</td>
<td>100 days (after Clean Sweep)</td>
</tr>
<tr>
<td>Use when</td>
<td>Best for heavy grass pressure including crabgrass, or additional activity on lamb’s quarters.</td>
<td>Best for heavy grass or nightshade pressure.</td>
<td>Do not have to incorporate. Do not use as a setup program.</td>
<td>Planned 2-pass program. 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.</td>
</tr>
</tbody>
</table>

¹ For the complete list of weeds controlled and/or suppressed consult the product labels. ² Suppression only.

PPI = pre-plant incorporated  PP = pre-plant  PRE = pre-emergence
An advanced dicamba formulation with lower volatility properties for improved broadleaf control in Roundup Ready 2 Xtend®, dicamba-tolerant soybeans.³

- New, 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

Weeds controlled²
- Buckwheat (tartary, wild)
- Canada fleabane³
- Canada thistle⁴
- Cleavers
- Corn spurry
- Cow cockle
- Field bindweed⁴
- Green smartweed
- Lady's thumb
- Lamb's quarters
- Mustards
- Perennial sow thistle⁴
- Ragweed (common, false, giant)
- Redroot pigweed
- Russian pigweed
- Velvetleaf

Crop staging¹
- Pre-plant, pre-emergence, early post-emergence

Application rates
- One case treats 40 to 80 acres.
- One shuttle treats 300 to 600 acres.

Engenia⁴,⁶,⁷,⁸,⁹ 200 to 400 ml/ac (0.5 to 1 L/ha)

Water volume
- Ground application
- Minimum 40 L/ac (10 gal/ac)
- Use higher water volumes to ensure adequate coverage.¹⁰

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.

Active ingredient
- Dicamba – Group 4

Formulation
- Solution

One case contains
- 2 x 8.09 L jugs
- Also available in 121.2 L shuttle

¹ 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. ² Controlled by Engenia alone at 200 to 400 ml/ac (0.5 to 1 L/ha). ³ Post-emergence only. ⁴ Apply Engenia herbicide annually for three years at the flowering stage of bindweed and the budding stage of thistles. ⁵ Engenia can be used alone or in tank mix with glyphosate for additional broadleaf and grassy weed control. See label for important details. ⁶ 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. ⁷ For application to Roundup Ready 2 Xtend soybeans, apply Engenia using nozzles that deliver extremely coarse to ultra-coarse spray droplets. ⁸ 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. ⁹ 793 ml/ac of Engenia is the maximum total to be applied in a single growing season. ¹⁰ 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 to ensure extremely coarse to ultra-coarse droplets
- **Wind speed** – spray when wind speeds are between 3 to 15 km/h
- **Ground speed** – maintain your sprayer speed at 25 km/h or less (no aerial application)
- **Boom height** – keep spray boom height no higher than 50 cm above crop canopy
- **Sensitive crop awareness** – identify neighbouring crop species
- **Application volume** – use a minimum spray volume of 10 GPA
- **Additives/adjuvants** – only use as required or recommended on product label
- **Sprayer cleanout** – triple rinse, and use a detergent-based cleaner

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**TECH TIP**

Do not apply Engenia when there is a temperature inversion.
The three indicators of a temperature inversion are 1) clear sky, 2) no wind and 3) dew present.
Applications are only permitted beginning one hour after sunrise until two hours before sunset.

Visit [agsolutions.ca/applicationstewardship](http://agsolutions.ca/applicationstewardship) to learn more and access the Engenia Stewardship learning module.
Access the Engenia Spray Tool at [engeniaspraytool.ca](http://engeniaspraytool.ca).
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

**Active ingredient**
Glufosinate ammonium – Group 10

**Concentration**
200 g/L

**Formulation**
Solution

**One case contains**
2 x 10 L jugs
Also available as a 400 L tote

**Crop staging**
For Liberty-tolerant soybeans only (LibertyLink® soybeans)

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

**Weeds controlled**

**Broadleaf weeds**
- Canada thistle
- Chickweed
- Cocklebur
- Eastern black nightshade
- Field bindweed
- Jimsonweed
- 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
- Wild oats, Witchgrass
- Yellow foxtail

**Application rates**
One case treats 20 acres.
One tote treats 400 acres.

<table>
<thead>
<tr>
<th>Herbicide</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liberty</td>
<td>1.0 L/ac (2.5 L/ha)</td>
</tr>
</tbody>
</table>

**Tank mixes**
Liberty herbicide can be tank mixed with the following options

<table>
<thead>
<tr>
<th>Herbicide</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basagran®</td>
<td>710 ml/ac (1.75 L/ha)</td>
</tr>
<tr>
<td>Forté</td>
<td>8.4 g/ac (20.8 g/ha)</td>
</tr>
<tr>
<td>FirstRate®</td>
<td>126 ml/ac (312 ml/ha)</td>
</tr>
</tbody>
</table>

**Water volume**
Ground application
Minimum 75 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

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

- Quickly halts aphid feeding, which reduces production losses and virus transmission
- Extended control of aphids
- Powered by Inscalis™, a unique mode of action that controls labeled aphid pests that have developed resistance to other insecticides
- Effective tool in an Integrated Pest Management strategy with safe use on beneficial insects, including predatory and parasitic insects

**Crop staging**
Emergence to full maturity

**Pests controlled**
Soybean aphid (Aphis glycines) all life stages

**Application rates**
One case of Sefina® insecticide will treat 80 acres.

| Sefina | 81 ml/ac (0.2 L/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.

**Active ingredient** Afidopyropen – Group 9D
**Formulation** Dispersion concentrate
**One case contains** 2 x 3.24 L jugs

**TECH TIP**
*Use higher water volumes to ensure adequate coverage.*

1 Damage is typically only economic from R1 to R5. 2 Allow a minimum of 7 days between applications. 3 Do not apply more than 162 ml/ac (0.4 L/ha) per year. 4 For soybean aphid control. 5 BASF is in the process of establishing import tolerances (maximum residue limits [MRLs]) for markets around the world.
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

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.
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.

<table>
<thead>
<tr>
<th>INSECTS</th>
<th>MAY</th>
<th>JUNE</th>
<th>JULY</th>
<th>AUGUST</th>
<th>SEPTEMBER</th>
<th>OCTOBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALFALFA CATERPILLAR</td>
<td></td>
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<tr>
<td>BEAN LEAF BEETLE</td>
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<tr>
<td>CUTWORMS</td>
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<tr>
<td>SEEDCORN MAGGOT</td>
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<tr>
<td>SLUGS</td>
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<td></td>
<td></td>
<td>SLUGS</td>
</tr>
<tr>
<td>THISTLE CATERPILLAR</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WIREWORMS</td>
<td></td>
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<tr>
<td>POTATO LEAFHOPPER</td>
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<tr>
<td>GRASSHOPPERS</td>
<td></td>
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<tr>
<td>JAPANESE BEETLE</td>
<td></td>
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</tr>
<tr>
<td>LYGUS BUGS</td>
<td></td>
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<tr>
<td>SOYBEAN APHIDS</td>
<td></td>
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<tr>
<td>TWO-SPOTTED SPIDER MITES</td>
<td></td>
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<tr>
<td>GREEN CLOVERWORM</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Adapted from Manitoba Pulse & Soybean Growers.
Proven and consistent. A more advanced fungicide that maximizes your soybean yield potential.\(^1\)

- 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\(^2\) of AgCelence®
- Multiple modes of action for increased performance and reduced risk for the onset of fungicide resistance

**Crop staging**\(^2\)
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)\(^4\)

**Application rates**
One case treats 107 to 160 acres.

- **Priaxor**\(^4\) 120 to 180 ml/ac (300 to 450 ml/ha)

**Water volume**
Ground application
40 to 80 L/ac (10 to 20 gal/ac)\(^5\)

Aerial application
20 L/ac (5 gal/ac)\(^6\)

**Pre-harvest interval**
21 days after application for soybeans.

**Active ingredients**
- Pyraclostrobin – Group 11
- Fluxapyroxad – Group 7

**Formulation**
- Liquid suspension

**One case contains**
- 2 x 9.6 L jugs

Source: AgSolutions® Performance Trials, ON, 2013

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1. All comparisons are to untreated, unless otherwise stated. 2. AgCelence benefits refer to products that contain the active ingredient pyraclostrobin. 3. While Priaxor can be applied at earlier growth stages, research suggests the stated timing provides optimal AgCelence benefits. 4. Apply Priaxor fungicides at the increased rate of 180 ml/ac for suppression of sclerotinia stem rot. 5. BASF recommends using higher water volumes to ensure adequate coverage and better activity on leaf disease. 6. Class 2 pesticides, such as Priaxor, require a permit to be applied by aerial application in Ontario. No permit is required for an application on ground.
A new era for white mold management to help preserve yield and quality in soybeans.

- Combines two effective sclerotinia active ingredients, in a convenient liquid premix
- Provides best-in-class management of white mold
- Designed to protect soybeans from other key foliar diseases, including frog eye leaf spot and septoria brown spot

**Crop staging**
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*)

**Active ingredients**
- Boscalid – Group 7
- Prothioconazole – Group 3

**Formulation**
Suspension concentrate

**One case contains**
2 x 9.8 L jugs

**Application rates**
One case treats 70 acres.

<table>
<thead>
<tr>
<th>Product</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cotegra</td>
<td>280 ml/ac (700 ml/ha)</td>
</tr>
</tbody>
</table>

**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.

**Yield results for Cotegra on soybeans.**

<table>
<thead>
<tr>
<th>Increase (bu/ac)</th>
<th>Yield results for Cotegra on soybeans.</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td></td>
</tr>
<tr>
<td>-2</td>
<td></td>
</tr>
<tr>
<td>-4</td>
<td></td>
</tr>
</tbody>
</table>

Source: AgSolutions Performance Trials, ON, 2017, n=20

1 Control.
2 Suppression.
3 Class 2 pesticides, such as Cotegra, require a permit to be applied by aerial application in Ontario. No permit is required for an application on ground.
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 fields and the growth of higher yielding and bushier varieties. The yield impact has been estimated as 2.5-5 bu/ac for every 10% incidence of the disease.¹ Understanding the white mold disease cycle, the factors affecting your control decisions and which fungicide to use can help you protect your field.

**Weather**
- Cool 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

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® and/or Cotegra® fungicide is best for you, please see the following page.

¹ 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.

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

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

Step 3. Apply at proper timing.
- Consider the first application at early flower to early pod development (late R1 to R2)
- Remember, fungicides are more effective when applied preventatively
- When in doubt, apply during early flowering (white mold spores feed on petals)
Eragon® LQ
Powered by Kisor® Herbicide

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
- Correct timing is essential for pre-harvest applications. See our staging guide to ensure best results

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

<table>
<thead>
<tr>
<th>Component</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eragon® LQ</td>
<td>30 to 59 ml/ac (73 to 146 ml/ha)</td>
</tr>
<tr>
<td>Glyphosate</td>
<td>1.0 L/ac (2.5 L/ha)</td>
</tr>
<tr>
<td>Merge® adjuvant</td>
<td>400 ml/ac (1 L/ha)</td>
</tr>
</tbody>
</table>

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.

Active ingredient
Saflufenacil – Group 14

Formulation
Water-based suspension concentrate

One case contains
4 x 1.182 L jugs

1 Use higher rate for heavier weed pressure or if glyphosate resistant weeds are present. 2 Glyphosate and Merge adjuvant (required) are not included in the case. 3 Winter wheat can be planted in the fall after application.

For use on:
All Soybean Platforms
YES

Harvest Management
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 coverage and time to dry down.

Remember:

• Min. 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
Solutions for wheat.

Staging graphics depicted here are for quick reference only. Refer to individual product pages and product labels for detailed staging information.

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 AgScience® benefits.
BASF lead recommendations.

Select the solution that’s right for your operation.

- **WEED MANAGEMENT**
  - Eragon® LQ
    - Powered by Kixor® Herbicide
  - Caramba®
    - Fungicide

- **DISEASE MANAGEMENT**
  - Headline® AMP
    - Fungicide

- **HARVEST MANAGEMENT**
  - Eragon® LQ
    - Powered by Kixor® Herbicide

- **POST-HARVEST**
  - Distinct®
    - Herbicide

Contact your BASF AgSolutions® Retail Representative for more information.
Eragon® LQ
Powered by Kixor® Herbicide

CEREALS

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

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

Weeds controlled
Broadleaf plantain
Canada fleabane
Common ragweed
Dandelion
Giant ragweed
Lady’s thumb
Lamb’s quarters
Perennial sow thistle
Prickly lettuce
Redroot pigweed
Shepherd’s purse
Stinkweed
Wild buckwheat
Wild mustard

Application rates
One case treats 80 acres.

<table>
<thead>
<tr>
<th>Active ingredient</th>
<th>Formulation</th>
<th>One case contains</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saflufenacil – Group 14</td>
<td>Water-based suspension concentrate</td>
<td>4 x 1.182 L jugs</td>
</tr>
</tbody>
</table>

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.

Pre-plant/crop staging
Weed Management

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

In next season after spring pre-plant/pre-emergent application:
Barley, canola, corn (field, sweet), 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)

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

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

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Application rates
One case treats 80 acres.

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<thead>
<tr>
<th>Eragon LQ</th>
<th>59 ml/ac (146 ml/ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glyphosate</td>
<td>See label for rate</td>
</tr>
<tr>
<td>Merge adjuvant</td>
<td>400 ml/ac (1.0 L/ha)</td>
</tr>
</tbody>
</table>

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

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)

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

• 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 benefits² for better management of minor stress and increased standability and growth efficiency²

Crop staging³
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)

Active ingredients
Metconazole – Group 3
Pyraclostrobin – Group 11

Formulation
Liquid

One case contains
2 x 6.07 L jugs

Application rates
One case treats 40 to 60 acres.

Application rates
Headline® AMP 202 to 303 ml/ac (500 to 750 ml/ha)

Water volume
Ground application
40 to 80 L/ac (10 to 20 gal/ac)⁴
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

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

**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*)
- Spot blotch (*Puccinia striiformis*)

**For fusarium head blight**

| Caramba | 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.

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<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 stage, GS 61-63. <sup>3</sup>Suppression only. <sup>4</sup>Not controlled or suppressed in triticale. Wheat only.
Optimal application timing for fusarium head blight (FHB) in wheat.

<table>
<thead>
<tr>
<th>DAYS</th>
<th>75 - 100% OF HEADS EMERGED</th>
<th>FIRST ANThERS VISIBLE</th>
<th>20% FLOWER</th>
<th>30% FLOWER</th>
<th>40% FLOWER</th>
<th>50% FLOWER</th>
<th>END OF FLOWER</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td>+1</td>
<td>+2</td>
<td>+3</td>
<td>+4</td>
<td>+5</td>
<td>+6</td>
</tr>
<tr>
<td>59</td>
<td></td>
<td>61</td>
<td>62</td>
<td>63</td>
<td>64</td>
<td>65</td>
<td>69</td>
</tr>
</tbody>
</table>

**SPRAY TIME FOR BEST RESULTS**

**APPLICATION WINDOW**

1 Days can vary based on weather condition

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

- Improved dry down of tough weeds, including common ragweed and Canada fleabane
- 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

**Crop staging**

**Hard dough stage.** Cereals turn color 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**

<table>
<thead>
<tr>
<th>Product</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Eragon® LQ</strong>&lt;sup&gt;1&lt;/sup&gt;</td>
<td>30 to 59 ml/ac (73 to 146 ml/ha)</td>
</tr>
<tr>
<td><strong>Glyphosate</strong>&lt;sup&gt;2&lt;/sup&gt;</td>
<td>1.0 L/ac (2.5 L/ha)</td>
</tr>
<tr>
<td><strong>Merge® adjuvant</strong>&lt;sup&gt;2&lt;/sup&gt;</td>
<td>400 ml/ac (1 L/ha)</td>
</tr>
</tbody>
</table>

**For seed production or restrictions on glyphosate use**

<table>
<thead>
<tr>
<th>Product</th>
<th>Rate</th>
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<tbody>
<tr>
<td><strong>Eragon LQ</strong></td>
<td>59 ml/ac (146 ml/ha)</td>
</tr>
<tr>
<td><strong>Merge adjuvant</strong>&lt;sup&gt;2&lt;/sup&gt;</td>
<td>400 ml/ac (1 L/ha)</td>
</tr>
</tbody>
</table>

**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.
Solutions for canola.

Crop Staging

Staging graphics depicted here are for quick reference only. Refer to individual product pages and product labels for detailed staging information.

1 Apply when 75% of seeds have changed colour.
BASF lead recommendations.

Select the solution that’s right for your operation.

- **CROP ESTABLISHMENT**
  - InVigor

- **WEED MANAGEMENT**
  - Liberty
    - Herbicide
  - SELECT
    - Herbicide

- **DISEASE MANAGEMENT**
  - Priaxor
    - Xemium Fungicide
  - Cotegra
    - Fungicide

- **HARVEST MANAGEMENT**
  - Eragon LQ
    - Powered by Kixor Herbicide
  - Distinct
    - Herbicide

Contact your BASF AgSolutions® Retail Representative for more information.
Hybrids as unique as your fields.

No two fields are the same, that’s why having multiple options covering multiple growing conditions is important. With our 2020 InVigor® hybrid canola lineup to choose from, you can rest assured that you have selected the best fit for your farm.

<table>
<thead>
<tr>
<th>Hybrid</th>
<th>Overview</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NEW InVigor L345PC</strong></td>
<td>New InVigor L345PC offers a significant jump in yield potential over InVigor L233P and features our patented Pod Shatter Reduction technology plus first generation clubroot resistance¹. This hybrid is suitable for all growing zones.</td>
</tr>
<tr>
<td><strong>NEW InVigor L352C</strong></td>
<td>New InVigor L352C offers yield potential that exceeds InVigor L252. Along with outstanding yield, it also features first generation clubroot resistance¹ and is suitable for all growing zones. This hybrid is ideal for growers that prefer to swath.</td>
</tr>
<tr>
<td><strong>InVigor L233P</strong></td>
<td>InVigor L233P was grown on more acres in Canada than any other canola hybrid in 2019.² Featuring the patented Pod Shatter Reduction technology, this early-maturing, high-yielding hybrid provides greater harvest flexibility for growers looking to manage their day-to-day workload during the busy harvest season. It’s the winning hybrid for the 2017 and 2018 Canola 100 contest, as well as the winner of the 2018 third-party Straight Cut Canola Performance Trials (CPTs).</td>
</tr>
<tr>
<td><strong>InVigor L234PC</strong></td>
<td>InVigor L234PC is proven to be a high-yielding hybrid with both the patented Pod Shatter Reduction technology of InVigor, as well as second generation multi-genetic clubroot-resistant traits.¹ This hybrid offers outstanding yield protection and strong standability similar to InVigor L233P. This hybrid is a great fit for growers in clubroot-affected areas.</td>
</tr>
<tr>
<td><strong>InVigor L255PC</strong></td>
<td>This medium-height hybrid provides excellent standability and performance. It is well suited for growers in mid- to long-growing zones. InVigor L255PC separates itself from all the others by its very impressive standability and the benefits of both patented Pod Shatter Reduction technology and clubroot resistance.¹</td>
</tr>
<tr>
<td><strong>InVigor L252</strong></td>
<td>This hybrid continues to offer incredible yield performance and enhanced standability with mid-season maturity. InVigor L252 won the 2018 CPTs for the sixth straight year (average of all growing zones in small plot swath trials). It was also the winner of the 2017 InVigor Standard Swath Yield DSTs.</td>
</tr>
</tbody>
</table>

¹ To predominant clubroot pathotypes found in Canada at the time of registration. InVigor L352C, InVigor L345PC, and InVigor L255PC all share the same 1st generation clubroot resistance profile. InVigor L234PC has this resistance profile plus it contains 2nd generation multi-genetic clubroot resistance to additional clubroot pathotypes to help combat evolving clubroot pathotypes.

² 2019 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

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### InVigor Hybrid Selection Grid

<table>
<thead>
<tr>
<th><strong>Features</strong></th>
<th><strong>InVigor L345PC</strong></th>
<th><strong>InVigor L352C</strong></th>
<th><strong>InVigor L233P</strong></th>
<th><strong>InVigor L234PC</strong></th>
<th><strong>InVigor L255PC</strong></th>
<th><strong>InVigor L252</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I want the highest yield potential.</strong></td>
<td><strong>NEW</strong></td>
<td><strong>NEW</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>I need a canola hybrid with very strong standability.</strong></td>
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</tr>
<tr>
<td><strong>Environmental conditions often delay seeding and I want to minimize risk of early-season frost.</strong></td>
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<td></td>
</tr>
<tr>
<td><strong>I need a canola hybrid with clubroot resistance.</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>I want to straight cut my canola.</strong></td>
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</tr>
<tr>
<td><strong>I want to use the LibertyLink® herbicide technology system.</strong></td>
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<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

**COMMENTS**

- Conditions vary yearly; growing multiple hybrids can offset risk and maximize your overall yield opportunity.
- Managing target plant populations can dramatically improve standability. InVigor RATE will help growers lodging challenges.
- Green = earlier maturing hybrids
- All InVigor hybrids contain the same clubroot resistance profile to predominant clubroot pathotypes found in Canada at the time of registration. InVigor L234PC has this resistance profile plus contains second generation multi-genetic clubroot resistance to additional clubroot pathotypes to help combat evolving clubroot pathotypes.
- Recommend to only straight cut InVigor hybrids that contain the BASF patented Pod Shatter Reduction technology trait.
- Liberty® herbicide is a Group 10 registered for use on canola.
No two canola fields are the same.

That's why InVigor® hybrid canola is designed to address a wide range of challenges across the broadest spectrum of grower conditions. Multiple options mean multiple solutions for the challenges you face as a Canadian canola grower.

### Maturity

<table>
<thead>
<tr>
<th>InVigor L233P</th>
<th>InVigor L234PC</th>
<th>InVigor L345PC</th>
<th>InVigor L252</th>
<th>InVigor L352C</th>
<th>InVigor L255PC</th>
</tr>
</thead>
<tbody>
<tr>
<td>3½ days early</td>
<td>0 days</td>
<td>1½ days later</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

### Standability

<table>
<thead>
<tr>
<th>InVigor L345PC</th>
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<th>InVigor L255PC</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEW</td>
<td>NEW</td>
<td>NEW</td>
<td>VERY STRONG</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.
The advantage of a targeted plant population.

Extensive research trials conducted by the BASF Agronomic Excellence team show that a target plant population (TPP) of 5 to 7 plants/ft² helps optimize the yield, consistency and performance of InVigor® hybrid canola.

Effect of seeding rate on plant populations.

Benefits of a targeted plant population of 5 to 7 plants/ft².

- Increased plant productivity and yield performance
- More efficient use of available resources
- Improved weed control and reduced intra-crop competition
- Elevated stress tolerance
- More even maturity and uniform plant structure
- Improved lodging resistance and lower sclerotinia incidence

**TECH TIP**

Use the InVigor RATE calculator to help find your plant population and survivability. Access it at agsolutions.ca/invigorate
Seeding as simple as A, B, C, D.

New InVigor® seed-count packaging makes it easier to achieve 5 to 7 plants/ft² by separating seed into four distinct Thousand Seed Weight (TSW) ranges and providing recommended seeding rates (lbs/ac) that translate into approximately 10 seeds/ft². Assuming 50 to 70% survivability, growers will achieve the optimal plant population of 5 to 7 plants/ft² and can even fine tune their rate based on field conditions and preferred management practices.

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

*Recommended seeding rates are calculated according to seeding approximately 10 seeds/ft² and an average survivability of 60% to achieve 6 plants/ft². Results may vary on your farm due to environmental factors and preferred management practices.
A better bag of seed.

Five advantages of the new InVigor seed count packaging.

- **Optimizing yield**: Targeting an optimal plant population that will allow InVigor hybrids to perform even more consistently.
- **Simplicity**: Seeding rate recommendations make it easy to achieve 5 to 7 plants/ft².
- **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 the same amount of seed.
- **Easy to understand**: The TSW ranges and recommended seeding rates are clearly marked on the bag, making it simple to calibrate your drill.

Making every plant count in four steps.

1. Check the front of your InVigor hybrid bag for the TSW range (A, B, C, D) and recommended seeding rate.
2. Calibrate your drill to ensure you achieve the recommended seeding rate. (Most equipment manufacturers have detailed calibration instructions on their website. We recommend that you consult with yours to maximize results.)
3. Conduct establishment and survivability plant counts to better understand the exact survivability rate on your farm.
4. If you are unsure of your survivability, follow the recommended seeding rate on your InVigor bag.
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

Crop staging
For InVigor® canola hybrids with the LibertyLink® trait only
Apply from cotyledon to prior to bolting

Weeds controlled

**Broadleaf weeds**
Canada thistle\(^2\), Chickweed, Cocklebur, Eastern black nightshade, Field bindweed\(^2\), Jimsonweed\(^3\), 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\(^4\), Wild oats, Witchgrass, Yellow foxtail

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

<table>
<thead>
<tr>
<th>Herbicide</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liberty</td>
<td>1.0 L/ac (2.5 L/ha)</td>
</tr>
<tr>
<td>Ammonium sulfate (optional)</td>
<td>2.4 L/ac (6 L/ha)</td>
</tr>
</tbody>
</table>

Water volume
Ground application Minimum 75 L/ac (20 gal/ac)

Pre-harvest interval
60 days from date of treatment (or last treatment when a second application has been made) when tank mixed with Select®

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

1 Always follow all other label considerations such as wind speed.
2 Apply at 2 L/ha when weeds are 1–6 leaf stage
3 For control of Jimsonweed, apply Liberty 200SN herbicide at a rate of 2.5 L/ha when the weeds are in the 1–6 leaf stage
4 Apply at 2.5 L/ha when quackgrass is in the 1–4 leaf stage
**SELECT™ Herbicide**

Protects against grassy weeds with one post-emergent pass.

- Tank mixes easily with Liberty® herbicide for enhanced grassy weed control in your InVigor hybrid canola.

**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 darnel
- Proso millet
- Quackgrass
- Smooth crabgrass
- Volunteer canary grass
- Volunteer cereals
- Volunteer corn
- Wild oats
- Witchgrass
- Yellow foxtail

**Water volume**
Ground application
Minimum 57 L/ac (15 gal/ac)

**Pre-harvest interval**
60 days after application for canola.

**Application rates**

<table>
<thead>
<tr>
<th>Rate Type</th>
<th>One Case Treats</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Standard rate</strong></td>
<td>40 acres</td>
</tr>
<tr>
<td><strong>High rate</strong></td>
<td>20 acres</td>
</tr>
<tr>
<td><strong>Liberty tank-mix rate</strong></td>
<td>60 acres</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Herbicide</th>
<th>Rate Range (ml/ac)</th>
<th>Rate Range (ml/ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select¹</td>
<td>77 to 154 ml/ac</td>
<td>190 to 380 ml/ha</td>
</tr>
<tr>
<td>Amigo adjuvant²</td>
<td>0.5 to 1.0% v/v, i.e. 5 to 10 L per 1000 L water</td>
<td></td>
</tr>
</tbody>
</table>

**Tank mix recommendation and order**
For InVigor canola hybrids with the LibertyLink® trait only

<table>
<thead>
<tr>
<th>Step</th>
<th>Component</th>
<th>Rate Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Amigo</td>
<td>0.5% v/v, i.e. 5 L per 1000 L water</td>
</tr>
<tr>
<td>2</td>
<td>Ammonium sulphate</td>
<td>2.4 L/ac (6 L/ha)</td>
</tr>
<tr>
<td>3</td>
<td>Liberty</td>
<td>0.8 to 1.0 L/ac (2.0 to 2.5 L/ha)</td>
</tr>
<tr>
<td>4</td>
<td>Select</td>
<td>50 ml/ac (125 ml/ha)³</td>
</tr>
</tbody>
</table>

¹ Consult the label for rates to control specific weeds.
² Use Amigo adjuvant at 0.5% v/v for the 40 and 60 acre/case application rates (50 and 75 ml/ac) of Select. Use at 1.0% v/v for the 20 acre/case application rate (154 ml/ac) of Select.
³ Label rate states 25 ml/ac (63 ml/ha).

---

**Active ingredient**
- Clethodim – Group 1

**Formulation**
- Emulsifiable concentrate

**One case contains**
- 1 x 3 L jug of Select® herbicide
- 1 x 9 L jug of Amigo® adjuvant
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

Priaxor 120 ml/ac (300 ml/ha)

Water volume
Ground application
Minimum 40 L/ac (10 gal/ac)
Aerial application
20 L/ac (5 gal/ac)³

Pre-harvest interval
21 days after application for canola.

Active ingredients
Pyraclostrobin – Group 11
Fluxapyroxad – Group 7

Formulation
Liquid suspension

One case contains 2 x 9.6 L jugs

A more advanced fungicide that helps maximize your canola yield potential.¹

- Tank mixed with your canola system herbicide, Priaxor® fungicide combines the active ingredient Xemium® with the proven benefits² of AgCelence®
- Multiple modes of action for increased performance and reduced risk of developing fungicide resistance
- Increased growth efficiency and better management of minor stress¹

Taller plants with Priaxor on canola

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

¹ All comparisons are to untreated, unless otherwise stated.
² AgCelence benefits refer to products that contain the active ingredient pyraclostrobin.
³ Class 2 pesticides, such as Priaxor, require a permit to be applied by aerial application in Ontario. No permit is required for an application on ground.
A new era of sclerotinia management to help preserve yield potential and quality in canola.

- Combines the two leading sclerotinia active ingredients, in a convenient liquid premix
- Provides best-in-class management of sclerotinia

### Sclerotinia management in canola

**Crop staging**
20 to 50% flowering

**Diseases controlled**
Sclerotinia stem rot 
(*Sclerotinia sclerotiorum*)

**Application rates**
One case treats 70 to 80 acres

| Cotegra | 240 to 280 ml/ac  
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(600 to 700 ml/ha)</td>
</tr>
</tbody>
</table>

**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.

**Active ingredients**
Boscalid – Group 7
Prothioconazole – Group 3

**Formulation**
Suspension concentrate

**One case contains**
2 x 9.8 L jugs

**Increased yield with Cotegra fungicide vs competitor on canola**

<table>
<thead>
<tr>
<th>Disease (%)</th>
<th>Yield (bu/ac)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Untreated</td>
<td>54.2</td>
</tr>
<tr>
<td>Competitor</td>
<td>55.6</td>
</tr>
<tr>
<td>Cotegra</td>
<td>60.5</td>
</tr>
</tbody>
</table>

**Increased sclerotinia management in canola – high disease pressure**

<table>
<thead>
<tr>
<th>Disease (%)</th>
<th>Disease (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Untreated</td>
<td>13.9</td>
</tr>
<tr>
<td>Cotegra</td>
<td>11.2</td>
</tr>
</tbody>
</table>

**Source:** BASF AgSolutions® Performance Trial, Western Canada, 2016-2018, n=27

**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).*

---

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

2 Class 2 pesticides, such as Cotegra, require a permit to be applied by aerial application in Ontario. No permit is required for an application on ground.
The ultimate crop and weed dry down in canola.

- Improved crop and weed dry down for a more efficient harvest compared to glyphosate alone
- Tank mixed with glyphosate for multiple modes of action in managing weeds resistant to glyphosate, triazine and Group 2 herbicides
- Control perennial weeds in the fall for cleaner fields the following spring

**Crop staging**
Apply when 80% of seeds have some colour change. 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 160 acres when tank mixed with glyphosate

**Recommended use pattern**

<table>
<thead>
<tr>
<th>Product</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eragon® LQ</td>
<td>30 to 59 ml/ac (73 to 146 ml/ha)</td>
</tr>
<tr>
<td>Glyphosate¹</td>
<td>1.0 L/ac (2.5 L/ha)</td>
</tr>
<tr>
<td>Merge® adjuvant¹</td>
<td>400 ml/ac (1 L/ha)</td>
</tr>
</tbody>
</table>

**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

¹ Glyphosate and Merge adjuvant (required) are not included in the case.

Access the Eragon LQ staging guide at agsolutions.ca/eragonlq-guide.
Solutions for potatoes.

Staging graphics depicted here are for quick reference only. Refer to individual product pages and product labels for detailed staging information.

1 Do not exceed the total number of sequential applications or total number of applications per season as stated in the product label.
2 To reduce the risk of the development of fungicide resistance, tank-mix Forum® fungicide with other fungicides. Do not apply more than four (4) applications per season.
BASF lead recommendations.

Select the solution that’s right for your operation.

- **WEED MANAGEMENT**
  - Frontier® Max
    - Herbicide

- **DISEASE MANAGEMENT**
  - Cabrio® Plus
    - Fungicide
  - Forum®
    - Fungicide
  - Sercadis®
    - Xemium® Fungicide
  - Cevya®
    - Revysol® Fungicide
  - RESEARCH UPDATE
  - Zampro®
    - Fungicide

- **INSECT MANAGEMENT**
  - Sefina®
    - Insecticide Powered by Inscalis™
  - Titan®
    - Insecticide

Contact your BASF AgSolutions® Retail Representative for more information.
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

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

Pests controlled

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

In-furrow applications: Colorado potato beetle ( Leptinotarsa decemineata ), leafhopper

Application rates

Seed-piece treatment

<table>
<thead>
<tr>
<th>Pest(s) Controlled</th>
<th>Application Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aphids (on label), Colorado potato beetle, potato leafhopper, potato flea beetle</td>
<td>10.4 to 20.8 ml per 100 kg potato seed pieces</td>
</tr>
<tr>
<td>Wireworm (suppression)</td>
<td>20.8 ml per 100 kg potato seed pieces</td>
</tr>
</tbody>
</table>

In-furrow application

<table>
<thead>
<tr>
<th>Pest(s) Controlled</th>
<th>Application Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colorado potato beetle, leafhoppers</td>
<td>2.0 to 3.33 ml per 100 m row</td>
</tr>
</tbody>
</table>

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.

Active ingredient | Formulation | One case contains |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Clothianidin – Group 4</td>
<td>Suspension</td>
<td>2 x 3 L jugs</td>
</tr>
</tbody>
</table>

¹ Control of overwintered adults and suppression of second generation.
² Suppression only.
³ May reduce the damage caused by other wireworm species.
Insect Management
Sefina®
Insecticide Powered by Inscalis™

Lasting protection against aphids.

- Quickly halts aphid feeding, which reduces production losses and virus transmission
- Extended control of aphids
- Powered by Inscalis™, a unique mode of action that controls labeled aphid pests that have developed resistance to other insecticides
- Effective tool in an Integrated Pest Management strategy with low impact on beneficial insects, including predatory and parasitic insects

Crop timing
Apply between emergence to harvest during all life stages.

Pests controlled
Green peach aphid (Myzus persicae)
Potato aphid (Macrosiphum euphoribae)

Application rates\(^1,2\)
One case treats 80 acres (32 hectares).

<table>
<thead>
<tr>
<th>Pest Control</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green peach aphid and potato aphid control</td>
<td>81 ml/ac (0.2 L/ha)</td>
</tr>
</tbody>
</table>

Pre-harvest interval
7 days after application.

Resistance management
Do not make more than two sequential applications of Sefina® insecticide before using an effective insecticide with a different mode of action.

Active ingredient
Afidopyropen – Group 9D

Formulation
Dispersion concentrate

One case contains
2 x 3.24 L

\(^1\) Allow a minimum of 7 days between applications.
\(^2\) Do not apply more than 1012 ml/ac (2.5 L/ha) per year.
Why let aphids take a bite of your profits?

We all know small insects can make a huge impact—and aphids are no exception. These sucking and piercing insects contribute to significant economic loss through direct feeding damage or the transmission of diseases such as potato virus Y.

Y – it can't be ignored.

Potato virus Y is one of the most damaging potato viruses, causing up to 80% yield losses.¹ As a non-persistent virus, aphids can acquire it within a few seconds of feeding on a diseased plant. They then carry it for 1-2 hours afterward and can transmit it directly to healthy plants, causing damage ranging from mild to severe foliar necrosis—and even the death of the plant. Tubers infected later in the season often don’t have obvious symptoms, but they still shouldn’t be used for seed as they can carry the infection into the next season.

Persistent for life.

With persistent viruses such as potato leafroll virus, uptake only occurs if aphids feed on a diseased plant for 10-30 minutes. The virus then takes 12-24 hours to circulate in an aphid’s system before it can be transmitted to healthy plants. Once an aphid has the virus, it can transmit it for the rest of its life. However, if an aphid feeds on a diseased plant that’s been treated with an effective insecticide, it will die before it can transmit the virus.

Stop aphids in their tracks.

Aphids can test your limits, but there are a number of best management practices you can implement to minimize their population and the damage they cause:

• Properly destroy all cull piles
• Plant crop barriers (e.g. a non-host crop such as cereals) beside potatoes
• Plant resistant cultivars as much as possible
• Use disease-free seed (identified from field reading and post-harvest test results)
• Disinfect cutting/seeding equipment before contact with seed
• Control volunteer potatoes and weeds that are aphid hosts, such as wild rose, wild mustard and wild radish
• Desiccate seed fields to prevent late-season virus infection
• Apply an effective insecticide

Once you’ve reached local threshold limits, apply Sefina® insecticide for rapid and long-lasting control against aphids. Powered by Inscalis™, this unique mode of action controls labeled aphid pests that have developed resistance to other insecticides.

¹Spudsmart, 2018.
Cevya™
Revysol™ Fungicide

RESEARCH UPDATE
This product is currently being assessed for registration under the Pest Control Products Act.* The information presented here is for research purposes only.

Powered by Revysol™, an innovative new active ingredient, Cevya™ is a systemic fungicide from BASF that provides fast and continuous pre- and post-infection control of key diseases. Its unique binding activity controls biotypes that may have developed resistance to other Group 3, 7, 9 and 11 fungicides.

Key crops and pests (proposed)
Cevya fungicide has been submitted to the Pest Management Regulatory Agency for disease management on a wide range of fruit and vegetable crops, including pome and stone fruits, grapes, peanuts, potatoes, sugar beets and tree nuts.

- Fast and continuous control of key diseases on a wide range of fruits and vegetable crops, including potatoes
- Preventative and post-infection control
- Unique, new binding activity to control biotypes that may have developed resistance to other fungicides

* Cevya cannot be manufactured, imported, distributed or used in Canada 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.
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

Active ingredient
Fluxapyroxad – Group 7

Formulation
Suspension

One case contains
2 x 1.35 L jugs

Crop timing

<table>
<thead>
<tr>
<th>Disease</th>
<th>Timing and Application Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rhizoctonia canker (soil-borne)</td>
<td>135 ml/ac (333 ml/ha) at planting (in-furrow spray)</td>
</tr>
<tr>
<td>Early blight preventatively</td>
<td>67 to 135 ml/ac (167 to 333 ml/ha) from tuber initiation to row close as part of a regular early-blight control program</td>
</tr>
<tr>
<td>White mold</td>
<td>135 ml/ac (333 ml/ha) begin applications at flowering when there is a risk of disease</td>
</tr>
</tbody>
</table>

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 10 hectares).

In-furrow applications:

- Rhizoctonia canker: 135 ml/ac (333 ml/ha)
- 36" Rows: 30 ml per 1000 m of row

Foliar applications:

- Early blight: 67 to 135 ml/ac (167 to 333 ml/ha)
- White mold: 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.
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

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 (smooth, large), Eastern black nightshade\(^1,2\), Fall panicum, Foxtail (giant, green, yellow), Old witchgrass, Redroot pigweed\(^1,2\), Yellow nutsedge\(^3\)

Application rates
One case treats 46 to 58.8 acres (18.6 to 23.8 hectares).

<table>
<thead>
<tr>
<th>Soil type</th>
<th>Application rates based on % organic matter</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Less than 3% organic</td>
</tr>
<tr>
<td>Coarse textured soils</td>
<td>305 ml/ac (756 ml/ha)</td>
</tr>
<tr>
<td>Medium textured soils</td>
<td>305 ml/ac (756 ml/ha)</td>
</tr>
<tr>
<td>Fine textured soils</td>
<td>305 ml/ac (756 ml/ha)</td>
</tr>
</tbody>
</table>

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.

Active ingredient: Dimethenamid-P – Group 15
Formulation: Emulsifiable concentrate
One case contains: 2 x 9 L jugs

\(^1\) Includes Group 2-resistant and triazine-resistant biotypes.
\(^2\) Controlled at 963 ml/ha; lower rates provide suppression only.
\(^3\) Suppression only.
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

Crop timing
Apply on 5 to 10 day interval.

Diseases controlled
Late blight (*Phytophthora infestans*)
Tuber blight in storage\(^1\) (*Phytophthora infestans*)

Application rates
One case treats 50 acres (20 hectares).

<table>
<thead>
<tr>
<th>Product</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forum</td>
<td>182 ml/ac (450 ml/ha)</td>
</tr>
</tbody>
</table>

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 must be used in a tank mix with other fungicides effective against late blight.

Active ingredient
Dimethomorph – Group 40

Formulation
Suspension concentrate

One case contains
2 x 4.5 L jugs

\(^1\) Suppression only.

Source: BASF
Stop early and late blight in potatoes and get the proven benefits\(^1\) of AgCelence\(^\circledR\).

- Two modes of action for control of early and late blight
- Unique AgCelence benefits\(^1\) for disease control and better management of stress, for increased yield potential\(^2\)

**Crop timing**
7 to 14 day interval (for early blight).
7 to 10 day interval (for late blight).

During periods of rapid growth or high disease pressure, use a shorter interval.

Make first application at tuber initiation before row closure.

Subsequent applications can be made:
1. At row close to allow good coverage of the lower canopy where disease usually starts.
2. Before harvest if the crop is under stress from heat/cold/drought conditions.

**Diseases controlled**
Early blight (*Alternaria solani*)
Late blight (*Phytophthora infestans*)

**Application rates**
One case treats 8.9 hectares (22 acres).

<table>
<thead>
<tr>
<th>Fungicide</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cabrio® Plus</strong></td>
<td>0.91 kg/ac (2.25 kg/ha)</td>
</tr>
</tbody>
</table>

**Pre-harvest interval**
3 days for potatoes.

**Restricted entry interval** – 12 hours.

**Resistance management** – Rotate to a non-Group 11 fungicide after each use. Do not exceed 3 applications per year.

**Active ingredients**
Pyraclostrobin – Group 11
Metiram – M\(^2\)

**Formulation**
Water dispersible granules

**One case contains**
20 kg bag

\(^1\) AgCelence benefits refer to products that contain the active ingredient pyraclostrobin.

\(^2\) All comparisons are to untreated, unless otherwise stated.

**AgCelence in Potatoes: Yield Increase**

Average yield increase = 32.9 cwt/acre

Yield compared to grower standard practice

Source: In-field scale BASF trials, n=124, 2006-2014
Zampro® fungicide on leaf

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

**Powerful control of late blight that recharges with moisture.**

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

**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*1 (Phytophthora infestans)

**Application rates**

<table>
<thead>
<tr>
<th>Disease</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Late blight</td>
<td>324 to 404 ml/ac (0.8 to 1.0 L/ha)*2</td>
</tr>
<tr>
<td>Tuber blight</td>
<td>404 ml/ac (1.0 L/ha)</td>
</tr>
</tbody>
</table>

**Rainfastness**

2 hours.

**Resistance management**

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

---

**Active ingredients**

- Dimethomorph – Group 40
- Ametoctradin – Group 45

**Formulation**

Suspension concentrate

**One case contains**

4 x 4.14 L jugs

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

*2 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 sow-thistle, field bindweed, chickweed, dandelion, henbit, scentless chamomile and Canada fleabane 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

---

1 Source: Howard F. Schwartz, Colorado State University, Bugwood.org
2 Source: Chris Evans, University of Illinois, Bugwood.org
3 Source: Forest and Kim Starr, Starr Environmental, Bugwood.org
Find the herbicide that works for your field.

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

**Herbicide**

Complements glyphosate for superior post-harvest control.

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

**Crop staging**

Prior to first significant frost

**Weeds controlled**

- Biennial wormwood
- Canada thistle
- Common cocklebur
- Common ragweed
- Dandelion
- Kochia
- Lady’s thumb
- Lamb’s quarters
- Perennial sow thistle
- Redroot pigweed
- Tall waterhemp
- Velvetleaf
- Volunteer canola
- Wild buckwheat

**Application rates**

One case treats 40 to 80 acres.

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distinct</td>
<td>115 g/ac (285 g/ha)</td>
</tr>
<tr>
<td>Merge adjuvant</td>
<td>400 ml/ac (1 L/ha)</td>
</tr>
<tr>
<td>Glyphosate</td>
<td>See label for rate</td>
</tr>
</tbody>
</table>

**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.

**Active ingredients**

- Dicamba – Group 4
- Diflufenopyr – Group 19

**Formulation**

Wettable granules

**One case contains**

2 x 2.32 kg jugs

Weed control in spring, following previous September application

**Source:** BASF research trials
An advanced dicamba formulation with lower volatility properties.

- New, 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

**Crop staging**
Apply to actively growing weeds.

**Weeds controlled**
1. Buckwheat (tartary, wild)
2. Canada fleabane
3. Canada thistle
4. Cleavers
5. Corn spurry
6. Cow cockle
7. Field bindweed
8. Green smartweed
9. Lady’s thumb
10. Lamb’s quarters
11. Mustards
12. Perennial sow thistle
13. Ragweed (common, false, giant)
14. Redroot pigweed
15. Russian pigweed
16. Velvetleaf

**Application rates**
One case treats 40 acres.
One shuttle treats 300 acres.

<table>
<thead>
<tr>
<th>Product</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engenia</td>
<td>4,5 400 ml/ac (2 L/ha)</td>
</tr>
<tr>
<td>Glyphosate</td>
<td>See label for rate</td>
</tr>
</tbody>
</table>

**Water volume**
Ground application
Minimum 40 L/ac (10 gal/ac)
Use higher water volumes to ensure adequate coverage.

---

**Active ingredient**
Dicamba – Group 4

**Formulation**
Solution

**One case contains**
2 x 8.09 L jugs
Also available in 121.2 L shuttle

---

1. Controlled by Engenia alone at 200 to 400 ml/ac (0.5 to 1 L/ha).
2. Post-emergence only.
3. Apply Engenia herbicide annually for three years at the flowering stage of bindweed and the budding stage of thistles.
4. See label for a complete list of additional available tank mixes and their rates.
5. Tank mix options are not included in the case.
6. See label for water rate application.
7. Glyphosate is required.
8. Glyphosate and Merge adjuvant (required for optimum activity) are not included in the case.
Crop management resources.
(When you need answers fast.)
Provides proven disease control and unique AgCelence® benefits¹ that can help increase yield and quality potential in alfalfa.²

- **First cut application** resulted in improved disease control and an increase in yield due to increased leaf retention at the bottom of the plant³
- **Second and third cut applications** resulted in improved disease control and increased yield and protein levels for higher quality²

**Active ingredients**
- Pyraclostrobin – Group 11
- Fluxapyroxad – Group 7

**Formulation**
- Liquid suspension

**One case contains**
- 2 x 9.6 L jugs

**Crop staging**
4 to 8 inches in height. For best results, harvest a minimum of 21 days after Priaxor application.³

**Diseases controlled**
- **Common leaf spot** (Pseudopeziza medicaginis)
- **Blossom blight** (Sclerotinia sclerotiorum)⁴,⁵

**Application rates**
One case treats 160 acres.

<table>
<thead>
<tr>
<th>Component</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Priaxor</td>
<td>120 ml/ac (300 ml/ha)²</td>
</tr>
</tbody>
</table>

**Pre-harvest interval**
14 days

**Increased leaf retention**
**Better and faster regrowth**
21 days after treatment.

**Source:** 2017-2018 Ag Performance Trials, Ontario & Québec.
1st, 2nd & 3rd cuts had 7 and 9 observations, respectively.

**TECH TIP**
Target 4-8 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.

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

TECH TIP
Frost events:
Include any damaged leaves on the bottom of the plant. If frost occurs at 2nd leaf, the next leaf emerged is counted as the 3rd leaf.
Spray your best with Liberty® herbicide.

1. Maintaining sufficient water volumes is critical with a contact herbicide. Spray Liberty® herbicide with a minimum 20 gallons per acre for good contact and optimal coverage. Add ammonium sulfate (AMS) for enhanced activity on tough weeds.

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

3. Liberty 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.

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

5. If considering a two-pass system, apply the second pass 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.

6. 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 15 mph (24 km/hr) to avoid drift and keep control.
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 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.

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

* 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 rinsate¹
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 rinsate¹
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 rinsate¹
5. Record spray cleanout procedure and date.

¹ 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


Visit agsolutions.ca/applicationstewardship to learn more. Access the Engenia Spray Tool at engeniaspraytool.ca.
# Dry bean solutions you can depend on.

Become familiar with all of your dry bean options. Information presented is for quick reference only. Always refer to product label.

<table>
<thead>
<tr>
<th>Herbicide</th>
<th>Timing</th>
<th>Rate</th>
<th>Tips</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frontier® Max</td>
<td>PPI</td>
<td>348 to 390 ml/ac</td>
<td>Can incorporate up to 7 days after application. Strong on nightshade. Use the high rate if nightshade is present.</td>
</tr>
<tr>
<td>Prowl® H2O</td>
<td>PPI</td>
<td>960 ml/ac</td>
<td>Good on sandy soil. Incorporate it if you are using it in a mixture.</td>
</tr>
<tr>
<td>Pursuit®</td>
<td>PP, PPI, PRE</td>
<td>126 ml/ac</td>
<td>Cold, wet weather at emergence can shorten the internodes, however there is no yield impact.</td>
</tr>
<tr>
<td>Basagran® Forté</td>
<td>POST</td>
<td>700 ml/ac if there is no ragweed</td>
<td>Apply after the 1st trifoliate until the 3rd trifoliate. Spray in the middle of the day. Apply to small, actively growing weeds. Always use a minimum of 20 gal/ac of water.</td>
</tr>
<tr>
<td>Poast® Ultra</td>
<td>POST</td>
<td>445 ml/ac</td>
<td>Strong on grasses.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fungicide</th>
<th>Timing</th>
<th>Rate</th>
<th>Disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Priaxor®</td>
<td>Beginning of flower or the onset of symptoms</td>
<td>120 to 180 ml/ac</td>
<td>Anthracnose</td>
</tr>
<tr>
<td>Cotegra®</td>
<td>20-50% flowering and again 7-14 days after the first application if disease persists or weather conditions are favourable for disease development</td>
<td>400 ml/ac</td>
<td>White mold</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Harvest Aid</th>
<th>Timing</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eragon® LQ</td>
<td>Apply when stems are green to brown, pods are mature (yellow, brown) and 80-90% of leaves have dropped.</td>
<td>30 to 59 ml/ac + 400 ml/ac of Merge® adjuvant</td>
</tr>
<tr>
<td>Ignite®</td>
<td>Apply when approximately 50-75% of the bean pods have naturally changed colour from green to yellow or brown.</td>
<td>1.2 L/ac</td>
</tr>
</tbody>
</table>

---

1 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. 2 Do not apply to dry beans grown for seed.

PPI = pre-plant incorporated  PP = pre-plant  PRE = pre-emergence  POST = post-emergence
Is your dry bean field ready for Eragon LQ herbicide?

**Application timing for Eragon LQ herbicide.**
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: When tank-mixed with glyphosate, consult glyphosate label or talk to your grain buyer for information regarding use on specific varieties of dry beans.

**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.

Learn more about herbicide timing for different varieties of beans in the Eragon LQ Pre-harvest staging guide at agsolutions.ca/eragonlq-guide
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.1,2 GR Canada fleabane can grow on various soils3 and both weeds can emerge throughout the growing season, particularly during the spring and fall.4 Canada fleabane can produce up to one million seeds per plant5 which can travel up to 500 km through the air affecting fields each season.6 Waterhemp is difficult to control once it passes four inches in height, requiring constant scouting. These plants can reach up to 12 feet in height while producing an average of almost 300,000 seeds per female plant.7,8

**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. Spring-emerged plants will bolt while fall-emerged plants will grow in a rosette (right).9,10,11

2. Fleabane has white-green flowers with a yellow center and multiple fuzzy flowers on each stem.9,10

Source: BASF, ON, 2018

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**How to control Canada fleabane.**

<table>
<thead>
<tr>
<th></th>
<th>Glyphosate-tolerant corn</th>
<th>Herbicide-tolerant soybeans</th>
<th>Dicamba-tolerant soybeans</th>
<th>Conventional/IP soybeans</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pre-plant/Pre-emerge</strong></td>
<td>Integrity® + glyphosate</td>
<td>Eragon® LQ or Integrity or Optill® + Metribuzin + glyphosate</td>
<td>Engenia® + Eragon LQ or Integrity or Optill</td>
<td>Eragon LQ or Integrity + Conquest® LQ</td>
</tr>
<tr>
<td><strong>Post-emerge</strong></td>
<td>Marksman® + glyphosate</td>
<td>–</td>
<td>Engenia (early post-emergence if required)</td>
<td>–</td>
</tr>
<tr>
<td><strong>Pre-harvest</strong> (if required)</td>
<td>–</td>
<td>Eragon LQ</td>
<td>Eragon LQ</td>
<td>Eragon LQ</td>
</tr>
</tbody>
</table>
### 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).

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).

### How to control waterhemp.

<table>
<thead>
<tr>
<th>Glyphosate-tolerant corn</th>
<th>Herbicide-tolerant soybeans</th>
<th>Dicamba-tolerant soybeans</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pre-emeerge</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zidua® SC + Marksman¹²</td>
<td>Zidua SC + glyphosate</td>
<td>Zidua SC + Engenia</td>
</tr>
<tr>
<td>Integrity</td>
<td>Zidua SC + Eragon LQ or Integrity or Optill</td>
<td>Zidua SC + Engenia + Eragon LQ or Integrity or Optill</td>
</tr>
<tr>
<td><strong>Post-emerge</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marksman¹²</td>
<td>Liberty® (LibertyLink® soybeans only)¹³</td>
<td>Engenia + glyphosate</td>
</tr>
<tr>
<td>Armezon® PRO + Marksman¹²</td>
<td></td>
<td>(up to 2nd trifoliate)</td>
</tr>
</tbody>
</table>

### 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)

²²Can only be applied once per season. ²³LibertyLink soybeans are not glyphosate tolerant.
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.

<table>
<thead>
<tr>
<th>Group</th>
<th>Frontier Max</th>
<th>Prowl H2O</th>
<th>Zidua SC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crops</td>
<td>15</td>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td>Herbicide-tolerant soybeans</td>
<td>Herbicide-tolerant soybeans</td>
<td>Herbicide-tolerant soybeans</td>
<td></td>
</tr>
<tr>
<td>Conventional/IP soybeans</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corn</td>
<td></td>
<td>Corn</td>
<td></td>
</tr>
<tr>
<td>Dry beans</td>
<td></td>
<td>Dry beans</td>
<td></td>
</tr>
<tr>
<td>–</td>
<td></td>
<td>Horticulture (see label for full crops)</td>
<td>–</td>
</tr>
<tr>
<td>Use if you have</td>
<td>Nutsedge</td>
<td>Crabgrass</td>
<td>Waterhemp</td>
</tr>
<tr>
<td>Nightshade</td>
<td></td>
<td></td>
<td>Pigweed</td>
</tr>
<tr>
<td>Moisture requirement</td>
<td>½&quot;</td>
<td>½ - ¾&quot;</td>
<td>½ - ¾&quot;</td>
</tr>
<tr>
<td>Ideal soil type</td>
<td>Medium to fine</td>
<td>Coarse</td>
<td>Coarse, medium and fine. Do not apply on peat or muck soils with more than 7% organic matter.</td>
</tr>
</tbody>
</table>

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

Source: Bruce Ackley, The Ohio State University, Bugwood.org
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 belowground before symptoms aboveground 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.

**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](http://clubroot.ca) or our helpful FAQ page at [agsolutions.ca/clubrootFAQ](http://agsolutions.ca/clubrootFAQ)
## Need product details? We’ve got them right here.

Key information to keep you moving.

<table>
<thead>
<tr>
<th>Product</th>
<th>ILEVO®</th>
<th>Stamina®</th>
<th>Armezon®</th>
<th>Armezon Pro</th>
<th>Basagran® Forté</th>
<th>Clean Sweep®</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active Ingredient(s)</td>
<td>Fluopyram</td>
<td>Pyraclostrobin</td>
<td>Topramezone</td>
<td>Dimethenamid-P, Topramezone</td>
<td>Bentazon</td>
<td>Imazetapry, Bentazon</td>
</tr>
<tr>
<td>Concentration</td>
<td>600 g/L</td>
<td>200 g/L</td>
<td>336 g/L</td>
<td>630 g/L, 12.5 g/L</td>
<td>480 g/L</td>
<td>240 g/L, 480 g/L</td>
</tr>
<tr>
<td>Type</td>
<td>ST</td>
<td>ST</td>
<td>H</td>
<td>H</td>
<td>H</td>
<td>H</td>
</tr>
<tr>
<td>Group</td>
<td>7</td>
<td>11</td>
<td>27</td>
<td>15, 27</td>
<td>6</td>
<td>2, 6</td>
</tr>
<tr>
<td>Formulation</td>
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<td>Water-based suspension</td>
<td>Liquid suspension</td>
<td>Emulsifiable concentrate</td>
<td>Liquid</td>
<td>Liquid</td>
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<td>Uniform distribution on the seed</td>
<td>Uniform distribution on the seed</td>
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<td>Minimum 40, 10</td>
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<tr>
<td>Pre-harvest Interval (Days)</td>
<td>N/A</td>
<td>N/A</td>
<td>45 for corn harvest (silage, fodder or grain)</td>
<td>80 for corn; 45 for grazing or feeding treated corn forage, silage, fodder or grain to livestock.</td>
<td>Do not graze treated alfalfa or cut for hay within 20 days of application. See label for other crops.</td>
<td>100 for soybeans</td>
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<tr>
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<td>Protect from freezing</td>
<td>Cool, dry area</td>
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<td>Bulk Density (g/cm³)</td>
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ST = Seed Treatment  
H = Herbicide  
F = Fungicide  
I = Insecticide
<table>
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<tr>
<th>Product</th>
<th>Conquest® LQ</th>
<th>Distinct®</th>
<th>Engenia®</th>
<th>Eragon® LQ pre-plant</th>
<th>Eragon LQ pre-harvest</th>
<th>Frontier® Max</th>
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<td>Active Ingredient(s)</td>
<td>Imazethapyr, Metribuzin</td>
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<td>Safufenacil</td>
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<td>Dimethenamid-P</td>
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<td>H</td>
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<td>4, 19</td>
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<td>Formulation</td>
<td>Liquid</td>
<td>Wettabel granule</td>
<td>Solution</td>
<td>Water-based suspension concentrate</td>
<td>Water-based suspension concentrate</td>
<td>Emulsifiable concentrate</td>
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<td>40-80, 10-20</td>
<td>Minimum 40, 10</td>
<td>40-80, 10-20</td>
<td>Pre-harvest: minimum 80, 20 Post-harvest: 40-80, 10-20</td>
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<td>Pre-harvest Interval (Days)</td>
<td>100 for soybeans &amp; dry beans. See label for other crops.</td>
<td>See label</td>
<td>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 of spring barley, wheat, rye, winter wheat and oats.</td>
<td>60 for barley, corn (field, sweet), soybeans, oats and wheat (spring, winter, durum)</td>
<td>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.</td>
<td>40 for potatoes. See label for other crops.</td>
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<td>1.15</td>
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* Use higher water volumes to ensure adequate coverage.
* Ontario classification only.
* Ontario only.

Information presented is for quick reference only. Always refer to product label.
<table>
<thead>
<tr>
<th>Product</th>
<th>Ignite&lt;sup&gt;®&lt;/sup&gt;</th>
<th>Integrity&lt;sup&gt;®&lt;/sup&gt;</th>
<th>Liberty&lt;sup&gt;®&lt;/sup&gt;</th>
<th>Marksman&lt;sup&gt;®&lt;/sup&gt;</th>
<th>Optill&lt;sup&gt;®&lt;/sup&gt;</th>
<th>Poast&lt;sup&gt;®&lt;/sup&gt; Ultra</th>
<th>Prowl&lt;sup&gt;®&lt;/sup&gt; H20</th>
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<td>Active Ingredient(s)</td>
<td>Glufosinate</td>
<td>Saflufenacil,</td>
<td>Glufosinate</td>
<td>Dicamba,</td>
<td>Imazethapyr,</td>
<td>Sethoxydim</td>
<td>Pendimethalin</td>
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<td></td>
<td>ammonium</td>
<td>Dimethenamid-P</td>
<td>ammonium</td>
<td>Atrazine</td>
<td>Saflufenacil</td>
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<tr>
<td>Concentration</td>
<td>150 g/L</td>
<td>68 g/L, 600 g/L</td>
<td>200 g/L</td>
<td>132 g a.e./L, 261 g/L</td>
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<td>H</td>
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<td>Solution</td>
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<td>Solution</td>
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<td>Microcapsule</td>
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<td>Pre-harvest Interval (Days)</td>
<td>9 for dry beans</td>
<td>100 for field corn; 60 for sweet corn and soybeans</td>
<td>86 for corn; 70 for soybeans, 60 for canola. 20 for grazing treated corn of soybean fields.</td>
<td>60 for corn. Do not graze or cut for fodder before crop maturity (ear emergence).</td>
<td>100</td>
<td>70 for alfalfa and canola; 80 for dry beans, soybeans and potatoes</td>
<td>100 for soybeans. See label for other crops.</td>
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ST = Seed Treatment  
H = Herbicide  
F = Fungicide  
I = Insecticide
<table>
<thead>
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<th>Product</th>
<th>Pursuit&lt;sup&gt;®&lt;/sup&gt;</th>
<th>Select&lt;sup&gt;®&lt;/sup&gt;</th>
<th>Zidua&lt;sup&gt;®&lt;/sup&gt; SC</th>
<th>Cabrio&lt;sup&gt;®&lt;/sup&gt; Plus</th>
<th>Cantus&lt;sup&gt;®&lt;/sup&gt;</th>
<th>Caramba&lt;sup&gt;®&lt;/sup&gt;</th>
<th>Cotegra&lt;sup&gt;®&lt;/sup&gt;</th>
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<td>Active Ingredient(s)</td>
<td>Imazethapyr</td>
<td>Clethodim</td>
<td>Pyroxasulfone</td>
<td>Pyraclostrobin, Metiram</td>
<td>Boscalid</td>
<td>Metconazole</td>
<td>Prothioconazole, Boscalid</td>
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<td>240 g/L</td>
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<td>H</td>
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<td>Solution</td>
<td>Emulsifiable concentrate</td>
<td>Suspension concentrate</td>
<td>Water dispersible granule</td>
<td>Wettable granule</td>
<td>Liquid</td>
<td>Suspension concentrate</td>
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<tr>
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<td>Pre-harvest Interval (Days)</td>
<td>100 for soybeans, dry beans, and imazethapyr tolerant corn. Do not graze treated crops or cut for hay. 60 days for canola. See label for other crops.</td>
<td>N/A</td>
<td>3 for potatoes</td>
<td>30 for potatoes</td>
<td>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</td>
<td>21 for dry beans and soybeans; 36 for canola</td>
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<sup>a</sup> Use higher water volumes to ensure adequate coverage.

<sup>b</sup> Ontario classification only.

<sup>c</sup> Ontario only.

<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, the REI is 4 days for scouting, 7 days for hand-set irrigation and 15 days for hand weeding.

<sup>e</sup> Except for hand harvesting corn (18 days) and hand set irrigation in corn (3 days).

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<table>
<thead>
<tr>
<th>Product</th>
<th>Forum&lt;sup&gt;®&lt;/sup&gt;</th>
<th>Headline&lt;sup&gt;®&lt;/sup&gt; AMP</th>
<th>Priaxor&lt;sup&gt;®&lt;/sup&gt;</th>
<th>Sercadis&lt;sup&gt;®&lt;/sup&gt;</th>
<th>Zampro&lt;sup&gt;®&lt;/sup&gt;</th>
<th>Sefina&lt;sup&gt;®&lt;/sup&gt;</th>
<th>Titan™&lt;sup&gt;™&lt;/sup&gt;</th>
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<tr>
<td>Active Ingredient(s)</td>
<td>Dimethomorph</td>
<td>Metconazole, Pyraclostrobin</td>
<td>Fluxapyroxad, Pyraclostrobin</td>
<td>Fluxapyroxad</td>
<td>Ameitoctradin, Dimethomorph</td>
<td>Atidopyropen</td>
<td>Clothianidin</td>
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<td>Concentration</td>
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<td>55 g/L, 146 g/L</td>
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<td>Liquid suspension</td>
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<td>Suspension</td>
<td>Emulsifiable concentrate</td>
<td>Suspension</td>
</tr>
<tr>
<td>Ground Water Volume L/acre, gal/acre&lt;sup&gt;a&lt;/sup&gt;</td>
<td>20-40, 5-10 for concentrate, 90-650, 24-172 for dilute</td>
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<td>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</td>
<td>21 for canola, corn and soybeans; 7 for sweet corn; 7 for alfalfa. See label for other crops.</td>
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<td>7 days for potatoes and soybeans</td>
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<td>Protect from freezing</td>
<td>Cool, dry area</td>
<td>Protect from freezing</td>
</tr>
<tr>
<td>Bulk Density (g/cm&lt;sup&gt;3&lt;/sup&gt;)</td>
<td>1.15</td>
<td>1.06</td>
<td>1.16</td>
<td>N/A</td>
<td>1.11</td>
<td>1.03</td>
<td>1.25</td>
</tr>
</tbody>
</table>

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

ST = Seed Treatment  
H = Herbicide  
F = Fungicide  
I = Insecticide

<sup>a</sup> Use higher water volumes to ensure adequate coverage.
<sup>b</sup> Ontario classification only.
<sup>c</sup> Ontario only.
<sup>f</sup> Except for hand harvesting or hand detasseling corn (13 days) and hand set irrigation in corn (1 day).
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

<table>
<thead>
<tr>
<th>Group</th>
<th>Mode of Action</th>
<th>BASF Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Acetyl CoA Carboxylase (ACCase) Inhibitors</td>
<td>Poast® Ultra and Select®</td>
</tr>
<tr>
<td>2</td>
<td>ALS (Acetolactate Synthase) Inhibitors</td>
<td>Pursuit®, component in Clean Sweep®, Conquest® LQ and Optill®</td>
</tr>
<tr>
<td>3</td>
<td>Mitosis (Microtubule Assembly) Inhibitors</td>
<td>Prowl® H2O</td>
</tr>
<tr>
<td>5</td>
<td>Photosystem II Inhibitors (different binding site than 6 &amp; 7)</td>
<td>Component in Conquest LQ and Marksman</td>
</tr>
<tr>
<td>6</td>
<td>Photosystem II Inhibitors (different binding site than 5 &amp; 7)</td>
<td>Basagran® Forté, component in Clean Sweep</td>
</tr>
<tr>
<td>9</td>
<td>EPSP (5-enolpyruvylshikimate-3-phosphate) Synthase Inhibitor</td>
<td>Glyphosate¹</td>
</tr>
<tr>
<td>10</td>
<td>Glutamine Synthetase Inhibitors</td>
<td>Liberty® and Ignite®</td>
</tr>
<tr>
<td>14</td>
<td>Protoporphyrinogen Oxidase (PPO) Inhibitors</td>
<td>Eragon® LQ, component in Integrity® and Optill</td>
</tr>
<tr>
<td>15</td>
<td>Mitosis (Very Long Chain Fatty Acids Synthesis) Inhibitors</td>
<td>Frontier® Max, Zidua® SC, component in Armezon® PRO and Integrity</td>
</tr>
<tr>
<td>27</td>
<td>Carotenoid Biosynthesis (p-hydroxyphenyl pyruvate dioxygenase [HPPD]) Inhibitors</td>
<td>Armezon, component in Armezon PRO</td>
</tr>
</tbody>
</table>

### Fungicides

<table>
<thead>
<tr>
<th>Group</th>
<th>Mode of Action</th>
<th>BASF Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Sterol Biosynthesis (Demethylation) Inhibitors</td>
<td>Caramba®, component in Cotegra® and Headline® AMP</td>
</tr>
<tr>
<td>7</td>
<td>Respiration (Complex II: Succinate-dehydrogenase) Inhibitors</td>
<td>Sercadis®, component in Cotegra and Priaxor®</td>
</tr>
<tr>
<td>11</td>
<td>Respiration (Complex III: Quinone Outside) Inhibitors</td>
<td>Stamina®, component in Cabrio® Plus, Headline AMP and Priaxor.</td>
</tr>
<tr>
<td>40</td>
<td>Cell Wall Biosynthesis (Cellulose Synthase)</td>
<td>Forum® and component in Zampro®</td>
</tr>
<tr>
<td>45</td>
<td>Respiration (Complex III: Quinone outside, stagmatellin binding type) Inhibitors</td>
<td>Component of Zampro</td>
</tr>
<tr>
<td>M²</td>
<td>Multi-site Activity</td>
<td>Component in Cabrio Plus</td>
</tr>
</tbody>
</table>

### Insecticides

<table>
<thead>
<tr>
<th>Group</th>
<th>Mode of Action</th>
<th>BASF Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Nicotinic acetylcholine receptor competitive modulator</td>
<td>Titan™</td>
</tr>
<tr>
<td>9D</td>
<td>Chordotonal organ TRPV channel modulator</td>
<td>Sefina®</td>
</tr>
</tbody>
</table>

¹ 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.

<table>
<thead>
<tr>
<th>Herbicide</th>
<th>Armezon®</th>
<th>Armezon Pro</th>
<th>Basagran&lt;sup&gt;®&lt;/sup&gt; Forté&lt;sup&gt;®&lt;/sup&gt;</th>
<th>Clean Sweep®</th>
<th>Conquest&lt;sup&gt;®&lt;/sup&gt; LQ</th>
<th>Distinct&lt;sup&gt;®&lt;/sup&gt;</th>
<th>Engenia&lt;sup&gt;®&lt;/sup&gt;&lt;sup&gt;10&lt;/sup&gt;</th>
<th>Eragon&lt;sup&gt;®&lt;/sup&gt; LQ&lt;sup&gt;14&lt;/sup&gt; (Fall Application)</th>
<th>Eragon LQ&lt;sup&gt;®&lt;/sup&gt; (Spring Application)</th>
<th>Frontier&lt;sup&gt;®&lt;/sup&gt; Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alfalfa</td>
<td>FS&lt;sup&gt;1&lt;/sup&gt;</td>
<td>FS</td>
<td>0 D</td>
<td>B</td>
<td>B</td>
<td>30 D</td>
<td>FS</td>
<td>CF&lt;sub&gt;F&lt;/sub&gt;</td>
<td>FS</td>
<td>100 D&lt;sup&gt;17&lt;/sup&gt;</td>
</tr>
<tr>
<td>Barley</td>
<td>B</td>
<td>B</td>
<td>&lt;1 M</td>
<td>FS&lt;sup&gt;4&lt;/sup&gt;</td>
<td>FS&lt;sup&gt;4&lt;/sup&gt;</td>
<td>30 D</td>
<td>0 D&lt;sup&gt;4&lt;/sup&gt;</td>
<td>FS</td>
<td>CF&lt;sub&gt;F&lt;/sub&gt;</td>
<td>0 D&lt;sup&gt;16&lt;/sup&gt;</td>
</tr>
<tr>
<td>Beans (Kidney)</td>
<td>B</td>
<td>B</td>
<td></td>
<td>CF&lt;sub&gt;F&lt;/sub&gt;</td>
<td>CF&lt;sub&gt;F&lt;/sub&gt;</td>
<td>30 D</td>
<td>FS</td>
<td></td>
<td>FS</td>
<td>0 D&lt;sup&gt;10&lt;/sup&gt;</td>
</tr>
<tr>
<td>Beans (White)</td>
<td>FS&lt;sup&gt;1&lt;/sup&gt;</td>
<td>FS</td>
<td>0 D</td>
<td>CF&lt;sub&gt;F&lt;/sub&gt;</td>
<td>CF&lt;sub&gt;F&lt;/sub&gt;</td>
<td>30 D</td>
<td>FS</td>
<td></td>
<td>FS</td>
<td>100 D&lt;sup&gt;17&lt;/sup&gt;</td>
</tr>
<tr>
<td>Canola</td>
<td>FS</td>
<td>FS</td>
<td>&lt;1 M</td>
<td>CF&lt;sub&gt;2&lt;/sub&gt;/FS&lt;sup&gt;&lt;a&gt;8&lt;/a&gt;&lt;/sup&gt;</td>
<td>a</td>
<td>30 D</td>
<td>FS</td>
<td>FS</td>
<td>FS</td>
<td>FS</td>
</tr>
<tr>
<td>Corn (Field)</td>
<td>CF&lt;sub&gt;F&lt;/sub&gt;</td>
<td>CF&lt;sub&gt;F&lt;/sub&gt;</td>
<td>0 D</td>
<td>CF&lt;sub&gt;2&lt;/sub&gt;/FS&lt;sup&gt;&lt;a&gt;9&lt;/a&gt;&lt;/sup&gt;</td>
<td>30 D</td>
<td>0 D</td>
<td>FS</td>
<td>CF&lt;sub&gt;F&lt;/sub&gt;</td>
<td>0 D&lt;sup&gt;10&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Corn (Seed)</td>
<td>B</td>
<td>B</td>
<td>0 D</td>
<td>B</td>
<td>B</td>
<td>30 D</td>
<td>FS</td>
<td></td>
<td>0 D&lt;sup&gt;13&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Corn (Sweet)</td>
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<td>B</td>
<td>&lt;1 M</td>
<td>B</td>
<td>B</td>
<td>30 D</td>
<td>FS</td>
<td>CF&lt;sub&gt;F&lt;/sub&gt;</td>
<td>0 D&lt;sup&gt;12&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Oats</td>
<td>B</td>
<td>B</td>
<td>&lt;1 M</td>
<td>B</td>
<td>a</td>
<td>30 D</td>
<td>0 D</td>
<td>FS</td>
<td>CF&lt;sub&gt;15,10&lt;/sub&gt;/FS</td>
<td>0 D&lt;sup&gt;17&lt;/sup&gt;</td>
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<td>Potatoes</td>
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<td>0 D</td>
<td>CF&lt;sub&gt;F&lt;/sub&gt;</td>
<td>30 D</td>
<td>0 D</td>
<td>FS</td>
<td></td>
<td>FS</td>
<td>100 D&lt;sup&gt;17&lt;/sup&gt;</td>
</tr>
<tr>
<td>Rye</td>
<td>B</td>
<td>B</td>
<td>&lt;1 M&lt;sup&gt;11&lt;/sup&gt;</td>
<td>B</td>
<td>a</td>
<td>30 D</td>
<td>0 D&lt;sup&gt;11&lt;/sup&gt;</td>
<td></td>
<td>100 D&lt;sup&gt;17&lt;/sup&gt;</td>
<td></td>
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<tr>
<td>Soybeans</td>
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<td>0 D</td>
<td>CF&lt;sub&gt;F&lt;/sub&gt;</td>
<td>CF&lt;sub&gt;F&lt;/sub&gt;</td>
<td>30 D</td>
<td>0 D&lt;sup&gt;12&lt;/sup&gt;</td>
<td>FS</td>
<td>CF&lt;sub&gt;15,10&lt;/sub&gt;/FS</td>
<td>0 D&lt;sup&gt;17&lt;/sup&gt;</td>
</tr>
<tr>
<td>Sugar beets</td>
<td>B</td>
<td>B</td>
<td>&lt;1 M</td>
<td>B</td>
<td>a</td>
<td>30 D</td>
<td></td>
<td></td>
<td></td>
<td>11 M&lt;sup&gt;17&lt;/sup&gt;</td>
</tr>
<tr>
<td>Wheat (Spring)</td>
<td>FS</td>
<td>FS</td>
<td>&lt;1 M</td>
<td>FS&lt;sup&gt;10&lt;/sup&gt;</td>
<td>FS&lt;sup&gt;9&lt;/sup&gt;</td>
<td>30 D</td>
<td>0 D&lt;sup&gt;13&lt;/sup&gt;</td>
<td>FS</td>
<td>CF&lt;sub&gt;F&lt;/sub&gt;</td>
<td>100 D&lt;sup&gt;17&lt;/sup&gt;</td>
</tr>
<tr>
<td>Wheat (Winter)</td>
<td>4 M</td>
<td>4 M</td>
<td>&lt;1 M</td>
<td>100 D&lt;sup&gt;1&lt;/sup&gt;/FS</td>
<td>100 D&lt;sup&gt;1&lt;/sup&gt;/FS</td>
<td>30 D</td>
<td>0 D</td>
<td>FS</td>
<td>CF&lt;sub&gt;F&lt;/sub&gt;</td>
<td>100 D&lt;sup&gt;17&lt;/sup&gt;</td>
</tr>
<tr>
<td>Other Crops</td>
<td>B</td>
<td>B</td>
<td></td>
<td>B</td>
<td>B</td>
<td>30 D</td>
<td>120 D</td>
<td></td>
<td></td>
<td>11 M&lt;sup&gt;17&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

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.
<table>
<thead>
<tr>
<th>Herbicide</th>
<th>Ignite®</th>
<th>Integrity®</th>
<th>Liberty®</th>
<th>Marksman®</th>
<th>Optill®</th>
<th>Prowl® H2O</th>
<th>Pursuit®</th>
<th>Select®</th>
<th>Zidua® SC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alfalfa</td>
<td>0 D</td>
<td>10 M</td>
<td>B</td>
<td>0 D</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>0 D</td>
<td>B</td>
</tr>
<tr>
<td>Barley</td>
<td>70 D</td>
<td>100 D</td>
<td>70 D</td>
<td>10 M</td>
<td>FS®</td>
<td>B</td>
<td>FS®</td>
<td>11 M</td>
<td>22 M</td>
</tr>
<tr>
<td>Beans (Kidney)</td>
<td>0 D</td>
<td>10 M</td>
<td>FS</td>
<td>CF®/FS</td>
<td>CF®/FS</td>
<td>0 D</td>
<td>B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beans (White)</td>
<td>0 D</td>
<td>22 M</td>
<td>B</td>
<td>0 D</td>
<td>B</td>
<td>B</td>
<td>12 M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Canola</td>
<td>0 D</td>
<td>0 D</td>
<td>B</td>
<td>FS</td>
<td>CF®/FS</td>
<td>CF®/FS</td>
<td>CF®/FS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corn (Field)</td>
<td>0 D</td>
<td>0 D</td>
<td>0 D</td>
<td>B</td>
<td>FS</td>
<td>CF®/FS</td>
<td>CF®/FS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corn (Seed)</td>
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<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corn (Sweet)</td>
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<td>B</td>
<td>B</td>
<td>B</td>
<td></td>
<td>B</td>
<td>B</td>
<td>11 M</td>
<td></td>
</tr>
<tr>
<td>Oats</td>
<td>70 D</td>
<td>100 D</td>
<td>70 D</td>
<td>10 M</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potatoes</td>
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<td>22 M</td>
<td>B</td>
<td>0 D</td>
<td>B</td>
<td>B</td>
<td>0 D</td>
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<td></td>
</tr>
<tr>
<td>Rye</td>
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<td>100 D</td>
<td>70 D</td>
<td>10 M®</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td></td>
<td>B</td>
</tr>
<tr>
<td>Soybeans</td>
<td>0 D</td>
<td>10 M</td>
<td>CF®/FS</td>
<td>0 D</td>
<td>CF®/FS</td>
<td>CF®/FS</td>
<td>CF®/FS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sugar beets</td>
<td>22 M</td>
<td>22 M</td>
<td>B</td>
<td>0 D</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wheat (Spring)</td>
<td>70 D</td>
<td>100 D</td>
<td>70 D</td>
<td>10 M</td>
<td>FS</td>
<td>B</td>
<td>FS</td>
<td>CF®/FS</td>
<td></td>
</tr>
<tr>
<td>Wheat (Winter)</td>
<td>70 D</td>
<td>100 D</td>
<td>70 D</td>
<td>10 M</td>
<td>100 D€</td>
<td>B</td>
<td>100 D€</td>
<td>4M</td>
<td></td>
</tr>
<tr>
<td>Other Crops</td>
<td>120 D</td>
<td>11 M</td>
<td>120 D</td>
<td>30 D</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>30 D</td>
<td>B</td>
</tr>
</tbody>
</table>

1 If the maximum seasonal application rate was 37 mL/ha. 2 None listed on label. Information based on OMAFRA’s 2018 Publication 75A, Guide to Weed Control: Field Crops. 3 Applies to fall rye only. 4 Spring barley only. 5 Soil preparation for re-planting should be no deeper than 10 cm. 6 Imazethapyr tolerant canola only. 7 Only imazethapyr tolerant corn can be used in case of crop failure. 8 Can be sensitive to a component of Conquest LQ (Sencor®) and may be injured if planted in soil treated with Conquest LQ during the year of application or the following crop year. 9 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®). 10 If using for perennial rosette control in summerfallow or perennial weed control in summerfallow and stubble, refer to the label for recropping restrictions. 11 Spring rye only. 12 Roundup Ready 2 Xtend® soybeans only. 13 Do not apply to durum wheat. 14 All crops can be planted the second spring after application. 15 A second application of the product cannot be made in the rescue crop. 16 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. 17 In mineral soil, if applied to muck soils, a field bioassay must be done. 18 Inbred lines grown in Southern Ontario only. 19 Not grown for seed. 20 22 months at the 1.1L/ha rate, 11 months for lower rates. 21 See label for crop dependent restrictions. 22 Seeding alfalfa. 23 At the early season residual suppression rate of 120-240 mL/ha.
Mixing order for tank mixes.

Ensure tank-mix compatibility by using the proper mixing order:

1. **Wettable powders, flowable**
   - Cabrio® Plus, Cantus®, Distinct®, Optill®

2. **Agitate¹, Anti-foaming compounds, buffers**

3. **Microcapsule suspension**
   - Prowl® H2O

4. **Liquid and soluble**

5. **Emulsifiable concentrates**
   - Armezon Pro, Frontier® Max, Integrity®, Poast® Ultra, Select®

6. **Glyphosate**
   - (high load, containing adjuvant)

7. **Surfactants**
   - ex: Merge®

---

**Always remember:**

W.A.M.L.E.G.S.

Always consult the label prior to mixing.

¹ Do not over-agitate at any point in the process.
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 and shuttles are convenient solutions for high-volume users.

Totes:

<table>
<thead>
<tr>
<th>Available Products</th>
<th>Volume</th>
<th>Acres/Tote</th>
</tr>
</thead>
</table>
| **Integrity**<sup>®</sup>  
*Powered by Kixon® Herbicide* | 450 L  | 1,000 to 1,500 (corn rate)  
3,000 (soybean rate) |
| **Liberty**<sup>®</sup>  
*Herbicide* | 400 L  | 400                              |
| **Marksman®**  
*Herbicide* | 450 L  | 250 to 450                       |
| **Prowl® H2O**  
*Herbicide* | 450 L  | 506                              |
| **Caramba®**  
*Fungicide* | 400 L  | 1,000                            |
| **Merge®**  
*Surfactant* | 400 L  | Rate will vary depending on tank mix |

Shuttles:

<table>
<thead>
<tr>
<th>Available Products</th>
<th>Volume</th>
<th>Acres/Shuttle</th>
</tr>
</thead>
</table>
| **Armezon® PRO**  
*Herbicide* | 121.5 L | 300           |
| **Basagran® Forté**  
*Herbicide* | 130 L  | 145-185       |
| **Engenia®**  
*Herbicide* | 121.2 L | 300 to 600    |
| **Caramba®**  
*Fungicide* | 128 L  | 320           |

Submit all tote and shuttle orders to BASF retailers by December 1, 2019.

For more information about products available in totes and shuttles, contact your BASF AgSolutions<sup>®</sup> 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<sup>®</sup> and Merge.
2020 Grower Program Eastern Canada

Elite Reward

Purchase $100,000 or more of BASF Products (including InVigor® hybrid canola seed and Liberty® herbicide) and receive a 1% reward on all BASF Products (excluding InVigor hybrid canola seed and Liberty herbicide).

For a quick way to calculate your possible rewards, visit our online rewards calculator at: agsolutions.ca/eastrewardscalculator.
Offer period: October 1, 2019 – September 30, 2020

To be eligible for the Baseline, Bonus and Elite Rewards, growers must purchase at least $5,000 in BASF Crop Protection Products.* Purchases must include products from at least two segments, with a minimum of 40 acres from each segment.

<table>
<thead>
<tr>
<th>Baseline Rewards</th>
<th>Segment 1</th>
<th>Segment 2</th>
<th>Segment 3</th>
<th>Segment 4</th>
<th>Segment 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchase from all Five Segments</td>
<td>12%</td>
<td>12%</td>
<td>12%</td>
<td>12%</td>
<td>12%</td>
</tr>
<tr>
<td>Purchase from Four Segments</td>
<td>8%</td>
<td>8%</td>
<td>8%</td>
<td>8%</td>
<td>8%</td>
</tr>
<tr>
<td>Purchase from Three Segments</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>Purchase from Two Segments</td>
<td>3%</td>
<td>3%</td>
<td>3%</td>
<td>3%</td>
<td>3%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bonus Rewards</th>
<th>Segment 1</th>
<th>Segment 2</th>
<th>Segment 3</th>
<th>Segment 4</th>
<th>Segment 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn Herbicide Bonus</td>
<td>2%</td>
<td>2%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fungicide Bonus</td>
<td></td>
<td></td>
<td>3%</td>
<td>3%</td>
<td></td>
</tr>
<tr>
<td>Integrity Bonus</td>
<td></td>
<td></td>
<td></td>
<td>7%</td>
<td></td>
</tr>
<tr>
<td>Liberty/InVigor Bonus</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
</tr>
</tbody>
</table>

MAXIMUM TOTAL SAVINGS: 20% 13% 13% 15% 15% 13% 16% 16%

CALCULATE YOUR SAVINGS

* Qualifying BASF Crop Protection Products now include InVigor hybrid canola seed and Liberty herbicide.
** 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.
BASF Ag Rewards – 2020 Eastern Grower Program

Official Terms & Conditions

1. Offer Period: The 2020 Grower Rewards Program (Eastern Canada) (the “Offer”) is administered by BASF Canada Inc. o/a BASF Canada ("BASF") and begins on October 1, 2019 at 7:00 a.m. Eastern Time ("ET") and ends on September 30, 2020 at 11:59 p.m. ET (the “Offer Period”).

2. Eligibility: The Offer is open to Canadian growers who 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; (ii) are the owner, operator or designated representative of a farm (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 the Offer and must be read in conjunction with, and are a part of the BASF Ag Rewards – 2020 Eastern Grower Program (the “Program”).

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, purchase from an authorized Eastern Canadian retailer that consists of $50 to Qualify for the Offer. 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 (ii) an Eligible Participant must purchase Qualifying Reward Products from at least two (2) Segments. The percentage of the Baseline Reward that is 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 is determined by BASF in its sole discretion.

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 Eastern Canadian retailer at the SRP 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 each of the five (5) BASF Segments: (a) to qualify in a Segment, 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 from the SRP, exclusive of taxes, will be determined as follows:

<table>
<thead>
<tr>
<th>Minimum acres per Segment to qualify</th>
<th>Segment 1</th>
<th>Segment 2</th>
<th>Segment 3</th>
<th>Segment 4</th>
<th>Segment 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>12%</td>
<td>Opitz, Leron LQ</td>
<td>Conquest LQ, Pursuit, Engenia, Sefina</td>
<td>Markman</td>
<td>Armezon PRO</td>
<td>Frontier Max, Zidua SC, Proval H2O, Forum Headline AMP, Priaxor, Cabrio Plus</td>
</tr>
<tr>
<td>Purchase from all Five Segments</td>
<td>12%</td>
<td>12%</td>
<td>12%</td>
<td>12%</td>
<td>12%</td>
</tr>
<tr>
<td>Purchase from Four Segments</td>
<td>8%</td>
<td>8%</td>
<td>8%</td>
<td>8%</td>
<td>8%</td>
</tr>
<tr>
<td>Purchase from Three Segments</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>Purchase from Two Segments</td>
<td>3%</td>
<td>3%</td>
<td>3%</td>
<td>3%</td>
<td>3%</td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>BASF Brands</th>
<th>Qualifying Reward Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACROBAT, FORUM</td>
<td>FORUM</td>
</tr>
<tr>
<td>LANCE, COTEGRA</td>
<td>COTEGRA</td>
</tr>
<tr>
<td>ENGENIA, BANVER II</td>
<td>ENGENIA</td>
</tr>
<tr>
<td>ERAGON LD, ERAGON</td>
<td>ERAGON LD</td>
</tr>
<tr>
<td>FRONTIER MAX, OUTLOOK</td>
<td>FRONTIER MAX</td>
</tr>
<tr>
<td>HEADLINE, HEADLINE AMP</td>
<td>HEADLINE AMP</td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>Bonus Reward</th>
<th>Requirements to Qualify</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn Herbicide Bonus</td>
<td>To qualify, during the Offer Period an Eligible Participant must:</td>
</tr>
<tr>
<td></td>
<td>• Purchase a minimum of forty (40) acres of Markman herbicide; and</td>
</tr>
<tr>
<td></td>
<td>• Purchase a minimum of forty (40) acres of Armezon PRO herbicide.</td>
</tr>
</tbody>
</table>

IMPORTANT NOTE: For Eligible Participants residing in Quebec only:

• Purchase a minimum of two hundred (200) acres of Headline AMP, and/or Priaxor, and/or Cabrio Plus, and/or Caramba, and/or Sercadis fungicides |

<table>
<thead>
<tr>
<th>Fungicide Bonus</th>
<th>Requirements to Qualify</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liberty/InVigor Bonus</td>
<td>To qualify, during the Offer Period an Eligible Participant must:</td>
</tr>
<tr>
<td></td>
<td>• Purchase a minimum of forty (40) acres of Liberty herbicide or purchase a minimum of forty (40) acres of InVigor Canola seed</td>
</tr>
</tbody>
</table>

The following table shows the minimum acres per segment to qualify for each Bonus Reward, as well as the maximum total savings:

<table>
<thead>
<tr>
<th>Minimum acres per segment to qualify</th>
<th>Segment 1</th>
<th>Segment 2</th>
<th>Segment 3</th>
<th>Segment 4</th>
<th>Segment 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>12%</td>
<td>Opitz, Leron LQ</td>
<td>Conquest LQ, Pursuit, Engenia, Sefina</td>
<td>Markman</td>
<td>Armezon PRO</td>
<td>Frontier Max, Zidua SC, Proval H2O, Forum Headline AMP, Priaxor, Cabrio Plus</td>
</tr>
<tr>
<td>Purchase from all Five Segments</td>
<td>12%</td>
<td>12%</td>
<td>12%</td>
<td>12%</td>
<td>12%</td>
</tr>
<tr>
<td>Purchase from Four Segments</td>
<td>8%</td>
<td>8%</td>
<td>8%</td>
<td>8%</td>
<td>8%</td>
</tr>
<tr>
<td>Purchase from Three Segments</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>Purchase from Two Segments</td>
<td>3%</td>
<td>3%</td>
<td>3%</td>
<td>3%</td>
<td>3%</td>
</tr>
</tbody>
</table>

In order for InVigor canola and Liberty herbicide to qualify as a BASF Product or for the Liberty/InVigor Bonus Reward, the Eligible Participant must sign, in full force and effect and continuously comply with the Liberty and Trad Agreement (the “LTA”) respecting the purchase and use of LibertyLink® Seed and Liberty 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 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 1-877-271-BASF (2278) or email (basf@basf-agriculture.ca). Signed LTA Forms must be promptly submitted by the Eligible Participant’s authorized Eastern Canadian retailer either by mail, fax or online via the BASF 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:

<table>
<thead>
<tr>
<th>Minimum Total Savings</th>
<th>Segment 1</th>
<th>Segment 2</th>
<th>Segment 3</th>
<th>Segment 4</th>
<th>Segment 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>20%</td>
<td>13%</td>
<td>13%</td>
<td>15%</td>
<td>10%</td>
<td>15%</td>
</tr>
</tbody>
</table>

*Engenia is a qualifying product for the Corn Herbicide Bonus only for Eligible Participants residing in Quebec. The 2% Corn Herbicide Bonus will be applied to Markman and/or Engenia purchases in Segment 2 and Armezon Pro purchases in Segment 3 for Eligible Participants residing in Quebec only.

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, 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 on an authorized Eastern Canadian retailer that consist of $100,000 CAD or more inclusive of fees and taxes of BASF Products 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 Eligible Participant’s Total Reward will be calculated as 7% of the SRP (exclusive of fees and taxes) of the Elite Qualifying Products purchased (exclusive of those purchased for the purposes of the “Elite Reward” (the “Elite Reward Percentage Value”). The following are each an Elite Qualifying Product (the “Elite Qualifying Products”):

- Herbicides: ARMEZON, ARMEZON PRO, ASSIMINATION, BANXII, BASAGRA, BASAGRA FORTE, CLEAN SWEEP, CONQUEST LG, DISTINCT, ENSERA, ERANGO LG, FRONTIER MAX, INTEGRITY, KEVARA, KIPOX, LANCE, ORION, PUSIL, PUSIL IV, PURSUIT, and ZEDRA SC

- Fungicides: AGROJET, AGRO PLUS, CANTUS, COTEGA, CABRA, CARBAM, FORUM, HEADLINE, HERBAM, LANCE, PRAXIV, SERCADIS, TWINWIDE, and ZAMPRO

7. Reward Percentage 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, 6, and 7 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”) that an Eligible Participant is eligible to receive as a reward, exclusive of taxes, on each case of the applicable Qualifying Reward Products purchased in accordance with these Terms. The 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 “Elite Bonus Reward”). The Bonus Reward is based on the following:

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 the SRP in Eastern Canada multiplied by the following Total Reward on 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.

9. Products and Related Conditions: For the purposes of the Offer, the BASF Products have the following label names:

- **ACCORD**
  - Application Rate: Case
  - Unit: Case
  - Acres/Unit: N/A

- **ARMERON PRO**
  - Application Rate: Case
  - Unit: Case
  - Acres/Unit: N/A

- **BANXII**
  - Application Rate: Case
  - Unit: Case
  - Acres/Unit: N/A

- **CARBAM PLUS**
  - Application Rate: Case
  - Unit: Case
  - Acres/Unit: N/A

- **CANTUS**
  - Application Rate: Case
  - Unit: Case
  - Acres/Unit: N/A

- **CARBAM**
  - Application Rate: Case
  - Unit: Case
  - Acres/Unit: N/A

- **CLEAN SWEEP**
  - Application Rate: Case
  - Unit: Case
  - Acres/Unit: N/A

- **CONQUEST LG**
  - Application Rate: Case
  - Unit: Case
  - Acres/Unit: N/A

- **COTEGA**
  - Application Rate: Case
  - Unit: Case
  - Acres/Unit: N/A

- **ENGERAN**
  - Application Rate: Case
  - Unit: Case
  - Acres/Unit: N/A

- **ERANGO**
  - Application Rate: Case
  - Unit: Case
  - Acres/Unit: N/A

- **ERANGO LG**
  - Application Rate: Case
  - Unit: Case
  - Acres/Unit: N/A

- **FORUM**
  - Application Rate: Case
  - Unit: Case
  - Acres/Unit: N/A

- **FRONTIER MAX**
  - Application Rate: Case
  - Unit: Case
  - Acres/Unit: N/A

- **HEADLINE AMP**
  - Application Rate: Case
  - Unit: Case
  - Acres/Unit: N/A

- **INTEGRITY**
  - Application Rate: Case
  - Unit: Case
  - Acres/Unit: N/A

- **PERSIANA GRANDE SEED**
  - Application Rate: 70 acres/Case
  - Unit: Case
  - Acres/Unit: 70

- **LANCE**
  - Application Rate: Case
  - Unit: Case
  - Acres/Unit: N/A

- **LIBERTY 200**
  - Application Rate: Case
  - Unit: Case
  - Acres/Unit: N/A

- **MARKOVAN**
  - Application Rate: Case
  - Unit: Case
  - Acres/Unit: N/A

- **OPRIL**
  - Application Rate: Case
  - Unit: Case
  - Acres/Unit: N/A

- **OUTLOOK**
  - Application Rate: Case
  - Unit: Case
  - Acres/Unit: N/A

- **PRAXIV**
  - Application Rate: Case
  - Unit: Case
  - Acres/Unit: N/A

- **PRAXIV II**
  - Application Rate: Case
  - Unit: Case
  - Acres/Unit: N/A

- **SEFINA**
  - Application Rate: Case
  - Unit: Case
  - Acres/Unit: N/A

- **SERCADIS**
  - Application Rate: Case
  - Unit: Case
  - Acres/Unit: N/A

- **TOTAL**
  - Application Rate: Case
  - Unit: Case
  - Acres/Unit: N/A

- **ZODIA SC**
  - Application Rate: Case
  - Unit: Case
  - Acres/Unit: N/A

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) to (i) the persons for verifying that an Eligible Participant is eligible to participate in this Offer; (ii) for the purposes of verifying the legitimacy of any Data as described below in Section 13b; 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 reasonable satisfaction of BASF may result in disqualification of BASF. All determinations regarding whether or not an Eligible Participant is eligible to receive 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. 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 the Offer, then such person may be disqualified from the Offer in the sole and absolute discretion of BASF. All determinations regarding whether or not an Individual or Entity purporting to be an Eligible Participant is eligible to receive 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 the Offer, then such person 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 ineligible 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 (ii) is unwilling to accept the Total Reward for any reason, then the Eligible Participant must provide BASF with written notification of their decision to BASF in its sole and absolute discretion. If the Eligible Participant’s written notification is received by BASF within the time specified herein, then the Eligible Participant will be disqualified from the Offer in the sole and absolute discretion of BASF.
Always read and follow label directions.

AgCelence, AgSolutions, ARMEZON, ASSIST, BANVEL, BASAGRAN, BIOSTACKED, CABRIO, CANTUS, CARAMBA, CLEAN SWEEP, CONQUEST, COTEGA, DISTINCT, ENGENIA, Eragon, FORUM, FRONTIER, HEADLINE, IGNITE, ILEVO, INTEGRAL, INTEGRITY, INVIGOR, KIXOR, LANCE, LIBERTY, LIBERTYLINK, MARKSMAN, MERGE, NODULATOR, OPTILL, OUTLOOK, POAST, PRIAXOR, PROWL, PURSUIT, SERCADIS, STAMINA, TWINLINE, XEMIUM, ZAMPRO and ZIDUA are registered trade-marks; and CEVYA, INSCALIS, SEFINA and TITAN are trade-marks of BASF. STAMINA fungicide seed treatment, CABRIO PLUS, CARAMBA, COTEGA, FORUM, HEADLINE, HEADLINE AMP, LANCE, PRIAXOR, and/or SERCADIS fungicides should be used in a preventative disease control program. © 2019 BASF Canada Inc.

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ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS. Roundup Ready 2 Xtend® soybeans contain genes that confer tolerance to glyphosate and dicamba. Agricultural herbicides containing glyphosate will kill crops that are not tolerant to glyphosate, and those containing dicamba will kill crops that are not tolerant to dicamba. Contact your Monsanto dealer or call the Monsanto technical support line at 1-800-667-4944 for recommended Roundup Ready® Xtend Crop System weed control programs. Roundup Ready 2 Xtend®, Roundup WeatherMAX® and Roundup Ready® are trademarks of Monsanto Technology LLC. Monsanto Canada, Inc. licensee. © 2019 Monsanto Canada Inc.
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