Seasons come and go. Reliable innovations are here to stay.

When it comes to innovations, BASF never stops working towards new offerings to help you get the most out of every acre. You’ll find both tried-and-true solutions and fresh innovations in the 2022 Crop Production Guide—all backed by reliable research.

See how canola innovations add up.

Celebrating 25 years with InVigor® hybrid canola with two exciting new canola hybrids.

For 25 years, InVigor hybrid canola has been known for pushing the limits of innovation—and yield—with the goal being to develop and deliver the best solutions for the challenges growers face. Building on its solid foundation, InVigor features an impressive lineup in 2022, including two new 300 series hybrids—inVigor L343PC and InVigor L340PC, and a new seed treatment, Vercoras®, available on InVigor hybrid canola. This innovative seed treatment offers your InVigor seed broad-spectrum protection against both flea beetles and key canola diseases.*

* Vercoras seed treatment is an on-seed application of Vercoras F3 seed treatment, Poncho® 600 FS seed treatment insecticide and Vercoras XC seed treatment.

InVigor L343PC  InVigor L340PC  Vercoras Seed Treatment
Get broader, stronger and longer disease management with new Veltyma fungicide.

A new active ingredient designed to outperform the others.

Triazole fungicides are crucial to disease management and Revysol®, an active ingredient with an innovative chemical makeup, is designed to outperform conventional azoles. With the ability to change its conformation easily, this unique active can bind to target enzymes up to 100 times more powerfully.

Powered by Revysol, Veltyma® fungicide delivers multiple modes of effective action for broader, stronger and longer management of a wide range of key diseases in corn, potatoes, and wheat. With unique Plant Health Benefits¹, including better management of minor stress, increased standability and better nitrogen utilization, it provides consistency regardless of resistance challenges, temperature and weather conditions.²

Revysol provides rapid uptake in plants for quick and effective protection against disease—and this continues over time as it also forms reservoirs in the leaf’s interior and releases slowly for protection of the plant.

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

Click here to access our resources section for more information.
Learn more by visiting agsolutions.ca, contacting your BASF AgSolutions® Retail Representative or by calling AgSolutions Customer Care at 1-877-371-BASF (2273).
Solutions for corn.

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

**WEED MANAGEMENT**

- **Integrity**
  - Herbicide
- **Armezon PRO**
  - Herbicide
  - AND/OR
- **Zidua SC**
  - Herbicide
  - FOLLOWED BY
- **Marksman**
  - Herbicide

**DISEASE MANAGEMENT**

- **Veltyma**<sup>NEW</sup>
  - Fungicide
- **Revyso**
  - Fungicide
- OR
- **Headline AMP**
  - Fungicide
  - AND/OR
- **Caramba**
  - Fungicide

**POST-HARVEST**

- **Distinct**
  - Herbicide
- **Zidua SC**
  - Herbicide

Contact your BASF AgSolutions® Retail Representative for more information.

<sup>1</sup> Can also be tank mixed with Integrity® herbicide or Zidua SC herbicide if applied pre-emergence.
Integrity®
Powered by Kixor® Herbicide

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

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

Crop staging
Pre-plant¹, pre-plant incorporated, pre-emergence

Weeds controlled²
Broadleaf weeds
Common ragweed
Eastern black nightshade³
Lamb’s quarters
Redroot pigweed
Velvetleaf
Wild buckwheat
Wild mustard

Grasses
Barnyard grass
Crabgrass (large, smooth)
Fall panicum
Foxtail (giant, green, yellow)
Old witchgrass
Yellow nutsedge³

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 rate⁴

<table>
<thead>
<tr>
<th>Active ingredients</th>
<th>Integrity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saflufenacil – Group 14</td>
<td></td>
</tr>
<tr>
<td>Dimethenamid-P – Group 15</td>
<td></td>
</tr>
</tbody>
</table>

Formulation
Emulsifiable concentrate

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

Set-up rate⁵

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

or

<table>
<thead>
<tr>
<th>Integrity⁶</th>
</tr>
</thead>
<tbody>
<tr>
<td>300 to 450 ml/ac (0.75 to 1.1 L/ha)</td>
</tr>
</tbody>
</table>

followed by

<table>
<thead>
<tr>
<th>Marksman®</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0 L/ac (2.5 L/ha)</td>
</tr>
</tbody>
</table>

Glyphosate⁷
See label for rate

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

Follow crops
Anytime after application:
Field and sweet corn
100 days after application:
Cereals other than corn
11 months after application:
All other crops
22 months after application:
Sugar beets

¹ Apply in tank mix with glyphosate. ² Weeds listed are controlled when Integrity is applied at the full label rate of 450 ml/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.

Source: BASF research trials, Ridgetown, ON, 2009
**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
- Combines Group 27 and 15 chemistries for multiple modes of action and can be tank mixed with atrazine or atrazine and glyphosate
- Armezon® PRO herbicide can also be applied in a tank mix with Marksman® herbicide and glyphosate

**Crop staging**
- Pre-emergence to 8-leaf
- Emergence to 5-leaf (for tank mix)\(^1\)

**Weeds controlled\(^2\)**
**Broadleaf weeds**
- Common chickweed\(^3\)
- Common ragweed
- Eastern black nightshade
- Green pigweed
- Lady’s thumb
- Lamb’s quarters
- Redroot pigweed
- Velvetleaf\(^6\)
- 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>Herbicide</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Armezon PRO</td>
<td>405 ml/ac (1 L/ha)</td>
</tr>
<tr>
<td>Marksman(^4)</td>
<td>1.0 L/ac (2.5 L/ha)</td>
</tr>
<tr>
<td>Glyphosate(^4,5)</td>
<td>See label for rate</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Herbicide</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Armezon PRO</td>
<td>405 ml/ac (1 L/ha)</td>
</tr>
<tr>
<td>Aatrex® 480(^4)</td>
<td>420 ml/ac (1.04 L/ha)</td>
</tr>
<tr>
<td>Glyphosate(^4,5)</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.

**Active ingredients**
- Dimethenamid-P – Group 15
- Topramezone – Group 27

**Formulation**
- Emulsifiable concentrate

**One case contains**
- 2 x 8.1 L jugs
- Also available in 121.5 L shuttle

---

\(^1\) 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.  \(^4\) Aatrex® 480, glyphosate and Marksman are sold separately.  \(^5\) Only use glyphosate products present as isopropylamine salt or potassium salt. Glyphosate rate is 364 g a.e./ac (900 g a.e./ha), see glyphosate label for corresponding product use rate.
**Zidua SC**

Herbicide

Residual control of key annual grasses and select broadleaf weeds.

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

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

**Weeds controlled**

**Broadleaf weeds**
Lamb’s quarters\(^2\), Redroot pigweed, Waterhemp

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

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

<table>
<thead>
<tr>
<th>Soil Texture</th>
<th>Zidua SC Rate</th>
<th>Zidua SC Plus Glyphosate Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organic matter ≤ 3%</td>
<td>101 ml/ac</td>
<td>97 ml/ac (250 ml/ha)</td>
</tr>
<tr>
<td>3% &lt; Organic matter &lt; 7%</td>
<td>134 ml/ac (332 ml/ha)</td>
<td>1.0 L/ac (2.5 L/ha)</td>
</tr>
<tr>
<td>Fine</td>
<td>169 ml/ac (417 ml/ha)</td>
<td>200 ml/ac (493 ml/ha)</td>
</tr>
</tbody>
</table>

**Tank mix**
Apply post-emergence up to 4-leaf

- Zidua SC
- Marksman\(^3\)
- Glyphosate\(^3,4\)

Learn more about tank-mix order on page 106.

**Active ingredient**
Pyroxasulfone – Group 15

**Formulation**
Suspension concentrate

**One case contains**
2 x 4.05 L jugs

**TECH TIP**
Zidua SC has low solubility in soil allowing it to stay in the top layer of the soil profile to control later-flushing weeds before they emerge. The result is residual activity during the critical period for weed control to maximize yield potential.
Crop staging
Pre-emergence, post-emergence (spike to 5-leaf stage)

Weeds controlled
Buckwheat (tartary, wild), Canada thistle, Cleavers, Common cocklebur,
Corn spurry, Cow cockle, Field bindweed, Green smartweed, Lady’s thumb,
Lamb’s quarters, Mustard (hare’s-ear, Indian, tumble, wild, wormseed)
Perennial sow thistle, Pigweed (redroot, Russian), Ragweed (common, false, giant),
Spreading atriplex, Velvetleaf, Volunteer adzuki beans, Waterhemp

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

Tank mixes
For Zidua SC + Marksman tank mix, click here.

<table>
<thead>
<tr>
<th>Tank mix</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</td>
<td>405 ml/ac (1 L/ha)</td>
</tr>
<tr>
<td>Glyphosate</td>
<td>See label for rate</td>
</tr>
<tr>
<td>Prowl® H2O</td>
<td>890 ml/ac (2.2 L/ha)</td>
</tr>
<tr>
<td>Glyphosate</td>
<td>See label for rate</td>
</tr>
</tbody>
</table>

Planned 2-pass
Marksman 1.0 L/ac (2.5 L/ha) followed by Marksman 1.0 L/ac (2.5 L/ha) or
Glyphosate 6,7 See label for rate

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

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

Follow crops
None on label. Applying Marksman herbicide to fields previously treated with atrazine can increase the risk of residue carryover to rotational crops. Follow cropping restrictions on atrazine label.
The optimal fungicide for protection against a broad spectrum of foliar diseases in corn.

- Fast-acting control with multiple modes of effective action
- Extended residual activity and enhanced performance provided by the unique binding activity of Revysol®
- Proven Plant Health Benefits\(^1\) for increased growth efficiency, better management of minor stress and greater yield potential\(^2\)
- Delivers preventative and post-infection activity
- Liquid formulation for optimized usability

**Crop staging**
V12 to silk browning

**Diseases controlled\(^3\)**
- Common rust (*Puccinia sorghi*)
- Eye spot (*Aureobasidium zeae*)
- Grey leaf spot (*Cercospora zeae-maydis*)
- Northern corn leaf blight (*Setosphaeria turcica*)
- Tar spot (*Phyllachora maydis*)

**Application rates**
One case treats 80 acres.

<table>
<thead>
<tr>
<th><strong>Veltyma</strong></th>
<th>202 ml/ac (500 ml/ha)</th>
</tr>
</thead>
</table>

**Water volume**
- Ground application: 80 L/ac (20 gal/ac)
- Aerial application: 20 L/ac (5 gal/ac)

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

---

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

**Formulation**
- Suspension concentrate

**One case contains**
- 2 x 8.1 L jugs

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\(^1\) Plant Health Benefits refer to products that contain the active ingredient pyraclostrobin.

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

\(^3\) Do not make more than two sequential applications of Veltyma fungicide targeting the same disease before alternating to a labelled fungicide containing a different mode of action.
Revysol, the power behind Veltyma.

Revysol® is a demethylation inhibitor (DMI) (Group 3) and the first and only isopropanol-azole on the market. It is engineered to provide broader, stronger and longer performance than other DMI technology.

Broader.
Revysol is effective on a variety of crops (including corn, potatoes, soybeans and wheat) and diseases. It is also even effective on some DMI-resistant disease strains.

Stronger.
The isopropanol unit allows the molecule to assume different conformations. When the molecule changes conformation, it forms a “hook” which allows it to bind more strongly to the plant. This provides protective and post-infection action, excellent rainfastness and enhanced binding strength for exceptional disease activity.

Longer.
Revysol provides residual activity once inside the plant by forming reservoirs under the leaf surface. This allows for a metered release that provides long-lasting protection. It also has low water solubility which allows for consistent translocation throughout the plant. Finally, by combining its high potency with the slow-release reservoirs, Revysol provides residual activity for long-lasting protection and extended control.

Veltyma® Fungicide

Veltyma® fungicide is a northern corn leaf blight and tar spot specialist in corn. With some regions being affected by northern corn leaf blight on a yearly basis, and with tar spot moving into southern Ontario, Veltyma will be a great asset to protect your corn from these yield-robbing diseases.

Source: 2020 randomized complete block design (RCBD) Research and Commercial Development (RCD) trials, Ontario. n=16

1 When compared to other Group 3 fungicides. BASF internal trials, n=3.
Improved disease control, standability and yield potential in corn.

- Preventative and post-infection activity on a wide spectrum of diseases in corn, including eyespot and northern corn leaf blight
- Multiple modes of effective action for enhanced performance and efficacy
- Unique properties leading to better management of minor stress, better standability and increased growth efficiency

Source: BASF research trials, 2015

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

**Formulation**
- Liquid

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

**Crop staging**
V12 to silk browning

**Diseases controlled**
- Anthracnose (Colletotrichum graminicola)
- Common rust (Puccinia sorghi)
- Eyespot (Aureobasidium zeae)
- Grey 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.

**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.*

1 All comparisons are to untreated, unless otherwise stated.
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

**Active ingredient**
Metconazole – Group 3

**Formulation**
Liquid

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

**Crop staging**
Full silking to silk browning

**Diseases suppressed**
- Fusarium ear rot (*Fusarium graminearum*)
- Gibberella ear rot (*Gibberella zeae*)

**Application rates**
One case treats 40 acres standalone or 80 acres when tank mixed with Headline® AMP fungicide.
One shuttle treats 320 acres standalone or 640 acres when tank mixed with Headline AMP.

Full rate

<table>
<thead>
<tr>
<th>Product</th>
<th>Rate</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caramba</td>
<td>405 ml/ac (1.0 L/ha)</td>
<td>Applied in a tank mix with Headline AMP</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**
- 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.

**TECH TIP**
To ensure adequate coverage of the silks, a 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.

Caramba® fungicide application timing for ear disease management
## Identifying corn diseases.

<table>
<thead>
<tr>
<th>Disease</th>
<th>Visual symptoms</th>
<th>Picture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anthracnose leaf blight</td>
<td>• Oval lesions about 15 mm in length</td>
<td><img src="1" alt="Image" /></td>
</tr>
<tr>
<td></td>
<td>• Centre is tan-brown with reddish, purplish, brownish or yellowish border</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Disease progresses from the bottom and moves upwards</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Top die-back can occur after silking</td>
<td><img src="2" alt="Image" /></td>
</tr>
<tr>
<td>Common rust</td>
<td>• Small, elliptical, reddish-brown pustules that can be seen on leaves, husks and stalks</td>
<td><img src="3" alt="Image" /></td>
</tr>
<tr>
<td></td>
<td>• Spores become black as they mature</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• In severe cases there can be some necrosis around the spores</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Spores can easily be rubbed off</td>
<td></td>
</tr>
<tr>
<td>Eyespot</td>
<td>• Round lesions that are 2-5 mm in diameter</td>
<td><img src="4" alt="Image" /></td>
</tr>
<tr>
<td></td>
<td>• Centre of the lesions are usually tan with a brown margin</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Lesions are surrounded by yellow halo</td>
<td></td>
</tr>
<tr>
<td>Grey leaf spot</td>
<td>• Short and narrow rectangular lesions parallel to the leaf veins appear on lower leaves after tasseling</td>
<td><img src="5" alt="Image" /></td>
</tr>
<tr>
<td></td>
<td>• Lesions range from tan to grey as the disease progresses</td>
<td></td>
</tr>
<tr>
<td>Northern corn leaf blight</td>
<td>• Long, elliptical (cigar-shaped) lesions that are tan or grey</td>
<td><img src="6" alt="Image" /></td>
</tr>
<tr>
<td></td>
<td>• Lesions tend to appear on lower leaves first</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Black spores can be found on the lesions when conditions are moist</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• When severe infection occurs, the lesions can coalesce and lead to the death of the leaf</td>
<td></td>
</tr>
<tr>
<td>Tar spot</td>
<td>• Small black spots that are raised and bumpy on both sides of the leaf</td>
<td><img src="7" alt="Image" /></td>
</tr>
<tr>
<td></td>
<td>• Lesions can sometimes appear on the husks</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Spots can be surrounded by tan-brown lesions (halo) that have a darker outer border, which are referred to as fisheye lesions</td>
<td></td>
</tr>
<tr>
<td>Gibberella ear rot</td>
<td>• The tip of the ear or an insect-caused wound are both entry points for the reddish-pink mold to grow</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• The ear becomes spongy and can be covered in its entirety</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Husks become bleached and tightly bound to the cobs with some black fruiting bodies visible</td>
<td></td>
</tr>
</tbody>
</table>

1, 4 Source: Daren Mueller, Iowa State University, Bugwood.org. 2, 3, 5, 6, 7 Source: BASF.
Corn that’s protected. 
Selecting the proper fungicide for your corn 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.

Step 1: Target fields that benefit the most.
Select 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
- Are experiencing stress during the pollination period

Step 2: Consider your objective.
Once you have made the decision to use a fungicide, ensure you are making an application at the right stage with the right product to meet your objective. This will help you achieve your production goals and improve your overall results and return on investment.

- If you want to control leaf diseases such as northern corn leaf blight or eyespot and yield is your primary objective, apply Veltyma® fungicide at tassel (VT)
- If you are concerned about quality and the impact of DON, apply Caramba® fungicide at silking (R1)
- If you are targeting both yield and quality, tank mix Headline® AMP fungicide or Veltyma with Caramba at silking (R1)

Step 3: Scout.
Before applying your fungicide, check on your field to make sure the crop is at the right stage to meet your objective. If you are unsure of when to apply during silking, click here for more details.

<table>
<thead>
<tr>
<th>Veltyma</th>
<th>Caramba</th>
<th>Headline AMP + Caramba</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Focus</strong></td>
<td><strong>Quality</strong></td>
<td><strong>Leaf disease, quality and yield</strong></td>
</tr>
<tr>
<td><strong>Benefits</strong></td>
<td><strong>- Preventative and post-infection activity on diseases with fast plant uptake</strong></td>
<td><strong>- Preventative and post-infection activity on diseases</strong></td>
</tr>
<tr>
<td></td>
<td><strong>- Increased benefits for improved plant health and greener leaves</strong></td>
<td><strong>- Unique properties leading to better management of minor stress, better standability, increased growth efficiency and greener leaves</strong></td>
</tr>
<tr>
<td></td>
<td><strong>- Multiple modes of effective action for resistance management</strong></td>
<td><strong>- Multiple modes of effective action for resistance management</strong></td>
</tr>
<tr>
<td><strong>Application timing</strong></td>
<td><strong>V12 to silk browning (R1).</strong></td>
<td><strong>Full silking to silk browning (R1). If silks are dry, it's too late.</strong></td>
</tr>
<tr>
<td><strong>Rate</strong></td>
<td><strong>405 ml/ac (1.0 L/ha)</strong></td>
<td><strong>Headline AMP – 303 ml/ac (750 ml/ha)</strong></td>
</tr>
<tr>
<td></td>
<td><strong>202 ml/ac (500 ml/ha)</strong></td>
<td><strong>Caramba – 202 ml/ac (500 ml/ha)</strong></td>
</tr>
</tbody>
</table>

1 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 on agsolutions.ca or call AgSolutions® Customer Care at 1-877-371-BASF (2273) 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 on agsolutions.ca or call AgSolutions® Customer Care at 1-877-371-BASF (2273) for detailed staging information.

1 Frontier® Max herbicide can be applied pre-plant incorporated to pre-emergence.
2 Talk to your grain buyer regarding maximum residue limits for markets around the world before applying to conventional or IP soybeans.

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BASF lead recommendations.

Select the solution that's right for your operation.

**CROP ESTABLISHMENT**

- **Glyphosate-tolerant (GT) soybeans**
- **Dicamba-tolerant (DT) soybeans**
- **Enlist E3™ soybeans**
- **Conventional/IP soybeans**

**WEED MANAGEMENT**

- **Integrity**
  - Powered by Kixo® Herbicide
  - OR
  - Optill®
  - Powered by Kixo® Herbicide
  - OR
  - Eragon LQ
  - Powered by Kixo® Herbicide
  - OR
  - Zidua SC
  - Herbicide

- **Integrity**
  - Powered by Kixo® Herbicide
  - OR
  - Optill®
  - Powered by Kixo® Herbicide
  - OR
  - Eragon LQ
  - Powered by Kixo® Herbicide
  - OR
  - Zidua SC
  - Herbicide
  - OR
  - Frontier Max
  - Herbicide
  - +
  - Engelina
  - Herbicide

- **Integrity**
  - Powered by Kixo® Herbicide
  - OR
  - Optill®
  - Powered by Kixo® Herbicide
  - OR
  - Eragon LQ
  - Powered by Kixo® Herbicide
  - OR
  - Zidua SC
  - Herbicide
  - +
  - Zidua SC
  - Herbicide
  - Conquest LQ
  - Herbicide

- **Frontier Max**
  - Herbicide
  - OR
  - Prowl H2O
  - Herbicide
  - OR
  - Zidua SC
  - Herbicide

**FOLLOWED BY**

- **Liberty 200 SN**
  - Herbicide

Speak to your grain buyer first.
Contact your BASF AgSolutions® Retail Representative for more information.
ILEVO® seed treatment provides effective protection against sudden death syndrome (SDS) and soybean cyst nematode (SCN).

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

### ILEVO outperforms competitors against nematodes

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

<table>
<thead>
<tr>
<th>ILEVO 154 ml/100 kg</th>
</tr>
</thead>
</table>

*ILEVO* 154 ml/100 kg

Talk to your seed treater about application.

**Active ingredient**
Fluopyram – Group 7

**Formulation**
Suspension

**Inoculant compatibility**
For details on seed treatment and inoculant compatibility, consult the inoculant compatibility information for the respective inoculant manufacturer, call AgSolutions® Customer Care at 1-877-371-BASF (2273) or contact your BASF AgSolutions Retail Representative.

**ILEVO yield benefit on soybeans**

84% positive, +4.7 bu/acre average with ILEVO

*ILEVO* outperforms competitors against nematodes

### Crop Establishment

**For use on:**

- **YES**

For details on seed treatment and inoculant compatibility, consult the inoculant compatibility information for the respective inoculant manufacturer, call AgSolutions® Customer Care at 1-877-371-BASF (2273) or contact your BASF AgSolutions Retail Representative.
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® biofungicide
• Unique formulation and bladder system provides up to 100 days of on-seed survivability
• Low application volume and ability to apply early for convenience
• Better plant growth with *B. amyloliquefaciens*
• Built-in disease suppression
• Increased vigor for greater yields

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

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

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

<table>
<thead>
<tr>
<th>Product</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nodulator PRO 100 (inoculant + conditioner)</td>
<td>130 ml</td>
</tr>
<tr>
<td>Integral</td>
<td>9 ml</td>
</tr>
</tbody>
</table>

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

Source: BASF trials, 2007

<table>
<thead>
<tr>
<th>Yield boosts of up to 6% in soybeans</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yield (bu/acre)</td>
</tr>
<tr>
<td>Rhizobium only</td>
</tr>
<tr>
<td>Biostacked inoculant</td>
</tr>
</tbody>
</table>

Source: BASF Internal Research Trials, 2003-2006, n=19

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 Please refer to the product label for application rates without pesticides, as 139 ml/100 kg is not sufficient for even seed coverage and requires additional liquid volume (water and/or pesticide).
Eragon® LQ
Powered by Kixor® Herbicide

PRE-PLANT/PRE-EMERGENCE

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 plantain¹
Canada fleabane²
Common ragweed²
Dandelion³
Giant ragweed¹,²
Lady’s thumb¹
Lamb’s quarters
Perennial sow thistle¹,⁴
Prickly lettuce¹,⁵
Redroot pigweed
Shepherd’s-purse¹
Stinkweed¹
Wild buckwheat¹
Wild mustard

Application rates
One case treats 160 acres.

<table>
<thead>
<tr>
<th>Product</th>
<th>Rate</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eragon LQ</td>
<td>30 ml/ac (73 ml/ha)⁶</td>
<td></td>
</tr>
<tr>
<td>Merge® adjuvant</td>
<td>400 ml/ac (1 L/ha)</td>
<td></td>
</tr>
<tr>
<td>Glyphosate⁷</td>
<td>See label for rate</td>
<td></td>
</tr>
</tbody>
</table>

Water volume
Ground application 40 to 80 L/ac (10 to 20 gal/ac)⁸

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)

Active ingredient
Saflufenacil – Group 14

Formulation
Water-based suspension concentrate

One case contains 4 x 1.182 L jugs

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 a higher water volume for larger weeds or when weed densities are high.

Source: BASF research trials, Bryanston, ON, 2013
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

**Crop staging**
Pre-plant¹, pre-emergence¹

**Weeds controlled**

**Broadleaf weeds**
- Canada fleabane²
- Common ragweed²
- Dandelion³
- Giant ragweed
- Lady’s thumb
- Lamb’s quarters
- Perennial sow thistle⁴
- Prickly lettuce⁵
- Redroot pigweed
- Shepherd’s-purse
- Stinkweed
- Wild buckwheat
- Wild mustard

**Grasses**
- Barnyard grass⁶
- Crabgrass (large)⁶
- Foxtail (green, yellow)⁶

**Application rates**
One case treats 120 acres.
One tote treats 3,000 acres.

<table>
<thead>
<tr>
<th>Product</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrity</td>
<td>150 ml/ac (370 ml/ha)</td>
</tr>
<tr>
<td>Merge</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**
60 days after application for soybeans.

**Follow crops**
- Anytime after application:
  - Field and sweet corn
- 100 days after application:
  - Cereals other than corn
- 11 months after application:
  - All other crops
- 22 months after application:
  - Sugar beets

**Tech Tip**
Use multiple modes of effective action. If targeting larger glyphosate-resistant Canada fleabane, use a higher water volume (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 in the case. See respective glyphosate label for application rate of glyphosate.
Rapid burndown with residual control for cleaner fields in soybeans.

- Powered by Kixor® for rapid burndown plus early-season residual control in no-till and vertical-till productions
- Multiple modes of action to help manage resistant weeds
- Controls grassy 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)

**Application rates**
One case treats 120 acres.

<table>
<thead>
<tr>
<th>Herbicide</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, winter wheat
In next spring after application: Dry beans, field corn, soybeans, spring barley, spring wheat, winter wheat

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 in the case. 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.
Crop staging
Pre-plant\(^2\), pre-emergence, early post-emergence up to the 3\(^{rd}\) trifoliate

Weeds controlled
Broadleaf weeds
Lamb’s quarters\(^3\), Redroot pigweed, Waterhemp

Grasses
Annual bluegrass, Barnyard grass, Crabgrass (large), Foxtail (giant, green, yellow), Ryegrass (Italian), Wild oats\(^3\)

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

<table>
<thead>
<tr>
<th>Rate by soil texture for residual control</th>
<th>Coarse</th>
<th>Medium-fine</th>
<th>Fine</th>
</tr>
</thead>
<tbody>
<tr>
<td>3% &lt; Organic matter &lt; 7%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-plant, pre-emergence</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>Early post-emergence</td>
<td>73 to 97 ml/ac (180 to 240 ml/ha)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

Follow crops
4 months following application:
Winter wheat

Following spring after application:
Chickpeas, field corn, field peas, flax, lentils, potatoes, soybeans, spring wheat\(^4\), sunflowers\(^4\)

1 Talk to your grain buyer regarding maximum residue limits for markets around the world before applying to conventional or IP soybeans. 2 Up to 30 days before planting. 3 Suppression only. 4 This applies if total seasonal rate of Zidua SC was 120 to 240 ml/ha.
Engenia® Herbicide

An advanced dicamba formulation with lower volatility properties for improved broadleaf control in XtendFlex® soybeans and Roundup Ready 2 Xtend® soybeans.1

- 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

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

Weeds controlled
- Buckwheat (tartary, wild)
- Canada fleabane2
- 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

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

Engenia® 2, 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 a higher water volume 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.

TECH TIP
For increased control and an additional mode of effective action on glyphosate-resistant Canada fleabane, apply Engenia at pre-plant or pre-emergence in dicamba-tolerant soybeans in a tank mix with either Eragon® LQ herbicide, Integrity or Optill® herbicide.

Active ingredient
Dicamba – Group 4

Formulation
Solution

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

Active ingredient
Dicamba – Group 4

Formulation
Solution

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

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

Pre-harvest interval
7 to 10 days for soybean forage and 13 to 15 days for soybean hay.

Follow crops
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Solution

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Application rates
One case treats 40 to 80 acres.
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Engenia® 2, 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 a higher water volume to ensure adequate coverage.

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

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Follow crops
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Active ingredient
Dicamba – Group 4

Formulation
Solution

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

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

Engenia® 2, 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 a higher water volume to ensure adequate coverage.

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.

TECH TIP
For increased control and an additional mode of effective action on glyphosate-resistant Canada fleabane, apply Engenia at pre-plant or pre-emergence in dicamba-tolerant soybeans in a tank mix with either Eragon® LQ herbicide, Integrity or Optill® herbicide.

Active ingredient
Dicamba – Group 4

Formulation
Solution

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

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

Engenia® 2, 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 a higher water volume to ensure adequate coverage.

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.

TECH TIP
For increased control and an additional mode of effective action on glyphosate-resistant Canada fleabane, apply Engenia at pre-plant or pre-emergence in dicamba-tolerant soybeans in a tank mix with either Eragon® LQ herbicide, Integrity or Optill® herbicide.
Weed control is your goal. Stewardship is your priority.

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

- **Nozzles** – use nozzles that deliver extremely coarse to ultra-course droplets
- **Wind speed** – spray when wind speeds are between 3 to 15 km/h
- **Ground speed** – maintain sprayer speed under 25 km/h
- **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 gal/ac
- **Additives/adjuvants** – only use as required or recommended on product label
- **Sprayer cleanout** – triple rinse, and use a detergent-based cleaner

**TECH TIP**

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

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

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

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).
**Liberty® 200 SN**

Herbicide

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

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

**Crop staging**

For Enlist E3™ soybeans only

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

**Weeds controlled**

**Broadleaf weeds**

- Canada fleabane
- Canada thistle
- Chickweed
- Cleavers
- Cocklebur
- Common ragweed
- Eastern black nightshade
- Field bindweed
- Giant ragweed
- Green pigweed
- Jimsonweed
- Kochia
- Lady's thumb
- Lamb's quarters
- Perennial sow thistle
- Redroot pigweed
- Shepherd's-purse
- Stinkweed
- Velvetleaf
- Volunteer canola
- Waterhemp
- 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.

| Liberty 200 SN | 1.0 L/ac (2.5 L/ha) |

**Water volume**

Ground application

Minimum 80 L/ac (20 gal/ac)

**Pre-harvest interval**

70 days after application for soybeans.

**Follow crops**

Anytime after application (LibertyLink® varieties only):

- Canola, field corn, soybeans

70 days after application:

- Barley, oats, rye, triticale, wheat

120 days after application:

- All other crops

**TECH TIP**

Click here to learn more about Liberty® 200 SN herbicide best management practices.

**Active ingredient**

Glufosinate ammonium – Group 10

**Concentration**

200 g/L

**Formulation**

Solution

**One case contains**

2 x 10 L jugs

Also available in 400 L tote

1 Including glyphosate-resistant biotypes. 2 Including Group 2-resistant biotypes. 3 Season long suppression. 4 Suppression only. 5 For enhanced activity, add ammonium sulphate to the tank at a rate of 6 L/ha (49% solution) or 3 kg/ha (99%). 6 Including Group 4-resistant biotypes. 7 Including conventional, Roundup Ready® and Clearfield® biotypes. 8 In corn and soybeans only. To control early flushes, an application of a registered pre-emergent herbicide, such as Zidua® SC herbicide, is recommended.
Planning your dicamba-tolerant or Enlist E3™ soybean herbicide program.

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

Enlist E3™ soybeans.
- Tank mix Zidua SC with your choice of Kixor herbicide (Eragon LQ, Integrity or Optill) based on your weed spectrum and intended application period (pre-plant or pre-emergence) and follow up with an in-crop application of Liberty® 200 SN herbicide prior to the start of flowering
- Liberty 200 SN provides an alternative mode of action (Group 10) for in-crop control of weeds, including resistant biotypes
- Click here for more information on Liberty 200 SN best practices

Choosing your best Kixor herbicide tank-mix option.

<table>
<thead>
<tr>
<th></th>
<th>Eragon LQ</th>
<th>Integrity</th>
<th>Optill</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group(s)</td>
<td>14</td>
<td>14, 15</td>
<td>14, 2</td>
</tr>
<tr>
<td>Staging</td>
<td>PP, PRE</td>
<td>PP, PRE</td>
<td>PP, PRE</td>
</tr>
<tr>
<td>Rate</td>
<td>30 ml/ac</td>
<td>150 ml/ac</td>
<td>60 g/ac</td>
</tr>
<tr>
<td>Water volume</td>
<td>10-20 gal/ac</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effects</td>
<td>Adds an additional mode of effective action on broadleaf weeds (including resistant biotypes)</td>
<td>Adds two additional modes of effective action on broadleaf weeds (including resistant biotypes)</td>
<td>Adds up to two additional modes of effective action on broadleaf weeds (including resistant biotypes)</td>
</tr>
</tbody>
</table>
Conquest® LQ
Herbicide

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

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

Weeds controlled

**Broadleaf weeds**
- Common ragweed
- Eastern black nightshade\(^1\)
- Lady's thumb
- Lamb's quarters
- Redroot pigweed
- Velvetleaf\(^2\)
- Wild mustard

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

Application rates

One case treats 30 to 40 acres.

<table>
<thead>
<tr>
<th>Herbicide</th>
<th>Rate (ml/ac)</th>
<th>Rate (L/ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pursuit(^3)</td>
<td>126 to 168</td>
<td>(312 to 420)</td>
</tr>
<tr>
<td>Sencor(^3)</td>
<td>344 to 459</td>
<td>(0.86 to 1.1)</td>
</tr>
</tbody>
</table>

Water volume

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

Pre-harvest interval

100 days after application for soybeans.

Follow crops

In next spring after application:
- Field corn
- Kidney beans
- Soybeans
- Spring barley
- Spring wheat
- White beans
- Winter wheat\(^4\)

Active ingredients

- Imazethapyr – Group 2
- Metribuzin – Group 5

Formulation

- Imazethapyr – Solution
- Metribuzin – Suspension concentrate

One case contains

2 x dual chamber jugs.
Each jug contains:
- 2.52 L Pursuit® herbicide
- 6.88 L Sencor® herbicide

Crop staging

Early pre-plant, pre-emergence

TECH TIP

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

\(^1\) Pre-emergence application. Partial control only.

\(^2\) Some velvetleaf plants that germinate deeper in the soil and emerge late may escape treatment.

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

\(^4\) Winter wheat may be grown 100 days after the application of Conquest® LQ herbicide.
### Frontier® Max Herbicide

Reliable control of tough broadleaf and grassy weeds.

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

<table>
<thead>
<tr>
<th>Crop staging</th>
<th>Pre-plant incorporated¹, pre-emergence¹</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Weeds controlled</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Broadleaf weeds</strong></td>
<td></td>
</tr>
<tr>
<td>Eastern black nightshade²</td>
<td></td>
</tr>
<tr>
<td>Redroot pigweed³</td>
<td></td>
</tr>
<tr>
<td>Waterhemp⁴</td>
<td></td>
</tr>
<tr>
<td><strong>Grasses</strong></td>
<td></td>
</tr>
<tr>
<td>Barnyard grass</td>
<td></td>
</tr>
<tr>
<td>Crabgrass (large, smooth)</td>
<td></td>
</tr>
<tr>
<td>Fall panicum</td>
<td></td>
</tr>
<tr>
<td>Foxtail (giant, green, yellow)</td>
<td></td>
</tr>
<tr>
<td>Old witchgrass</td>
<td></td>
</tr>
<tr>
<td>Yellow nutsedge⁵</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Application rates</th>
<th>One case treats 45 to 60 acres.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Frontier® Max</strong></td>
<td>305 to 390 ml/ac (0.75 to 1.0 L/ha)⁶</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Water volume</th>
<th>Ground application</th>
<th>40 to 80 L/ac (10 to 20 gal/ac)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Active ingredient</th>
<th>Dimethenamid-P – Group 15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formulation</td>
<td>Emulsifiable concentrate</td>
</tr>
<tr>
<td>One case contains</td>
<td>2 x 9 L jugs</td>
</tr>
</tbody>
</table>

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.
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, smooth)
Foxtail (green, yellow)
Lamb’s quarters1,2
Redroot pigweed2

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
Kidney beans
Soybeans
White beans

TECH TIP
If planning to use a vertical tillage implement, apply the herbicide prior to the tillage pass for better weed control.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.

Active ingredient
Pendimethalin – Group 3

Formulation
Microcapsule suspension

One case contains
2 x 8.9 L jugs
Also available in 450 L tote

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

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

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

Crop staging
Cotyledon to 3rd trifoliate

Weeds controlled
Broadleaf weeds
Bird rape, Canada thistle¹, Cocklebur, Common ragweed, Eastern black nightshade, Field bindweed², Flower-of-an-hour, Lady’s thumb, Lamb’s quarters, Redroot pigweed, Shepherd’s-purse, Stinkweed, Velvetleaf, Wild buckwheat³, Wild mustard, Yellow nutsedge¹

Grasses
Barnyard grass, Green foxtail, Large crabgrass⁴, Old witchgrass³, Proso millet⁴, 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 (312 ml/ha)</td>
</tr>
<tr>
<td>Basagran Forte</td>
<td>708 ml/ac (1.75 L/ha)</td>
</tr>
<tr>
<td>28% UAN⁵</td>
<td>809 ml/ac (2.0 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.

Active ingredients
Bentazon – Group 6
Imazethapyr – Group 2

Formulation
Bentazon – Liquid
Imazethapyr – Solution

One case contains
2 x dual-chamber jugs
Each jug contains:
1.26 L Pursuit® herbicide
7 L Basagran® Forte herbicide

For use on:
ALL SOYBEAN PLATFORMS
YES

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

¹ May require an additional application of Basagran Forte at 708 ml/ac (1.75 L/ha) only for control.
² Suppression only.
³ Early post-emergence application.
⁴ Early post-emergence application; partial control.
⁵ Not included in the case.

20 days after planting
Source: AgSolutions® Performance Trial, 2011
Match these herbicides with your IP soybeans.

<table>
<thead>
<tr>
<th></th>
<th>+ Prowl H2O</th>
<th>+ Frontier Max</th>
<th>+ Zidua SC</th>
<th>+ Frontier Max</th>
<th>Followed by Clean Sweep</th>
<th>Frontier Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groups</td>
<td>2, 3, 5</td>
<td>2, 5, 15</td>
<td>2, 5, 15</td>
<td>2, 14, 15</td>
<td>2, 3, 6</td>
<td>2, 6, 15</td>
</tr>
<tr>
<td>Staging</td>
<td>PP</td>
<td>PRE</td>
<td>PP, PRE</td>
<td>PP, PRE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water volume</td>
<td>10-20 gal/ac</td>
<td>10-20 gal/ac</td>
<td>15-20 gal/ac</td>
<td>10-20 gal/ac</td>
<td>10-20 gal/ac for Prowl H2O 20-30 gal/ac for Clean Sweep</td>
<td>10-20 gal/ac for Frontier Max 20-30 gal/ac for Clean Sweep</td>
</tr>
<tr>
<td>Broadleaf weeds^{2}</td>
<td>Common ragweed Eastern black nightshade Lady’s thumb Lamb’s quarters Redroot pigweed Velvetleaf</td>
<td>Common ragweed Eastern black nightshade Lady’s thumb Lamb’s quarters Redroot pigweed Velvetleaf</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 Eastern black nightshade Giant ragweed Lady’s thumb Lamb’s quarters Redroot pigweed Perennial sow thistle Redroot pigweed Shepherd’s purse Wild buckwheat</td>
<td>Canada thistle^{4} Cocklebur Common ragweed Eastern black nightshade Field bindweed^{4} Lady’s thumb Lamb’s quarters Redroot pigweed Shepherd’s purse Velvetleaf Wild buckwheat</td>
<td>Canada thistle^{4} Cocklebur Common ragweed Eastern black nightshade Field bindweed^{4} Lady’s thumb Lamb’s quarters Redroot pigweed Shepherd’s purse Velvetleaf Wild buckwheat</td>
</tr>
<tr>
<td>Grasses^{2}</td>
<td>Barnyard grass Crabgrass (large) Fall panicum Foxtail (green, yellow)</td>
<td>Barnyard grass Crabgrass (large, smooth) Foxtail (giant, green, yellow) Old witchgrass Yellow nutsedge</td>
<td>Barnyard grass Crabgrass (large, smooth) Fall panicum Foxtail (giant, green, yellow) Old witchgrass Yellow nutsedge</td>
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<td>Barnyard grass Crabgrass (large, smooth) Fall panicum Foxtail (giant, green, yellow) Old witchgrass Yellow nutsedge</td>
</tr>
<tr>
<td>PHI for soybeans</td>
<td>100 days</td>
<td>100 days</td>
<td>100 days</td>
<td>100 days</td>
<td>100 days (after Clean Sweep)</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 pressure. Best for heavy grass pressure including crabgrass, or additional activity on lamb’s quarters and eastern black nightshade.</td>
<td>Do not have to incorporate. Use when there is heavy grass or nightshade pressure.</td>
<td>Planned 2-pass program. The soil applied residual at planting will allow for more uniform weed emergence, which will decrease the selection pressure of the in-crop herbicide and make it easier to time the in-crop herbicide application. Use Prowl H2O on light soils or if there is a lot of grass and lamb’s quarters. Apply Clean Sweep 17-24 days after the initial burndown or tillage pass.</td>
<td>Planned 2-pass program. The soil applied residual at planting will allow for more uniform weed emergence, which will decrease the selection pressure of the in-crop herbicide and make it easier to time the in-crop herbicide application. Frontier Max is strong on nightshade. Apply Clean Sweep 17-24 days after the initial burndown or tillage pass.</td>
<td></td>
</tr>
</tbody>
</table>

1 Talk to your grain buyer regarding maximum residue limits for markets around the world before applying to conventional or IP soybeans. 2 For the complete list of weeds controlled and/or suppressed consult the product labels. 3 Partial control only. 4 Suppression only. 5 Not specified for Zidua SC. Follow the application timing for crop on the label. Harvest can occur at crop maturity.

PPI = pre-plant incorporated  PP = pre-plant  PRE = pre-emergence
Lasting protection against aphids.

- Quickly halts aphid feeding, which reduces production losses
- Extended control of aphids
- Powered by Inscalis®, a unique mode of action that controls soybean aphids, including those that are resistant to other insecticides
- Effective tool in an integrated pest management strategy with a low impact on beneficial insects, including predatory and parasitic insects

**Crop staging**
Emergence to full maturity

**Pest controlled**
Soybean aphid (Aphis glycines)

**Application rates**
One case treats 80 acres.

<table>
<thead>
<tr>
<th>Product</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sefina®</td>
<td>81 ml/ac (200 ml/ha)</td>
</tr>
</tbody>
</table>

**Water volume**

- **Ground application**: 40 to 80 L/ac (10 to 20 gal/ac)
- **Aerial application**: 20 L/ac (5 gal/ac) minimum

**Pre-harvest interval**
7 days after application.

**Active ingredient**
Afidopyropen – Group 9D

**Formulation**
Dispersion concentrate

**One case contains**
2 x 3.24 L jugs

---

1 Talk to your grain buyer regarding maximum residue limits for markets around the world before applying to conventional or IP soybeans.
2 Damage is typically only economic from R1 to R5.
3 Allow a minimum of 7 days between applications.
4 Do not apply more than 162 ml/ac (400 ml/ha) per year.

**TECH TIP**

Use a higher water volume to ensure adequate coverage.

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

<table>
<thead>
<tr>
<th>Disease</th>
<th>Visual symptoms</th>
<th>Picture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anthracnose</td>
<td>• Irregular reddish/dark brown to black lesions (blotches) are found on the stems</td>
<td><img src="https://example.com/image1.png" alt="Image" /></td>
</tr>
<tr>
<td></td>
<td>• Foliar symptoms include red/brown discoloration of veins, leaf rolling and premature leaf drop</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Petiole infection can make the stem resemble a shepherd’s crook</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Pods can produce smaller seeds or have missing seeds</td>
<td></td>
</tr>
<tr>
<td>Asian soybean rust</td>
<td>• Small grey/yellow water-soaked lesions that become tan/dark brown and increase in size</td>
<td><img src="https://example.com/image2.png" alt="Image" /></td>
</tr>
<tr>
<td></td>
<td>• Symptoms start in the lower canopy before moving to the mid to upper canopy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Lesions are mostly found on the leaves but can also be on the petioles, stems and pods</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• High lesion density will cause leaves to drop and plants to mature early</td>
<td></td>
</tr>
<tr>
<td>Cercospora blight and purple seed stain</td>
<td>• Red to purple lesions; from needle tip size up to 1 cm</td>
<td><img src="https://example.com/image3.png" alt="Image" /></td>
</tr>
<tr>
<td></td>
<td>• Lesions can coalesce to form larger irregular lesions</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Symptoms can be found on the midrib, lateral veins, stems, petioles and pods</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Develops during senescence</td>
<td></td>
</tr>
<tr>
<td>Frog eye leaf spot</td>
<td>• Round lesions that are 1 to 5 mm in diameter; lesions will coalesce over time</td>
<td><img src="https://example.com/image4.png" alt="Image" /></td>
</tr>
<tr>
<td></td>
<td>• The centre of the lesions are usually tan with a brown or dark red margin</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Grey spores can be seen on the lesions</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Symptoms tend to appear during flowering and pod development</td>
<td></td>
</tr>
<tr>
<td>Phomopsis</td>
<td>• Affects the stems, petioles, pods and seeds mostly in the lower part of the plant</td>
<td><img src="https://example.com/image5.png" alt="Image" /></td>
</tr>
<tr>
<td></td>
<td>• Black dots (pycnidia) placed in rows can be seen on parts of the stem</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Infected seeds are dull, chalky white and look shriveled</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Usually a late-season disease</td>
<td></td>
</tr>
<tr>
<td>Septoria brown spot</td>
<td>• Small irregular-shaped dark brown lesions that can coalesce</td>
<td><img src="https://example.com/image6.png" alt="Image" /></td>
</tr>
<tr>
<td></td>
<td>• Lesions are on both sides of the leaves</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Progresses from the bottom of the plant to the upper leaves</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Infected leaves turn yellow and will drop</td>
<td></td>
</tr>
<tr>
<td>White mold</td>
<td>• White to grey/bleached lesions are present on stems, leaves and petioles</td>
<td><img src="https://example.com/image7.png" alt="Image" /></td>
</tr>
<tr>
<td></td>
<td>• Fluffy white mycelium can be found on the lesions under humid temperatures</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Lesions are mostly found in the lower half of the canopy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Once the plant is infected, it will start wilting, turn brown and die</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Hard, black sclerotia can be found on or in the stem lesions and in infected pods</td>
<td></td>
</tr>
</tbody>
</table>

1,4,6,7 Source: BASF. 2 Source: Edward Sikora, Auburn University, Bugwood.org. 3,5 Source: Daren Mueller, Iowa State University, Bugwood.org.
Deciding which soybean fungicide is right for you.

Ensure that you are making the best decisions when it comes to managing white mold. It can have a high impact on yield and is on the rise due to tighter crop rotations, increased fertility and the growth of higher yielding and bushier varieties. White mold is estimated to lower yield by 2.5 to 5 bu/ac for every 10% incidence of the disease.1

Step 1. Get to know the risk indicators for white mold.

**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

1 Yang, Lundeen and Uphoff, 1999.

Step 2. Determine which fungicide(s) correspond to your white mold risk level.

<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>Low2,3</td>
<td>Priaxor® Xanum® Fungicide</td>
<td>120 ml/ac (300 ml/ha)</td>
<td>R2.5</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Moderate</td>
<td>Priaxor® Xanum® Fungicide</td>
<td>180 ml/ac (450 ml/ha)</td>
<td>R2</td>
<td>Cotegra® Fungicide (If needed)</td>
<td>280 ml/ac (700 ml/ha)</td>
<td>10-14 days later</td>
</tr>
<tr>
<td>High</td>
<td>Cotegra® Fungicide</td>
<td>280 ml/ac (700 ml/ha)</td>
<td>R2</td>
<td>Priaxor® Xanum® Fungicide</td>
<td>180 ml/ac (450 ml/ha)</td>
<td>10-14 days later</td>
</tr>
</tbody>
</table>

1 Yang, Lundeen and Uphoff, 1999.
2 Prevent leaf disease and maintain plant health even under low-risk conditions.
3 Apply Priaxor® fungicide at the increased rate of 180 ml/ac for suppression of sclerotinia stem rot.

Step 3. Apply at proper timing.

- Make your first application in a 2-pass program or your only application in a single-pass system at full flower to early pod development (R2 to R2.5).
- The second application in a 2-pass program should be made 10 to 14 days after the first pass.

**TECH TIP**

Fungicides are more effective when applied preventatively. When in doubt, it’s better to apply earlier in the application window for white mold during flowering (white mold spores feed on flower petals). Remember, when grass is green, white mold is keen.
Priaxor®
Xemium® Fungicide

Proven and consistent. A more advanced fungicide that enhances 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 proven Plant Health Benefits including increased seed weight²
- Multiple modes of action for increased performance and reduced risk for the onset of fungicide resistance

Crop staging³
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 mold⁴ (Sclerotinia sclerotiorum)

Application rates
One case treats 107 to 160 acres.

<table>
<thead>
<tr>
<th>Priaxor⁵</th>
<th>120 to 180 ml/ac (300 to 450 ml/ha)</th>
</tr>
</thead>
</table>

Water volume
Ground application
40 to 80 L/ac (10 to 20 gal/ac)⁶
Aerial application
20 L/ac (5 gal/ac)

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

Increased soybean yield with Priaxor fungicide

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

¹ Plant Health Benefits refer to products that contain the active ingredient pyraclostrobin. ² All comparisons are to untreated, unless otherwise stated. ³ While Priaxor can be applied at earlier growth stages, research suggests the stated timing provides optimal Plant Health Benefits. ⁴ Apply Priaxor fungicide at the increased rate of 180 ml/ac for suppression of sclerotinia stem rot. ⁵ BASF recommends using a higher water volume to ensure adequate coverage and better activity on leaf disease.
The new standard for sclerotinia.
- Delivers industry-leading disease management
- Combines two leading active ingredients in a convenient liquid premix
- Provides significant yield improvements in canola, dry beans and soybeans

**Crop staging**
Early flower to mid-pod development (R1 to R3)

**Diseases controlled**
- Asian soybean rust (*Phakopsora pachyrhizi*)
- Frog eye leaf spot (*Cercospora sojina*)
- Pod and stem blight (*Diaporthe phaseolorum*)
- Septoria brown spot (*Septoria glycines*¹)
- White mold (*Sclerotinia sclerotiorum*¹)

**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></th>
<th>Cotegra®</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate (ml/ac)</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.

**Increased soybean yield with Cotegra**

<table>
<thead>
<tr>
<th>Yield (bu/ac)</th>
<th>Untreated</th>
<th>Cotegra</th>
</tr>
</thead>
<tbody>
<tr>
<td>56.8</td>
<td>59.2</td>
<td></td>
</tr>
<tr>
<td>+2.4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

¹ Suppression.
An easy-to-use liquid formulation for complete crop and weed dry down in soybeans.

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

**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 stand-alone or 80 to 160 acres when tank mixed with glyphosate.

**Recommended use pattern**

<table>
<thead>
<tr>
<th>Product</th>
<th>Rate</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eragon® LQ</td>
<td>30 to 59 ml/ac (73 to 146 ml/ha)</td>
<td>1 Use higher rate for heavier weed pressure or if glyphosate-resistant weeds are present.</td>
</tr>
<tr>
<td>Merge® adjuvant</td>
<td>400 ml/ac (1.0 L/ha)</td>
<td>Required</td>
</tr>
<tr>
<td>Glyphosate</td>
<td>1.0 L/ac (2.5 L/ha)</td>
<td>2 Glyphosate and Merge adjuvant (required) are not included in the case.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Product</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eragon LQ</td>
<td>59 ml/ac (146 ml/ha)</td>
</tr>
<tr>
<td>Merge adjuvant</td>
<td>400 ml/ac (1.0 L/ha)</td>
</tr>
</tbody>
</table>

**Water volume**
Ground application
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.

**TECH TIP**
Get your herbicide application deeper into the canopy for a more complete dry down with these tips:

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

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

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

1 Headline® AMP fungicide and Veltyma® 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 Plant Health Benefits.
BASF lead recommendations.

Select the solution that’s right for your operation.

- **Teraxxa® F4**
  - NEW
  - Seed Treatment

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

- **Veltyma®**
  - NEW
  - Revysol® Fungicide

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

- **Distinct®**
  - Herbicide

- **Headline® AMP**
  - Fungicide

- **Caramba®**
  - Fungicide

Contact your BASF AgSolutions® Retail Representative for more information.
The only seed treatment that eliminates wireworms in cereals.

- The only cereal seed treatment on the market that provides true wireworm control by breaking the lifecycle.
- Novel insecticide mode of action delivers a new standard for wireworm control by rapidly eliminating wireworms upon contact and reducing resident populations in season for true control.
- Includes four fungicide active ingredients for premium broad-spectrum protection against key seed- and soil-borne diseases, including fusarium.
- New formulation for reduced viscosity and optimized usability.

### Crop treatment
Standard slurry, gravity flow or mist-type application equipment.

### Pests controlled
Wireworms.

### Diseases controlled
- **Barley, oats, rye, triticale and wheat**
  - Seed rot, damping off (pre- and post-emergent), seedling blight, root rot, crown rot and foot rot caused by Cochliobolus sativus, Fusarium spp., Pythium spp. and Rhizoctonia solani.
- **Barley only**
  - Covered smut (Ustilago hordei), false loose smut (U. nigra) and true loose smut (U. nuda).
- **Oats only**
  - Covered smut (U. kolleri) and loose smut (U. avenae).
- **Rye, triticale and wheat only**
  - Common bunt (Tilletia tritici, T. lavies) and loose smut (U. tritici).

### Application rates
- **Teraxxa® F4**
  - 300 ml/100 kg seed

### Reduced wireworm populations

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Wireworm count per four traps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check*</td>
<td>80</td>
</tr>
<tr>
<td>Teraxxa F4</td>
<td>20</td>
</tr>
<tr>
<td>Cruiser® Vibrance®</td>
<td>40</td>
</tr>
<tr>
<td>Quattro</td>
<td>60</td>
</tr>
<tr>
<td>Diamide*</td>
<td>80</td>
</tr>
</tbody>
</table>

Source: BASF Internal Research Trial, 2019, n=1

* Mixed with Insure® Cereal FX4 seed treatment at 300 ml/100 kg rate

1 Except in Cochliobolus sativus (pre-emergent only).
2 Suppression only when caused by Cochliobolus sativus.
3 Only applies to Fusarium spp.; suppression only.
Eragon LQ
Powered by Kixor® Herbicide

The ultimate pre-emergent 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 (spring, winter)

Weeds controlled
Broadleaf plantain¹
Canada fleabane²
Common ragweed²
Dandelion³
Giant ragweed¹,²
Lady’s thumb¹
Lamb’s quarters
Perennial sow thistle¹,⁴
Prickly lettuce¹,⁵
Redroot pigweed
Shepherd’s-purse¹
Stinkweed¹
Wild buckwheat¹
Wild mustard

Applicaiton rates
One case treats 80 acres.

<table>
<thead>
<tr>
<th>Product</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eragon LQ</td>
<td>59 ml/ac (146 ml/ha)</td>
</tr>
<tr>
<td>Merge adjuvant²</td>
<td>400 ml/ac (1.0 L/ha)</td>
</tr>
<tr>
<td>Glyphosate⁶</td>
<td>See label for rate</td>
</tr>
</tbody>
</table>

Water volume
40 to 80 L/ac (10 to 20 gal/ac)⁷

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, winter⁸)

Active ingredient
Saflufenacil – Group 14

Formulation
Water-based suspension concentrate

One case contains
4 x 1.182 L jugs

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.

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 a higher water volume for larger weeds or when weed densities are high. ⁸ Can underseed red clover the following spring after a fall application in winter wheat.
The optimal fungicide for protection against a broad spectrum of foliar diseases in wheat.

- Fast-acting control with multiple modes of effective action
- Extended residual activity and enhanced performance provided by the unique binding activity of Revysol®
- Proven Plant Health Benefits¹ for increased growth efficiency, better management of minor stress and greater yield potential²
- Delivers preventative and post-infection activity
- Liquid formulation for optimized usability

**Crop staging**
Stem elongation to flag leaf

**Diseases controlled³**
In wheat.
Leaf rust (*Puccinia recondita*)
Septoria leaf blotch (*Septoria tritici* or *Stagonospora nodorum*)
Stripe rust (*Puccinia striiformis*)
Tan spot (*Pyrenophora tritici-repentis*)

**Application rates**
One case treats 53 to 80 acres.

| Veltyma® | 152 to 202 ml/ac (375 to 500 ml/ha) |

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

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

¹ Plant Health Benefits refer to products that contain the active ingredient pyraclostrobin.
² All comparisons are to untreated, unless otherwise stated.
³ Do not make more than two sequential applications of Veltyma fungicide targeting the same disease before alternating to a labelled fungicide containing a different mode of action.

**Active ingredients**
Mefentriflucarboxole – Group 3
Pyraclostrobin – Group 11

**Formulation**
Suspension concentrate

**One case contains**
2 x 8.1 L jugs
Improved disease control, standability and yield potential in cereals.¹

- Preventative and post-infection activity on a wide spectrum of diseases in cereals
- Multiple modes of effective action for enhanced performance and efficacy
- Unique properties leading to better management of minor stress, better standability and increased growth efficiency¹

### Crop staging
Stem elongation to flag leaf

### Diseases controlled

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

#### In oats.
Crown rust *(Puccinia coronata)*

#### In rye.
Leaf rust *(Puccinia recondita)*
Powdery mildew *(Erysiphe graminis)*

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

### Application rates
One case treats 40 to 60 acres.

<table>
<thead>
<tr>
<th>Headline® AMP</th>
<th>202 to 303 ml/ac</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(500 to 750 ml/ha)</td>
</tr>
</tbody>
</table>

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

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

### Pre-harvest interval
Apply no later than the end of flowering.

### Tech Tip
If tank mixing Headline AMP + a herbicide, remember the rule of 3 for 3 days:
- Nighttime temperature the day before, day of and day after application should be > 3°C
- For frost events or temperatures <3°C, wait at least 48 hours before spraying
- Spray during warm periods (>5°C) to avoid risk of crop injury
- Do not add more than two products in the tank

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

### Formulation
Liquid

### One case contains
2 x 6.07 L jugs

¹ All comparisons are to untreated, unless otherwise stated.
Caramba
Fungicide

Preventative protection against late leaf diseases and fusarium.

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

Crop staging
- Oats, rye, triticale, wheat (all types): 20% flower\(^1,2\)
- Barley: Full head to 3 days after full emergence\(^1\)

Diseases controlled
- In barley:
  - Fusarium head blight\(^3\)
  - Leaf rust (Puccinia hordei)
  - Net blotch (Pyrenophora teres)
  - Powdery mildew (Erysiphe graminis)
  - Scald (Rhynchosporium secalis)
  - Spot blotch\(^3\) (Cochliobolus sativus)
  - Stripe rust (Puccinia striiformis)

- In oats:
  - Crown rust (Puccinia coronata)
  - Fusarium head blight\(^3\)
  - Leaf rust (Puccinia hordei)
  - Net blotch (Pyrenophora teres)
  - Powdery mildew (Erysiphe graminis)
  - Scald (Rhynchosporium secalis)
  - Spot blotch\(^3\) (Cochliobolus sativus)
  - Stripe rust (Puccinia striiformis)

- In rye:
  - Fusarium head blight\(^3\)
  - Leaf rust (Puccinia recondita)
  - Powdery mildew (Erysiphe graminis)
  - Scald (Rhynchosporium secalis)
  - Spot blotch (Cochliobolus sativus)
  - Stripe rust (Puccinia striiformis)

In wheat (all types) and triticale:
- Fusarium head blight\(^3,4\)
- Leaf rust (Puccinia recondita)
- Powdery mildew (Erysiphe graminis f. sp. tritici)
- Septoria glume blotch (Stagonospora nodorum)
- Septoria leaf spot (Septoria tritici or Stagonospora nodorum)
- Spot blotch\(^3\) (Cochliobolus sativus)
- Stem rust (Puccinia graminis)
- Stripe rust (Puccinia striiformis)
- Tan spot (Pyrenophora tritici-repentis)

Application rates
- One case treats 40 acres.
- One shuttle treats 320 acres.

For fusarium head blight
- 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.

![Reduction in DON contamination with Caramba® fungicide](image)

Source: BASF Field Trials, 2020, n=11

<table>
<thead>
<tr>
<th>DON (PPM)</th>
<th>Untreated</th>
<th>Caramba</th>
<th>Prosaro® XTR</th>
<th>Miravis® Ace</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>4.5</td>
<td>2.9</td>
<td>3.3</td>
<td>2.9</td>
</tr>
</tbody>
</table>

Active ingredient
- Metconazole – Group 3

Formulation
- Liquid

One case contains
- 2 x 8.1 L jugs
- Also available in 128 L shuttle

1 For suppression of fusarium head blight and leaf disease control at heading. For leaf disease control prior to heading, apply prior to symptoms. 2 This is BBCH 62. 3 Suppression only. 4 Not controlled or suppressed in triticale. Wheat only.
Optimal application timing for fusarium head blight (FHB) management in wheat.

<table>
<thead>
<tr>
<th>DAYS&lt;sup&gt;1&lt;/sup&gt;</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>75 - 100% OF HEADS EMERGED</td>
<td>+1</td>
<td>+2</td>
<td>+3</td>
<td>+4</td>
<td>+5</td>
<td>+6</td>
</tr>
<tr>
<td>BBCH</td>
<td>59</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**

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

**TECH TIP**

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

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

<table>
<thead>
<tr>
<th>Disease</th>
<th>Visual symptoms</th>
<th>Picture</th>
</tr>
</thead>
</table>
| Leaf rust                | • Pustules are small, round and yellowish to red and become darker with time  
• They mainly occur on the leaves and occasionally on the leaf sheaths  
• Brown rust pustules appear in random scatter distribution  
• If there are a lot of pustules, the leaves may appear orange | ![Leaf rust](image1)                                                   |
| Powdery mildew           | • White greyish mycelium colonies on the upper leaf surface  
• Over time, the whole plant can be covered by colonies which become more grey with black spots (fructification bodies)  
• Leaves that are infected will shrivel | ![Powdery mildew](image2)                                                |
| Septoria leaf spot       | • Yellow flecking of the lower leaves at the start  
• Yellow, grey, white or brown blotches then appear on the plant  
• Tiny black dots (pycnidia) may appear within the lesions  
• On the leaves, the lesions create elongated blotches (up to 15 mm) that can coalesce | ![Septoria leaf spot](image3)                                           |
| Spot blotch              | • 2-4 mm dark brown lesions  
• Lesions can coalesce when infection is severe  
• A chlorotic area can form around the lesions | ![Spot blotch](image4)                                                   |
| Stripe rust              | • Elongated yellow pustules that can occur on the leaves and the head  
• The pustules appear in parallel along leaf veins  
• As the infection progresses the pustules become dark brown  
• Can cause defoliation or shrinking of the seeds | ![Stripe rust](image5)                                                  |
| Tan spot                 | • Lesions first appear on the lower leaves and spread upward via rain-splash  
• Brown/tan-coloured lesions appear with a distinct dark centre, surrounded by a yellow halo  
• Lesions expand to form 5-13 mm oval lesions that can coalesce to form irregular lesions | ![Tan spot](image6)                                                   |
| Fusarium head blight     | • Causes bleaching of the spikelets  
• The grain of infected heads becomes shriveled, lightweight and chalky in appearance  
• Dark fruiting bodies and white mycelium (with tints of orange and pink) can be found on the bleached spikelets | ![Fusarium head blight](image7)                                         |

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

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

### Crop staging

Look for either the hard dough stage or the peduncle colour change. With the hard dough stage, cereals turn colour when maturing and sometimes the plant will be completely dry before the kernel is firm. At this stage, the kernel should be firm and when pressed with a thumbnail, the impression is held. Kernel moisture content is approximately 30%.

With the peduncle colour change, the peduncle being the upper internode of the stem that carries the spike, look for the change from green to yellow as a good indicator of maturity.

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

| Eragon® LQ¹ | 30 to 59 ml/ac (73 to 146 ml/ha) |
| Merge® adjuvant² | 400 ml/ac (1.0 L/ha) |
| Glyphosate² | 1.0 L/ac (2.5 L/ha) |

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

| Eragon LQ | 59 ml/ac (146 ml/ha) |
| Merge adjuvant² | 400 ml/ac (1.0 L/ha) |

**Water volume**

Ground application 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 for seed production or restrictions on glyphosate use

¹Use higher rate for heavier weed pressure or if glyphosate-resistant weeds are present.
²Glyphosate and Merge adjuvant (required) are not included in the case.
Solutions for canola.

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

Apply when 80% of seeds have changed colour.
BASF lead recommendations.

Select the solution that’s right for your operation.

Contact your BASF AgSolutions® Retail Representative for more information.
### The innovation adds up.

This year, we’re introducing two new hybrids to the InVigor® hybrid canola lineup as well as an innovative new seed treatment, Vercoras® seed treatment, that set a whole new precedent for performance when combined. Welcome InVigor L343PC and InVigor L340PC to the BASF family.

| **NEW** InVigor L343PC | This high-yielding Pod Shatter Reduction hybrid contains second-generation clubroot resistance\(^1\),\(^2\) and offers a significant yield increase over InVigor L234PC plus improved standability.  
111.3% of the checks (InVigor L233P and Pioneer® 45H33) in 2019 & 2020 WCC/RRC\(^3\) trials. |
| --- | --- |
| **NEW** InVigor L340PC | High yield, mid maturity, Pod Shatter Reduction and first-generation clubroot resistance\(^2\)—InVigor L340PC has it all. With strong standability, it excels in fields when lodging is a concern.  
108.9% of the checks (InVigor L233P and Pioneer® 45H33) in 2019 WCC/RRC\(^3\) trials. |
| InVigor L233P | Germination magazine’s 2021 Seed of the Year. InVigor L233P has been grown on more acres than any other InVigor canola hybrid in Canada. Featuring patented Pod Shatter Reduction technology, this very early maturing, high-yielding hybrid provides the harvest flexibility you can count on.  
108.8% of the checks (InVigor 5440 and Pioneer® 45H29) in 2014 & 2015 WCC/RRC\(^3\) trials. |
| InVigor L255PC | InVigor L255PC is a Pod Shatter Reduction hybrid with first-generation clubroot resistance\(^2\) that separates itself from other hybrids due to its very impressive standability. It’s a great fit for growers in the mid to long growing zones and in fields when lodging is a concern.  
109% of the checks (InVigor 5440 and Pioneer® 45H29) in 2016 WCC/RRC\(^3\) trials. |

\(^1\) We recommend growing InVigor L343PC with second-generation clubroot resistance after two cycles of growing first-generation clubroot-resistant hybrids in clubroot-affected areas or when clubroot symptoms appear in first-generation clubroot-resistant hybrids (whichever comes first).

\(^2\) To predominant clubroot pathotypes found in Canada at the time of registration. InVigor L340PC and InVigor L255PC share the same first-generation clubroot resistance profile. InVigor L343PC has this resistance profile plus it contains second-generation multigenic clubroot resistance to additional clubroot pathotypes to help combat evolving clubroot pathotypes.

\(^3\) Western Canadian Canola/Rapeseed Recommending Committee.
InVigor has you covered.

The path to achieve success is unique to every field. InVigor hybrids are designed to address a wide range of challenges and growing conditions to help give you the upper hand in achieving success.

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 dirt on clubroot.

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

Clubroot management in the field.

Resting spores can last in the soil for many 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 hybrid after two cycles of growing first-generation clubroot-resistant hybrids in clubroot-affected areas or when clubroot symptoms appear in first-generation clubroot-resistant hybrids (whichever comes first).

**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.**

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

For everything clubroot, visit [clubroot.ca](http://clubroot.ca) or see our frequently asked questions at [agsolutions.ca/clubrootFAQ](http://agsolutions.ca/clubrootFAQ).
**Vercoras**
Seed Treatment

Be ready. And be protected.

- A frontline insecticide, along with four fungicide active ingredients, delivering broad-spectrum protection against both flea beetles and key diseases.

**Flea beetle trials**

Flea beetle trials

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Plant count (#/ft²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Untreated*</td>
<td>0.4</td>
</tr>
<tr>
<td>Vercoras + Lumiderm™** insecticide seed treatment</td>
<td>2.6</td>
</tr>
</tbody>
</table>

Source: BASF Internal RCD Trial, Saskatoon, SK, 2020

* Untreated check has fungicide base BAS 720 F ST only

** Lumiderm at 400 g rate

**Crop treatment**

Applied on-seed by BASF

**Pests controlled**

Flea beetles (base control)

**Diseases controlled**

Seed- and soil-borne alternaria spot (*Alternaria spp.*), seed- and soil-borne blackleg (*Leptosphaeria maculans*), seed rot, seedling blight and root rot caused by *Fusarium spp.*, *Pythium spp.* and *Rhizoctonia solani*.

**Insecticide active ingredient**

Clothianidin – Group 4

**Fungicide active ingredients**

Fluopyram – Group 7

Fluxapyroxad – Group 7

Pyraclostrobin – Group 11

Metalaxyl – Group 4

**Crop treatment**

Applied on-seed by BASF

**Pests controlled**

Flea beetles (base control)

**Diseases controlled**

Seed- and soil-borne alternaria spot (*Alternaria spp.*), seed- and soil-borne blackleg (*Leptosphaeria maculans*), seed rot, seedling blight and root rot caused by *Fusarium spp.*, *Pythium spp.* and *Rhizoctonia solani*.

**Insecticide active ingredient**

Clothianidin – Group 4

**Fungicide active ingredients**

Fluopyram – Group 7

Fluxapyroxad – Group 7

Pyraclostrobin – Group 11

Metalaxyl – Group 4

**Fusarium challenged trials**

![Untreated](image1)

![Vercoras](image2)

![Competitor](image3)

Source: BASF Internal RCD Trial, Edmonton, AB, Saskatoon, SK and Winkler, MB, 2020, n=5

**Fusarium challenged trials disease index**

<table>
<thead>
<tr>
<th>Disease index (%)</th>
<th>Untreated</th>
<th>Vercoras</th>
<th>Competitor</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>21.7</td>
<td>14.2</td>
<td>16.0</td>
</tr>
</tbody>
</table>

Source: BASF Internal RCD Trial, Edmonton, AB, Saskatoon, SK and Winkler, MB, 2020, n=5

1 Vercoras seed treatment is an on-seed application of Vercoras F3 seed treatment, Poncho® 600 FS seed treatment insecticide and Vercoras XC seed treatment.

2 Except in *Pythium spp.*
Crop staging
For InVigor® hybrid canola with the LibertyLink® trait only
Apply from cotyledon to prior to bolting1

Weeds controlled
Broadleaf weeds
Canada fleabane2,3, Canada thistle4, Chickweed, Cleavers1,5, Cocklebur, Common ragweed, Eastern black nightshade, Field bindweed4, Giant ragweed2,5, Green pigweed, Jimsonweed6, Kochia2,3,7, Lady’s thumb, Lamb’s quarters, Perennial sow thistle, Redroot pigweed, Shepherd’s-purse, Stinkweed, Velvetleaf5, Volunteer canola8, Wild buckwheat, Wild mustard, Wormseed mustard

Grasses
Barnyard grass, Bristly foxtail, Fall panicum, Giant foxtail, Green foxtail, Large crabgrass, Proso millet, Quackgrass4,6, Wild oats, Witchgrass, Yellow foxtail

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

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

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

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

Follow crops
Anytime after application (LibertyLink varieties only):
Canola, field corn, soybeans
70 days after application: Barley, oats, rye, triticale, wheat
120 days after application: All other crops

1 Apply when weeds are actively growing. 2 Including glyphosate-resistant biotypes. 3 Including Group 2-resistant biotypes. 4 Season long suppression. 5 Suppression only. 6 For enhanced activity, add ammonium sulphate to the tank at a rate of 6 L/ha (49% solution) or 3 kg/ha (99%). 7 Including Group 4-resistant biotypes. 8 Including conventional, Roundup Ready®, and Clearfield® biotypes.
Post-emergent control of the toughest grassy weeds in canola.

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

**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 60 L/ac (15 gal/ac)

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

**Application rates**
- **Standard rate:** one case treats 40 acres.
- **High rate:** one case treats 20 acres.
- **Liberty 200 SN tank-mix rate:** one case treats 60 acres.

<table>
<thead>
<tr>
<th>Product</th>
<th>Application Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select1</td>
<td>77 to 154 ml/ac (190 to 380 ml/ha)</td>
</tr>
<tr>
<td>Amigo adjuvant2</td>
<td>0.5 to 1.0% v/v (5 to 10 L per 1000 L spray solution)</td>
</tr>
</tbody>
</table>

**Tank-mix recommendation and order**
When tank mixing Liberty 200 SN and Select for InVigor® canola hybrids

<table>
<thead>
<tr>
<th>Order</th>
<th>Product</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ammonium sulphate</td>
<td>2.4 L/ac (6 L/ha)</td>
</tr>
<tr>
<td>2</td>
<td>Amigo adjuvant</td>
<td>0.5% v/v (5 L per 1000 L spray solution)</td>
</tr>
<tr>
<td>3</td>
<td>Liberty 200 SN</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)</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 77 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).
A more advanced fungicide that helps enhance your canola yield potential.

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

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

**Formulation**
- Liquid suspension

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

**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)

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

**Taller plants with Priaxor on canola**

**Priaxor vs. untreated**
- 5% Taller plants
- 29% More pods
- 11% Less aborted pods
- 8% More leaves
- 7% Thicker stems
- 10% Longer roots

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

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

1 Plant Health Benefits refer to products that contain the active ingredient pyraclostrobin.  
2 All comparisons are to untreated, unless otherwise stated.
The new standard for sclerotinia management.

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

**Crop staging**
20 to 50% flowering

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

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

**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

1 The recommended application rate is 240 ml/ac. The 280 ml/ac rate is only recommended for severe disease conditions.
The ultimate crop and weed dry down in canola.

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

Crop staging
Apply when the canola crop has reached 80% seed colour change on the main stem. Canola timing for application cannot be determined by pod colour. Pods must be opened to determine the amount of seed colour change. 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.

Application rates
One case treats 80 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>59 ml/ac (146 ml/ha)</td>
</tr>
<tr>
<td>Merge® adjuvant</td>
<td>400 ml/ac (1.0 L/ha)</td>
</tr>
<tr>
<td>Glyphosate</td>
<td>1.0 L/ac (2.5 L/ha)</td>
</tr>
</tbody>
</table>

Water volume
Ground application 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

Active ingredient
Saflufenacil – Group 14

Formulation
Water-based suspension concentrate

One case contains
4 x 1.182 L jugs

Access the Eragon LQ staging guide at agsolutions.ca/eragonlq-guide.
Insect identification.

**BERTHA ARMYWORM**
- Adult
- Source: Manitoba Agriculture
- Economic threshold: Provided by government websites and depends on insecticide cost and canola value.

**CABBAGE SEEDPOD WEEVIL**
- Larva
- Source: Canola Council of Canada
- Economic threshold: 3 to 4 adults/sweep.
- Adult

**CUTWORM**
- Pale western cutworm larva
- Source: Left: Peairs, F., Colorado State University, Bugwood.org.
- Right: Gavloski, J., Manitoba Agriculture, Food and Rural Development
- Economic threshold: Stand reduction of 25 to 30%. Damage tends to be in specific regions of the field.
- Redbacked cutworm larvae

**DIAMONDBACK MOTH**
- Mature larva
- Source: Government of Australia, Department of Agriculture and Food
- Economic threshold: 100 to 150 larvae/m² in immature and flowering canola, 200 to 300 larvae/m² in podded canola.
- Adult moth

**FLEA BEETLES**
- Crucifer flea beetle
- Source: Agriculture and AgriFood Canada
- Intervention threshold: Consider a foliar insecticide when 25% of cotyledon leaves are damaged. Threshold is typically lower under drought conditions. No current threshold for stem feeding, look for damage on small plants that likely won’t survive stem feeding.
- Striped flea beetle

**LYGUS BUG**
- Nymph
- Source: Canola Council of Canada
- Economic threshold: Varies from province to province; consult government extension websites.
- Adult

**POLLEN BEETLE**
- Adult
- Source: BASF
- Economic threshold: None established in Canada. Europe advises 3 to 4 adults/plant between BBCH 51 to 56 and 7 to 8 adults/plant at BBCH 57 to 59. Damage varies depending on plant’s vigour and growth stage.

**SWEDE MIDGE**
- Larvae
- Source: Cheung, D., Swede Midge Identification & Hallett, R., Swede Midge Damage, School of Environmental Sciences, University of Guelph
- Economic threshold: When 20 adults have been captured from the start of trapping (pheromone traps).
- Adult

**ROOT MAGGOT**
- Larva and damage
- Source: Canola Council of Canada
- Economic threshold: No established thresholds.
- Adult
Solutions for potatoes.

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

- Darker areas reflect recommended application periods.
- Do not exceed the total number of sequential applications or total number of applications per season as stated by specific product labels.
- To reduce the risk of the development of fungicide resistance, tank mix Forum fungicide with other fungicides. Do not apply more than three (3) applications per season.
BASF lead recommendations.

Select the solution that’s right for your operation.

**INSECT MANAGEMENT**
- *Cimegra*<sup>®</sup> Insecticide
- *Titan*<sup>®</sup> Insecticide
- *Sefina*<sup>®</sup> Insecticide Powered by *Inscalis*<sup>®</sup>

**WEED MANAGEMENT**
- *Zidua SC<sup>NEW</sup>* Herbicide
- *Frontier<sup>®</sup> Max* Herbicide

**DISEASE MANAGEMENT**
- *Veltyma<sup>NEW</sup>* Revyso<sup>®</sup> Fungicide
- *Sercadis<sup>®</sup>* Xemium<sup>®</sup> Fungicide
- *Cevya*<sup>®</sup> Revyso<sup>®</sup> Fungicide
- *Serfel<sup>NEW</sup>* Fungicide
- *Forum*<sup>®</sup> Fungicide

Contact your BASF *AgSolutions®* Representative for more information.
New Cimegra® insecticide provides control of prevalent and difficult to control chewing insects, including wireworm, for in-season management and reduction of resident populations.

- Unique mode of action that works effectively on contact with wireworms in the soil
- Convenience of simplified handling
- Can easily be incorporated into an integrated pest management strategy
- Broflanilide is the first compound in the newly designated IRAC Group 30 mode of action

**Insect Management**

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

**Pests controlled**

- **In-furrow applications:** Wireworms

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

**In-furrow application**

<table>
<thead>
<tr>
<th>In-furrow application</th>
<th>Cimegra(^1)</th>
<th>For 90 cm (36&quot;) row spacing(^4)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>100 ml/ac (250 ml/ha)</td>
<td>2.3 ml per 100 metres of row</td>
</tr>
</tbody>
</table>

**Water volume**
Dilute Cimegra product in a minimum of 20 L of water per acre (5 gallons of water per acre). Use sufficient water to ensure thorough coverage of the seed piece and surrounding seed furrow.

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

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1 Consult the product label for safety information.
2 Including *Agriotes obscurus*, *Agriotes sputator*, *Conderus* sp., *Hypnoides bicolor*, *Limonius californicus*, *Limonius infuscatus*, *Melanotus cribulosus*, *Melatonus* sp. and *Selatosomus destructor*.
3 Do not exceed 100 ml/ac (250 ml/ha).
4 For different row spacing, see label for calculation.
Titan Insecticide

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

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

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

Pests controlled

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

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

Application rates

<table>
<thead>
<tr>
<th>Seed-piece treatment</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aphids (on label), Colorado potato beetle, potato flea beetle, potato leafhopper</td>
<td>10.4 to 20.8 ml per 100 kg potato seed pieces</td>
</tr>
<tr>
<td>Wireworms²</td>
<td>20.8 ml per 100 kg potato seed pieces</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>In-furrow application</th>
<th>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>

Water volume
Do not dilute with any more than 6 parts water to 1 part Titan® insecticide.

Restricted entry interval: 12 hours.

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

1 Control of overwintered adults and suppression of second generation. ² Suppression only. ³ May reduce the damage caused by other wireworm species.

Active ingredient
Clothianidin – Group 4

Formulation
Suspension

One case contains
2 x 3 L jugs

1 2 3
A lasting barrier that protects against labeled piercing and sucking insects.

- Quickly halts feeding, which reduces production losses and virus transmission
- Extended control of labeled pests
- Powered by Inscalis®, a unique mode of action that controls labeled insect pests, including those that have developed resistance
- Effective tool in an integrated pest management strategy with low impact on beneficial insects, including predatory and parasitic insects

**Crop staging**
Apply between emergence and harvest during all life stages of the pests

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

**Application rates**

<table>
<thead>
<tr>
<th>Pests controlled</th>
<th>Application rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green peach aphid and potato aphid</td>
<td>81 ml/ac (200 ml/ha)</td>
</tr>
<tr>
<td>Silverleaf whitefly and sweet potato whitefly</td>
<td>283 to 405 ml/ac (0.7 to 1.0 L/ha)</td>
</tr>
</tbody>
</table>

**Water volume**

<table>
<thead>
<tr>
<th>Application Method</th>
<th>Required Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ground application</td>
<td>Minimum 40 to 80 L/ac (10 to 20 gal/ac)</td>
</tr>
<tr>
<td>Aerial application</td>
<td>Minimum 20 L/ac (5 gal/ac)</td>
</tr>
</tbody>
</table>

**Rainfastness:** 1 hour.

**Restricted entry interval:** 12 hours.

**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.

---

<table>
<thead>
<tr>
<th>Active ingredient</th>
<th>Afidopyropen – Group 9D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formulation</td>
<td>Dispersion concentrate</td>
</tr>
<tr>
<td>One case contains</td>
<td>2 x 3.24 L</td>
</tr>
</tbody>
</table>

1 Allow a minimum of 7 days between applications.
2 Do not apply more than 1 L/ac (2.5 L/ha) per year.
POTATOES

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

- Group 15 chemistry delivers residual management of tough weeds, including redroot pigweed, lamb’s quarters, waterhemp and wild oats
- Residual activity helps to stop germinating weed seedlings before weeds emerge
- Ideal tank-mix partner for pre-emergent weed control in potatoes

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

Weeds suppressed

- **Broadleaf weeds**
  - Lamb’s quarters
  - Redroot pigweed
  - Waterhemp

- **Grasses**
  - Foxtail (green, yellow)
  - Wild oats

Application rates
One case treats 83 to 165 acres (34 to 67 hectares).

<table>
<thead>
<tr>
<th>Herbicide</th>
<th>Rate (ml/ac)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zidua SC</td>
<td>49 to 97 ml/ac (120 to 240 ml/ha)</td>
</tr>
</tbody>
</table>

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

Restricted entry interval: 12 hours.

Active ingredient
Pyroxasulfone – Group 15

Formulation
Suspension concentrate

One case contains
2 x 4.05 L jugs

Source: BASF field trial, ON, 2020

1 Early-season residual suppression.
2 Do not apply Zidua SC in soils classified as sand.
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 staging
Pre-emergence to crop and weeds. Apply after planting and before potatoes emerge from the final hilling of the season.

Weeds controlled
Barnyard grass, Crabgrass (large, smooth), Eastern black nightshade1,2, Fall panicum, Foxtail (giant, green, yellow), Old witchgrass, Redroot pigweed1,2, Yellow nutsedge3

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

<table>
<thead>
<tr>
<th>Frontier Max</th>
<th>Application rates based on % organic matter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soil type</td>
<td>Organic matter ≤ 3%</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.

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

Restricted entry interval: 24 hours.

Pre-harvest interval: 40 days for potatoes.

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 390 ml/ac (963 ml/ha); lower rates provide suppression only.
3 Suppression only.

Source: BASF Canada, PEI, 2012
**Veltyma®**
**Revysol® Fungicide**

The optimal fungicide for protection against key foliar diseases in potatoes, including early blight, black dot and brown spot.

- Multiple modes of effective action on early blight, including enhanced performance provided by the unique binding activity of Revysol®
- Proven **Plant Health Benefits** for increased growth efficiency, better management of minor stress and greater yield potential
- Delivers preventative and post-infection activity
- Liquid formulation for optimized usability

---

**Timing**
7 to 14 day application interval

**Diseases controlled**
- Black dot (*Colletotrichum coccodes*)
- Brown spot (*Alternaria alternata*)
- Early blight (*Alternaria solani*)

**Application rates**
One case treats 80 acres (32 hectares).

| Veltyma® | 202 ml/ac (500 ml/ha) |

**Rainfastness**
When product has dried on crop. Do not apply when heavy rain is forecast.

**Restricted entry interval**
12 hours.

**Pre-harvest interval**
7 days after application for potatoes.

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

**Formulation**
Suspension concentrate

**One case contains**
2 x 8.1 L jugs

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1 **Plant Health Benefits** refer to products that contain the active ingredient pyraclostrobin.
2 All comparisons are to untreated, unless otherwise stated
3 Suppression.
4 Includes control of Group 11-resistant biotypes.
Ceyva® fungicide is powered by Revysol® to provide fast, systemic, continuous pre- and post-infection control of key diseases.

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

**Timing**
7 to 14 day interval

**Diseases controlled**
- Early blight (Alternaria solani)
- Black dot\(^1\) (Colletotrichum coccodes)
- Brown spot\(^1\) (Alternaria alternata)

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

| Ceyva | 75 to 100 ml/ac (190 to 250 ml/ha)\(^2\) |

**Rainfastness**
1 hour.

**Active ingredient**
Mefentrifluconazole – Group 3

**Formulation**
Suspension concentrate

**One case contains**
2 x 4 L jugs

\(^1\) Suppression only.

\(^2\) Do not apply more than 455 ml/ac (1.125 L/ha) per year.
Sercadis®
Xemium® Fungicide

Innovative chemistry for consistent, continuous control of key diseases.

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

Crop staging

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

Diseases controlled

In-furrow applications: Rhizoctonia canker (Rhizoctonia spp.)
Foliar applications: Early blight (Alternaria solani), white mold (Sclerotinia sclerotiorum)

Application rates

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

<table>
<thead>
<tr>
<th>In-furrow applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rhizoctonia canker</td>
</tr>
<tr>
<td>36* rows: 30 ml per 1000 m of row</td>
</tr>
</tbody>
</table>

<table>
<thead>
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<th>Foliar applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early blight</td>
</tr>
<tr>
<td>White mold</td>
</tr>
</tbody>
</table>

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

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

Rainfastness

1 hour.

Restricted entry interval

12 hours.

Pre-harvest interval

7 days after application for potatoes.

Resistance management

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

Active ingredient

Fluxapyroxad – Group 7

Formulation

Suspension

One case contains

2 x 1.35 L jugs

Crop staging

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

Diseases controlled

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

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Restricted entry interval

12 hours.

Pre-harvest interval

7 days after application for potatoes.

Resistance management

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

Active ingredient

Fluxapyroxad – Group 7

Formulation

Suspension

One case contains

2 x 1.35 L jugs

Crop staging

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

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

Refer to the label for more information on product rates and row spacing.
An innovative biological fungicide with multiple modes of action that forms a shield of protection on plants’ surfaces to protect against disease.

- Highly effective biological fungicide that targets early blight and rhizoctonia in potatoes
- Complements chemistry-based solutions, with multiple unique modes of action, to form a protective shield against disease
- Zero PHI, 4-hour REI and 36-month shelf life offer new flexibility and choice to address crop production challenges
- Sets the standard for purity, performance and quality

**Timing**
7 to 10 day interval

**Diseases suppressed**
- Early blight (Alternaria solani)
- Rhizoctonia stem canker/black scurf (Rhizoctonia solani)\(^1\),\(^2\)

**Application rates**
One case treats 40 to 80 acres (16 to 32 hectares).

<table>
<thead>
<tr>
<th>Fungicide</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serifel</td>
<td>0.1 to 0.2 kg/ac (0.25 to 0.5 kg/ha)</td>
</tr>
</tbody>
</table>

**Rainfastness**
Avoid application if heavy rain is forecast.

**Restricted entry interval**
4 hours.

**Pre-harvest interval**
0 days after application for potatoes.

**Resistance management**
Serifel is an excellent resistance management tool to include in an IPM program. It can be used in combination or rotation with other chemistries to prevent the development of resistant strains.

### TECH TIP
Click here for more on integrated pest management strategies.

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**Active ingredient**  
*Bacillus amyloliquefaciens* strain MBI 600 – Group BM02

**Formulation**  
Wettable powder

**One case contains**  
4 x 2 kg jugs

---

\(^1\) Partial suppression.  
\(^2\) In-furrow. See label for application instructions.
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

**Timing**
5 to 7 day interval under high disease pressure,
7 to 10 day interval under low disease pressure

**Diseases controlled**
- Late blight (*Phytophthora infestans*)
- Tuber blight in storage (*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>

**Rainfastness:** 2 hours.

**Restricted entry interval:** 12 hours.

**Pre-harvest interval:** 4 days after application for potatoes.

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

**Active ingredient**
Dimethomorph – Group 40

**Formulation**
Suspension concentrate

**One case contains**
2 x 4.5 L jugs

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

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

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

**Zampro® fungicide on leaf**

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

### Timing
Apply preventatively (prior to disease development) on a 5 to 10 day interval. During periods of high disease pressure, use a higher rate and shorter interval.

### Diseases controlled
- Late blight (*Phytophthora infestans*)
- Tuber blight (*Phytophthora infestans*)

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

<table>
<thead>
<tr>
<th>Disease</th>
<th>Rate (ml/ac)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Late blight</td>
<td>324 to 404</td>
</tr>
<tr>
<td>Tuber blight</td>
<td>404</td>
</tr>
</tbody>
</table>

### Rainfastness
2 hours.

### Restricted entry interval
12 hours.

### Pre-harvest interval
4 days after application for potatoes.

### 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 annual bluegrass, Canada fleabane, chickweed, dandelion, field bindweed, scentless chamomile and sow thistle present different challenges:

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

**Benefits**

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

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

---

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
Distinct® Herbicide

Complements glyphosate for superior post-harvest weed control.

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

Weed control in spring, following previous September application

Staging
Prior to first significant frost

Weeds controlled
1. Biennial wormwood
2. Canada thistle
3. Common cocklebur
4. Common ragweed
5. Dandelion
6. Lady’s thumb
7. Lamb’s quarters
8. Perennial sow thistle
9. Redroot pigweed
10. Velvetleaf
11. Volunteer canola
12. Waterhemp
13. Wild buckwheat

Application rates
One case treats 40 acres.

<table>
<thead>
<tr>
<th></th>
<th>Distinct</th>
<th>Merge adjuvant</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>115 g/ac</td>
<td>400 ml/ac</td>
</tr>
<tr>
<td>(285 g/ha)</td>
<td></td>
<td>(1 L/ha)</td>
</tr>
</tbody>
</table>

Glyphosate
See label for rate

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

Active ingredients
Dicamba – Group 4
Diflufenzopyr – Group 19

Formulation
Wettable granules

One case contains
2 x 2.32 kg jugs

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.

Source: BASF, St-Joachim ON, May 2020
Weed Management
Engenia® Herbicide

An advanced dicamba formulation with lower volatility properties.

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

Staging
Apply to actively growing weeds

Weeds controlled
- Buckwheat (tartary, wild)
- Canada fleabane
- Canada thistle
- Cleavers
- Corn spurry
- Cow cockle
- Field bindweed
- Green smartweed
- Lady’s thumb
- Lamb’s quarters
- Mustards
- Perennial sow thistle
- Ragweed (common, false, giant)
- Redroot pigweed
- Russian pigweed
- Velvetleaf

Active ingredient
Dicamba – Group 4

Formulation
Solution

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

One case treats 40 acres.

One shuttle treats 300 acres.

Engenia®
404 ml/ac (1 L/ha)

Glyphosate
See label for rate

Application rates

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

Use a higher water volume to ensure adequate coverage.

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. Tank-mix options are not included in the case.
5 See label for water rate application.
6 Glyphosate (required for optimum activity) is not included in the case.
Residual control of key annual grasses and select broadleaf weeds.

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

**Crop staging**
Post-harvest

**Weeds controlled**
*Broadleaf weeds*
Lamb’s quarters
Redroot pigweed
Waterhemp

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

**Application rates**
One case treats 83 acres.

<table>
<thead>
<tr>
<th>Active ingredient</th>
<th>Pyroxasulfone – Group 15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formulation</td>
<td>Suspension concentrate</td>
</tr>
<tr>
<td>One case contains</td>
<td>2 x 4.05 L jugs</td>
</tr>
</tbody>
</table>

**TECH TIP**
Annual bluegrass emerges both in the spring and the fall. Fall is a great time to apply Zidua SC to provide short-term residual activity on annual bluegrass and set up your field for a cleaner start the following spring.

Source: Thamesville ON, 2021
RESOURCES

POST-HARVEST

POTATOES

CEREALS

SOYBEANS

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

**OTHER CROPS**

- Dry bean solutions
- Eragon® LQ herbicide on dry beans
- Priaxor® fungicide on alfalfa

**AGRONOMIC SUPPORT MATERIAL**

- Identifying corn stages
- Identifying soybean stages
- Integrated pest management
- Spray your best with Liberty® 200 SN herbicide
- Spray system hygiene
- Temperature inversions
- Managing Canada fleabane/waterhemp
- Managing aphids
- Modes of action
- Product details
- Crop rotation
- WAMLEGs
- Bulk packaging

**BASF AG REWARDS**

- BASF Ag Rewards
Dry bean solutions you can depend on.

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

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

<table>
<thead>
<tr>
<th>Herbicide</th>
<th>Timing</th>
<th>Rate</th>
<th>Tips</th>
<th>Dry bean classes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frontier® Max</td>
<td>PPI</td>
<td>350 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>
<td>All except adzuki beans</td>
</tr>
<tr>
<td>Prowl® H2O</td>
<td>PPI</td>
<td>960 ml/ac</td>
<td>Good on sandy soil. Incorporate as part of a tank mix.</td>
<td>All</td>
</tr>
<tr>
<td>Pursuit®</td>
<td>PP, PPI, PRE</td>
<td>126 ml/ac</td>
<td>For broad-spectrum control of grasses and broadleaf weeds, apply PPI as part of a tank mix.</td>
<td>All</td>
</tr>
<tr>
<td>Basagran® Forte</td>
<td>POST</td>
<td>700 to 900 ml/ac</td>
<td>Use the high rate if the weeds have more than four leaves. Apply after the 1st trifoliate until the 3rd trifoliate. Spray in the middle of the day on small, actively growing weeds using a minimum of 20 gal/ac of water.</td>
<td>All except adzuki beans</td>
</tr>
<tr>
<td>Poast® Ultra</td>
<td>POST</td>
<td>445 ml/ac</td>
<td>Strong on grasses.</td>
<td>All</td>
</tr>
</tbody>
</table>

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

**TECH TIP**

*For complete weed control in your dry beans, apply a pre-plant incorporated tank mix of Frontier Max + Prowl H2O + Pursuit.* In addition to three modes of effective action on broadleaf weeds and grasses, this tank mix will provide extended residual weed control.
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 Make sure all components of the tank mix can be applied to your specific dry bean variety. 3 Check with your grain buyer before applying. 4 When tank mixing with glyphosate, consult the glyphosate label or talk to your grain buyer for information regarding use on specific varieties of dry beans. 5 Do not apply to dry beans grown for seed.

<table>
<thead>
<tr>
<th>Fungicide</th>
<th>Disease</th>
<th>Timing</th>
<th>Rate</th>
<th>Tips</th>
<th>Dry bean classes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Priaxor®</td>
<td>Anthracnose, Powdery mildew, Rust</td>
<td>Beginning of flower or the onset of symptoms.</td>
<td>120 ml/ac</td>
<td>Use 180 ml/ac for white mold suppression.</td>
<td>All</td>
</tr>
<tr>
<td>Cotegra®</td>
<td>White mold</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>Can be applied twice per season. Rotate to a fungicide with a mode of action other than a Group 3 or 7 before making a second application of Cotegra.</td>
<td>All</td>
</tr>
</tbody>
</table>

**TECH TIP**

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

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

<table>
<thead>
<tr>
<th>Harvest aid</th>
<th>Timing</th>
<th>Rate</th>
<th>Tips</th>
<th>Dry bean classes</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>59 ml/ac + 400 ml/ac of Merge® adjuvant</td>
<td>Spray in the middle of a sunny day with a higher water volume. Avoid spraying on overcast days or at dawn and dusk.</td>
<td>Check with your grain buyer.</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>
<td>Use when lamb’s quarters are the predominant weed.</td>
<td></td>
</tr>
</tbody>
</table>

**TECH TIP**

<table>
<thead>
<tr>
<th>Eragon LQ or Ignite?</th>
<th>Activity on grasses?</th>
<th>Surfactant required?</th>
<th>Use on seed dry bean?</th>
<th>Use on soybean?</th>
<th>Spray on sunny days?</th>
<th>Pre-harvest interval?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eragon LQ</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>2 days</td>
</tr>
<tr>
<td>Ignite</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>9 days</td>
</tr>
</tbody>
</table>
Is your dry bean field ready for Eragon LQ herbicide?

Application timing for Eragon® LQ herbicide.¹

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

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

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

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

TECH TIP

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

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

Learn more about herbicide timing for different varieties of dry beans in the staging guide at agsolutions.ca/eragonlq-guide.
Provides proven disease control to increase yield and quality potential in alfalfa.

- First cut application resulted in improved disease control and an increase in yield due to increased leaf retention at the bottom of the plant\(^1\)
- Second and third cut applications resulted in improved disease control and increased yield and protein levels for higher quality\(^1\)

### 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.\(^2\)

### Diseases controlled
- Blossom blight\(^3,4\)  
  (Sclerotinia sclerotiorum)
- Common leaf spot  
  (Pseudopeziza medicaginis)

### Application rates
One case treats 160 acres.

<table>
<thead>
<tr>
<th>Product</th>
<th>Rate (ml/ac)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Priaxor</td>
<td>120 (300 ml/ha)(^4)</td>
</tr>
</tbody>
</table>

### Pre-harvest interval
14 days

### Better and faster regrowth
21 days after treatment

### Increased leaf retention

---

### TECH TIP

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

---

\(^1\) All comparisons are to untreated, unless otherwise stated.  
\(^2\) A maximum of two applications per season is allowed.  
\(^3\) Suppression only.  
\(^4\) 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.
Identifying soybean stages.

R1: Beginning bloom. 
The 1st open flower appears on any main stem node.

R2: Full bloom. 
An open flower appears on one of the top two stem nodes.

R3: Beginning pod. 
A 3/16-inch pod appears on one of the four upper main stem nodes.

R4: Full pod. 
A 3/4-inch pod appears on one of the four upper main stem nodes.
Jump into the cycle of integrated pest management.

Integrated pest management (IPM) is a comprehensive approach to help reduce pest populations using a 4-step cycle.

1. **Prevention** – Identify the potentially harmful organisms or causes of infestations and implement some preventative measures.

2. **Monitoring** – Scout and take notes. Determine if the intervention or economical threshold has been reached. If yes, it might be time to move to the next step. If no, keep monitoring the pest until action is needed.

3. **Intervention** – Apply control measures simultaneously or sequentially.

4. **Evaluation** – Evaluate your progress. Determine whether the intervention measures were the right ones, if they were efficient and what could be done better next time.

Plan your tactics.

As part of the IPM strategy, crop rotation and a multiple-pass approach are just two tactics that can be used during the prevention and intervention steps. Here are more examples:

- **Plant cover crops** – Suppress weeds, reduce erosion
- **Select genetics** – Choose hybrids/varieties with disease resistance genes, increased vigour and plant establishment
- **Utilize mechanical control** – Uproot weeds or remove infected plant material
- **Use multiple modes of effective action (MMOEA) and chemistry rotation** – Ensure the chemistry used is effective on the target and rotate between modes of action to reduce selection pressure
- **Manage residue** – Reduce inoculum and pest buildup, and allow for better coverage during application
Spray your best with Liberty 200 SN herbicide.

Liberty® 200 SN herbicide provides an additional mode of action to your field with its Group 10 chemistry. It has contact activity on weeds and that’s why it must reach the targeted weeds in order to be effective (no contact = no activity).

Optimize your mixing order.

If you are adding AMS to your Liberty 200 SN tank mix, it’s important to remember that AMS must always go in the tank first. The order should be as follows:

1. Ammonium sulfate (AMS)
2. Liberty 200 SN
3. Tank-mix partner (if required)

**TECH TIP**

If adding Select® herbicide to your tank mix, use the following mixing order:

1. AMS
2. Amigo® adjuvant
3. Liberty 200 SN
4. Select

Spray Liberty 200 SN with a minimum 20 gallons per acre for good contact and optimal coverage.

Add AMS for enhanced activity on tough weeds.

Tank mix Liberty 200 SN with Select and Amigo in canola for control of difficult grassy weeds, such as wild oats and volunteer barley.

Apply Liberty 200 SN on relatively warm (10°C or more) and sunny days, and in the middle of the day for better performance.

Aim for medium to coarse droplets of 250 to 350 microns.

Apply Liberty 200 SN in the same tracks, but in the reverse direction if you are doing a second pass in canola. Plan a post-application of Liberty 200 SN in Enlist™ E3 soybeans as part of a two-pass program following a strong residual program.

Spray Liberty 200 SN between 9 AM and 6 PM for optimal activity.

Source: Sikkema, University of Guelph
Spray system hygiene.

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

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

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

<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 rinsate
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 adviser by the label of the cleaner
   - Flush the solution through the entire system and drain excess rinsate
4. Begin third rinse process using water.
   - Rinse tank walls and fill all plumbing
   - Allow water to flow through the entire system thoroughly prior to draining rinsate
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. Even 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/uni00A0feet. An inversion exists if measured air temperature at 8 to 10/uni00A0feet above the soil is higher than the measured air temperature at 6 to 12/uni00A0inches 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.
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.\(^1\,\text{2}\) Waterhemp resistant to Group 27 has also been found in Quebec.\(^3\) GR Canada fleabane can grow on various soils\(^4\) and both weeds can emerge throughout the growing season, particularly during the spring and fall.\(^5\) Canada fleabane can produce up to one million seeds per plant\(^6\) which can travel up to 500\,km through the air affecting fields each season.\(^7\) Waterhemp is difficult to control once it passes four inches in height, requiring constant scouting. This weed can reach up to 12 feet in height while producing an average of almost 300,000 seeds per female plant.\(^8\,\text{9}\)

**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.\(^10\) The leaves are dull green, turning pale green at flowering.\(^11\) The stem is erect and branched in the upper part.\(^10\) The fall-emerged plants will grow in a rosette.

2. Canada fleabane reproduces by seeds and, at the reproductive stage, has fuzzy, white-green flowers with a yellow centre. There are multiple flowers on each stem.\(^10\)

**How to control Canada fleabane.**

<table>
<thead>
<tr>
<th></th>
<th>Glyphosate-tolerant corn</th>
<th>Glyphosate-tolerant soybeans</th>
<th>Dicamba-tolerant soybeans(^12)</th>
<th>Enlist E3(^\text{TM}) soybeans</th>
<th>Conventional/IP soybeans</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-plant/Pre-emergence</td>
<td>Integrity(^\text{®}) herbicide + glyphosate</td>
<td>Eragon LQ herbicide/Integrity/Optill(^\text{®}) herbicide + metribuzin + glyphosate</td>
<td>Eragon LQ/Integrity/Optill + Engenia(^\text{®}) herbicide</td>
<td>Eragon LQ/Integrity/Optill + metribuzin + glyphosate</td>
<td>Eragon LQ/Integrity + Conquest(^\text{®}) LQ herbicide</td>
</tr>
<tr>
<td>Post-emergence</td>
<td>Marksman(^\text{®}) herbicide + glyphosate</td>
<td>–</td>
<td>Engenia (early post-emergence if necessary)</td>
<td>Liberty(^\text{®}) 200 SN herbicide</td>
<td>–</td>
</tr>
<tr>
<td>Pre-harvest (if required)</td>
<td>–</td>
<td>Eragon LQ</td>
<td>Eragon LQ</td>
<td>Eragon LQ</td>
<td>Eragon LQ</td>
</tr>
<tr>
<td>Post-harvest</td>
<td>Distinct(^\text{®}) herbicide</td>
<td>Distinct</td>
<td>Distinct</td>
<td>Distinct</td>
<td>Distinct</td>
</tr>
</tbody>
</table>

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

Source: BASF
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>Pre-plant/ Pre-emergence</th>
<th>Glyphosate-tolerant corn</th>
<th>Glyphosate-tolerant soybeans</th>
<th>Dicamba-tolerant soybeans&lt;sup&gt;12&lt;/sup&gt;</th>
<th>Enlist E&lt;sup&gt;3&lt;/sup&gt;™ soybeans</th>
<th>Conventional/IP soybeans</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrity/Zidua&lt;sup&gt;®&lt;/sup&gt; SC herbicide + Marksman&lt;sup&gt;13,14&lt;/sup&gt;</td>
<td>Zidua SC + Eragon LQ/ Integrity/Optill</td>
<td>Zidua SC + Engenia + Eragon LQ/Integrity/Optill</td>
<td>Zidua SC</td>
<td>Zidua SC (Check with your grain buyer.)&lt;sup&gt;15&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Marksman&lt;sup&gt;13&lt;/sup&gt; + Armezon&lt;sup&gt;®&lt;/sup&gt; PRO herbicide/Zidua SC</td>
<td>Zidua SC</td>
<td>Engenia (up to 2nd trifoliate)</td>
<td>Liberty 200 SN or Zidua SC</td>
<td>Zidua SC (Check with your grain buyer.)&lt;sup&gt;15&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Pre-harvest</td>
<td>Eragon LQ</td>
<td>Eragon LQ</td>
<td>Eragon LQ</td>
<td>Eragon LQ</td>
<td></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 a higher water volume to ensure adequate coverage**
- **Spray during the middle of the day**
- **Control in each crop, each year (including fall applications)**

---

<sup>4</sup>Weaver, 2001.  <sup>5</sup>Main et al., 2004 / Van Acker, 2014.  <sup>6</sup>Tozzi and Van Acker, 2014.  <sup>7</sup>Shields et al., 2006.  <sup>8</sup>Biology and the management of waterhemp, 2017.  <sup>9</sup>Sellers et al., 2017.  <sup>10</sup>A Field Guide to Broadleaf Weeds.  <sup>11</sup>Identification Guide to the Weeds of Quebec.  <sup>12</sup>Only for XtendFlex<sup>®</sup> and Roundup Ready 2 Xtend<sup>®</sup> soybeans.  <sup>13</sup>Can only be applied once per season.  <sup>14</sup>Marksman can only be applied pre-emergence.  <sup>15</sup>Talk to your grain buyer regarding maximum residue limits (MRLs) for markets around the world before applying to conventional or IP soybeans.
Know your enemies, including aphids.

Consider insect scouting your best defense.

Developing effective integrated pest management (IPM) strategies involves knowing what you’re up against. Insects such as aphids have a very complex life cycle with several generations per year. They can migrate from nearby fields or from great distances via storm fronts. Aphid populations can grow to extremely high levels under favourable conditions.

Scouting is one of the most important management strategies for managing aphids and other insects because it allows for proper identification, evaluation of prevalence and severity and determination of thresholds for each pest.

Got aphids? You also have choices.

There are numerous strategies to manage populations and ensure a healthy crop. You can rely on biological control, cultural practices and chemical options. In order to optimize these management strategies, it’s also important to consider recent weather and scout your fields.

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. There are also products that can be applied as a seed-piece treatment or as a narrow band in-furrow for different kinds of aphids that affect potatoes.

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.

Economic thresholds.

When deciding whether or not to use an insecticide, it’s important to follow economic thresholds. In soybeans, the threshold is 250 aphids/plant with increasing populations on 80% of plants. Damage is typically only of economic concern from R1 to R5. For potatoes, contact your local extension specialist or certified crop advisors for threshold recommendations specific to your area.

Natural enemies.

While scouting your crop 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 lady beetles, lacewings and larva of hoverflies.
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>4</td>
<td>Synthetic Auxins</td>
<td>Engenia®, component in Distinct® and Marksman®</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® Forte, component in Clean Sweep</td>
</tr>
<tr>
<td>7</td>
<td>EPSP (5-enolpyruvylshikimate-3-phosphate) Synthase Inhibitor</td>
<td>Glyphosate¹</td>
</tr>
<tr>
<td>8</td>
<td>Glutamine Synthetase Inhibitors</td>
<td>Liberty® 200 SN and Ignite®</td>
</tr>
<tr>
<td>9</td>
<td>Protoporphyrinogen Oxidase (PPO) Inhibitors</td>
<td>Eragon® LQ, component in Integrity® and Optill</td>
</tr>
<tr>
<td>10</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>11</td>
<td>Inhibition of auxin transport</td>
<td>Component in Distinct</td>
</tr>
<tr>
<td>12</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®, Cevya®, component in Cotegra®, Headline® AMP and Veltyma®</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>Headline, component in Headline AMP, Priaxor and Veltyma</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 in Zampro</td>
</tr>
<tr>
<td>BM02</td>
<td>Biological (Microbial)</td>
<td>Serifel®</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>
<tr>
<td>30</td>
<td>GABA-Gated Chloride Channel Allosteric Modulator</td>
<td>Cimegra®</td>
</tr>
</tbody>
</table>

¹ Not a product of BASF.
### Need product details? We’ve got them right here.

Key information to keep you moving.

<table>
<thead>
<tr>
<th>Product</th>
<th>Armezon®</th>
<th>Armezon PRO</th>
<th>Basagran® Forte</th>
<th>Caramba®</th>
<th>Cevya®</th>
<th>Cimegra®</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Active Ingredient(s)</strong></td>
<td>Topramezone</td>
<td>Dimethenamid-P, Topramezone</td>
<td>Bentazon</td>
<td>Metconazole</td>
<td>Mefenpropiconazole</td>
<td>Broflanilide</td>
</tr>
<tr>
<td><strong>Concentration</strong></td>
<td>336 g/L</td>
<td>630 g/L, 12.5 g/L</td>
<td>480 g/L</td>
<td>90 g/L</td>
<td>400 g/L</td>
<td>100 g/L</td>
</tr>
<tr>
<td><strong>Type</strong></td>
<td>H</td>
<td>H</td>
<td>H</td>
<td>F</td>
<td>F</td>
<td>I</td>
</tr>
<tr>
<td><strong>Group</strong></td>
<td>27</td>
<td>15, 27</td>
<td>6</td>
<td>3</td>
<td>3</td>
<td>30</td>
</tr>
<tr>
<td><strong>Formulation</strong></td>
<td>Liquid suspension</td>
<td>Emulsifiable concentrate</td>
<td>Liquid</td>
<td>Liquid</td>
<td>Suspension concentrate</td>
<td>Suspension concentrate</td>
</tr>
<tr>
<td><strong>WAMLEGS</strong></td>
<td>L</td>
<td>E</td>
<td>L</td>
<td>L</td>
<td>L</td>
<td>L</td>
</tr>
<tr>
<td><strong>Ground Water Volume L/ac, gal/aca</strong></td>
<td>40-80, 10-20</td>
<td>40, 10</td>
<td>Minimum 40, 10</td>
<td>Minimum 80, 20</td>
<td>Minimum 40, 10</td>
<td>Minimum 20, 5</td>
</tr>
<tr>
<td><strong>Aerial Application</strong></td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td><strong>Rainfast (Hours)</strong></td>
<td>Depends on the glyphosate used</td>
<td>Depends on the glyphosate used</td>
<td>6</td>
<td>1</td>
<td>Avoid application when heavy rain is forecast</td>
<td>Avoid application when heavy rain is forecast</td>
</tr>
<tr>
<td><strong>REI (Hours)</strong></td>
<td>12</td>
<td>24</td>
<td>12</td>
<td>12b</td>
<td>12</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Pre-Harvest Interval (Days)</strong></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>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>7 for potatoes.</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Storage</strong></td>
<td>Protect from freezing</td>
<td>Store in a cool, dry area</td>
<td>Protect from freezing</td>
<td>Protect from freezing</td>
<td>Store in a cool, dry area</td>
<td>Protect from freezing</td>
</tr>
<tr>
<td><strong>Bulk Density (g/cm³)</strong></td>
<td>1.12</td>
<td>1.12</td>
<td>1.19</td>
<td>1.05</td>
<td>1.15</td>
<td>1.06</td>
</tr>
</tbody>
</table>

*a Use higher water volumes to ensure adequate coverage. **Except for hand harvesting corn (18 days) and hand-set irrigation in corn (3 days).
<table>
<thead>
<tr>
<th>Product</th>
<th>Clean Sweep®</th>
<th>Conquest® LQ</th>
<th>Colegra®</th>
<th>Distinct®</th>
<th>Engenia®</th>
<th>Eragon® LQ – pre-plant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active Ingredient(s)</td>
<td>Imazethapyr, Bentazon</td>
<td>Imazethapyr, Metribuzin</td>
<td>Prothioconazole, Boscalid</td>
<td>Diflufenzopyr, Dicamba</td>
<td>Dicamba</td>
<td>Saflufenacil</td>
</tr>
<tr>
<td>Concentration</td>
<td>240 g/L, 480 g/L</td>
<td>240 g/L, 480 g/L</td>
<td>150 g/L, 250 g/L</td>
<td>20% a.e., 50% a.e.</td>
<td>600 g/L</td>
<td>342 g/L</td>
</tr>
<tr>
<td>Type</td>
<td>H</td>
<td>H</td>
<td>F</td>
<td>H</td>
<td>H</td>
<td>H</td>
</tr>
<tr>
<td>Group</td>
<td>2, 6</td>
<td>2, 5</td>
<td>3, 7</td>
<td>4, 19</td>
<td>4</td>
<td>14</td>
</tr>
<tr>
<td>Formulation</td>
<td>Solution, Liquid</td>
<td>Solution, Suspension concentrate</td>
<td>Suspension concentrate</td>
<td>Wettable granule</td>
<td>Solution</td>
<td>Water-based suspension concentrate</td>
</tr>
<tr>
<td>WAMLEGS</td>
<td>L</td>
<td>L</td>
<td>L</td>
<td>W</td>
<td>L</td>
<td>L</td>
</tr>
<tr>
<td>Ground Water Volume L/ac, gal/ac*</td>
<td>80-120, 20-30</td>
<td>40-80, 10-20</td>
<td>Minimum 80, 20</td>
<td>40-80, 10-20</td>
<td>Minimum 40, 10</td>
<td>40-80, 10-20</td>
</tr>
<tr>
<td>Aerial Application</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Rainfast (Hours)</td>
<td>6</td>
<td>Avoid application if heavy rain is forecast</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>Dependent on the glyphosate used</td>
</tr>
<tr>
<td>REI (Hours)</td>
<td>12</td>
<td>12</td>
<td>24</td>
<td>12</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Pre-Harvest Interval (Days)</td>
<td>100 for soybeans.</td>
<td>100 for dry beans and soybeans. See label for other crops.</td>
<td>21 for dry beans and soybeans; 30 for canola.</td>
<td>See label.</td>
<td>See label.</td>
<td>60 for barley, corn (field, sweet), soybeans, oats and wheat (spring, winter, durum).</td>
</tr>
<tr>
<td>Storage</td>
<td>Protect from freezing.</td>
<td>Protect from freezing.</td>
<td>Protect from freezing.</td>
<td>Store in a cool, dry area.</td>
<td>Keep dry.</td>
<td>Protect from freezing.</td>
</tr>
<tr>
<td>Bulk Density (g/cm³)</td>
<td>1.11, 1.19</td>
<td>1.11, 1.16</td>
<td>1.15</td>
<td>0.61</td>
<td>1.24</td>
<td>1.15</td>
</tr>
</tbody>
</table>

*Use higher water volumes to ensure adequate coverage.
<table>
<thead>
<tr>
<th>Product</th>
<th>Eragon LQ – pre-harvest</th>
<th>Forum®</th>
<th>Frontier® Max</th>
<th>Headline®</th>
<th>Headline AMP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active Ingredient(s)</td>
<td>Saflufenacil</td>
<td>Dimethomorph</td>
<td>Dimethanid-P</td>
<td>Pyraclostrobin</td>
<td>Metconazole, Pyraclostrobin</td>
</tr>
<tr>
<td>Concentration</td>
<td>342 g/L</td>
<td>500 g/L</td>
<td>720 g/L</td>
<td>250 g/L</td>
<td>55 g/L, 146 g/L</td>
</tr>
<tr>
<td>Type</td>
<td>H</td>
<td>F</td>
<td>H</td>
<td>F</td>
<td>F</td>
</tr>
<tr>
<td>Group</td>
<td>14</td>
<td>40</td>
<td>15</td>
<td>11</td>
<td>3, 11</td>
</tr>
<tr>
<td>Formulation</td>
<td>Water-based suspension concentrate</td>
<td>Suspension concentrate</td>
<td>Emulsifiable concentrate</td>
<td>Emulsifiable concentrate</td>
<td>Liquid</td>
</tr>
<tr>
<td>WAMLEGs</td>
<td>L</td>
<td>L</td>
<td>E</td>
<td>E</td>
<td>L</td>
</tr>
<tr>
<td>Ground Water Volume L/ac, gal/acre</td>
<td>80, 20</td>
<td>20-40, 5-10 for concentrate, 90-650, 24-172 for dilute</td>
<td>40-80, 10-20</td>
<td>Minimum 40, 10 (For potatoes: minimum 80, 20)</td>
<td>40-80, 10-20</td>
</tr>
<tr>
<td>Aerial Application</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Rainfast (Hours)</td>
<td>Dependent on the glyphosate used</td>
<td>2</td>
<td>N/A</td>
<td>Avoid application when heavy rain is forecast</td>
<td>1</td>
</tr>
<tr>
<td>REI (Hours)</td>
<td>12</td>
<td>12</td>
<td>24</td>
<td>12</td>
<td>12c</td>
</tr>
<tr>
<td>Pre-Harvest Interval (Days)</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 barley, canola, triticale and wheat. For barley, triticale and wheat, straw can be used as feed or grazed 3 days or more after a pre-harvest weed management application.</td>
<td>4 for potatoes.</td>
<td>40 for potatoes. See label for other crops.</td>
<td>3 for potatoes. See label for other crops.</td>
<td>Barley, oats, rye, triticale and wheat; 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>
</tr>
<tr>
<td>Storage</td>
<td>Protect from freezing.</td>
<td>Protect from freezing.</td>
<td>Store in a cool, dry area.</td>
<td>Protect from freezing.</td>
<td>Protect from freezing.</td>
</tr>
<tr>
<td>Bulk Density (g/cm²)</td>
<td>1.15</td>
<td>1.15</td>
<td>1.13</td>
<td>1.06</td>
<td>1.06</td>
</tr>
</tbody>
</table>

* Use higher water volumes to ensure adequate coverage.  † Except for hand harvesting or hand detasseling corn (13 days) and hand-set irrigation in corn (1 day).
<table>
<thead>
<tr>
<th>Product</th>
<th>ILEVO®</th>
<th>Ignite®</th>
<th>Integrity®</th>
<th>Liberty® 200 SN</th>
<th>Marksman®</th>
<th>Optill®</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active Ingredient(s)</td>
<td>Fluopyram</td>
<td>Glufosinate ammonium</td>
<td>Saflufenacil, Dimethenamid-P</td>
<td>Glufosinate ammonium</td>
<td>Dicamba, Atrazine</td>
<td>Imazethapyr, Saflufenacil</td>
</tr>
<tr>
<td>Concentration</td>
<td>600 g/L</td>
<td>150 g/L</td>
<td>68 g/L, 600 g/L</td>
<td>200 g/L</td>
<td>132 g/L, 261 g/L</td>
<td>50.2%, 17.8%</td>
</tr>
<tr>
<td>Type</td>
<td>ST</td>
<td>H</td>
<td>H</td>
<td>H</td>
<td>H</td>
<td>2, 14</td>
</tr>
<tr>
<td>Group</td>
<td>7</td>
<td>10</td>
<td>14, 15</td>
<td>10</td>
<td>4, 5</td>
<td></td>
</tr>
<tr>
<td>Formulation</td>
<td>Suspension</td>
<td>Solution</td>
<td>Emulsifiable concentrate</td>
<td>Solution</td>
<td>Suspension</td>
<td>Water dispersible granule</td>
</tr>
<tr>
<td>WAMLEGS</td>
<td>N/A</td>
<td>L</td>
<td>E</td>
<td>L</td>
<td>L</td>
<td>W</td>
</tr>
<tr>
<td>Ground Water Volume L/ac, gal/ac*</td>
<td>Uniform distribution on the seed</td>
<td>Minimum 45, 12</td>
<td>40-80, 10-20</td>
<td>Minimum 80, 20</td>
<td>40-80, 10-20</td>
<td>40-80, 10-20</td>
</tr>
<tr>
<td>Aerial Application</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Rainfast (Hours)</td>
<td>N/A</td>
<td>4</td>
<td>1</td>
<td>4</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>REI (Hours)</td>
<td>N/A</td>
<td>12</td>
<td>12</td>
<td>24</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Pre-Harvest Interval (Days)</td>
<td>N/A</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.</td>
<td>60 for corn. Do not graze or cut for fodder before crop maturity (ear emergence).</td>
<td>100</td>
</tr>
<tr>
<td>Storage</td>
<td>Store in a cool, dry area.</td>
<td>Protect from freezing.</td>
<td>Store in an unheated, dry area.</td>
<td>Protect from freezing.</td>
<td>Store in a cool, dry area.</td>
<td>Store in a cool, dry area.</td>
</tr>
<tr>
<td>Bulk Density (g/cm³)</td>
<td>1.24</td>
<td>1.11</td>
<td>1.09</td>
<td>1.10</td>
<td>1.17</td>
<td>0.51</td>
</tr>
</tbody>
</table>

* Use higher water volumes to ensure adequate coverage.
<table>
<thead>
<tr>
<th>Product</th>
<th>Poast® Ultra</th>
<th>Priaxor®</th>
<th>Prowl® H20</th>
<th>Pursuit®</th>
<th>Sefina®</th>
<th>Select®</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active Ingredient(s)</td>
<td>Sethoxydim</td>
<td>Fluxapyroxad, Pyraclostrobin</td>
<td>Pendimethalin</td>
<td>Imazethapyr</td>
<td>Afidopyropen</td>
<td>Clethodim</td>
</tr>
<tr>
<td>Concentration</td>
<td>450 g/L</td>
<td>167 g/L, 333 g/L</td>
<td>455 g/L</td>
<td>240 g/L</td>
<td>50 g/L</td>
<td>240 g/L</td>
</tr>
<tr>
<td>Type</td>
<td>H</td>
<td>F</td>
<td>H</td>
<td>H</td>
<td>I</td>
<td>H</td>
</tr>
<tr>
<td>Group</td>
<td>1</td>
<td>7, 11</td>
<td>3</td>
<td>2</td>
<td>90</td>
<td>1</td>
</tr>
<tr>
<td>Formulation</td>
<td>Emulsifiable concentrate</td>
<td>Liquid suspension</td>
<td>Microcapsule suspension</td>
<td>Solution</td>
<td>Emulsifiable concentrate</td>
<td>Emulsifiable concentrate</td>
</tr>
<tr>
<td>Ground Water Volume L/ac, gal/ac</td>
<td>20-80, 5-20</td>
<td>40-80, 10-20</td>
<td>40-80, 10-20</td>
<td>40-160, 10-40</td>
<td>Minimum 40-80, 10-20</td>
<td>Minimum 60, 15</td>
</tr>
<tr>
<td>Aerial Application</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Rainfast (Hours)</td>
<td>1</td>
<td>1</td>
<td>N/A</td>
<td>Avoid application if heavy rain is forecast</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>REI (Hours)</td>
<td>12</td>
<td>12</td>
<td>24</td>
<td>12</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Pre-Harvest Interval (Days)</td>
<td>70 for alfalfa and canola; 80 for dry beans, potatoes and soybeans.</td>
<td>21 for canola, corn and soybeans; 7 for sweet corn; 14 for alfalfa. See label for other crops.</td>
<td>100 for soybeans. See label for other crops.</td>
<td>100 for dry beans, imazethapyt-tolerant corn and soybeans. Do not graze treated crops or cut for hay.</td>
<td>0 for crop Group 17 &amp; 18 (alfalfa), 7 for potatoes and soybeans.</td>
<td>60 for canola. See label for other crops.</td>
</tr>
<tr>
<td>Storage</td>
<td>Store in a cool, dry area.</td>
<td>Store in a cool, dry area.</td>
<td>Protect from freezing.</td>
<td>Protect from freezing.</td>
<td>Store in a cool, dry area.</td>
<td>Store in a cool, dry area.</td>
</tr>
<tr>
<td>Bulk Density (g/cm³)</td>
<td>1.00</td>
<td>1.16</td>
<td>1.18</td>
<td>1.11</td>
<td>1.03</td>
<td>0.96</td>
</tr>
</tbody>
</table>

*a Use higher water volumes to ensure adequate coverage. ^b Except for application to soybeans, fruit trees and direct-seeded green onions in muck. For direct-seeded green onions in muck soils and transplanted leeks in muck soils, do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 5 days for scouting, 7 days for hand-set irrigation and 16 days for hand weeding.
<table>
<thead>
<tr>
<th>Product</th>
<th>Sercadis®</th>
<th>Serifel®</th>
<th>Teraxxa® F4</th>
<th>Titan®</th>
<th>Veltyma®</th>
<th>Zampro®</th>
<th>Zidua® SC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active Ingredient(s)</td>
<td>Fluxapyroxad</td>
<td>Bacillus amyloliquefaciens strain MBI 600</td>
<td>Broflanilide, Pyraclostrobin, Fluxapyroxad, Triticonazole, Metalaxyl</td>
<td>Clothianin</td>
<td>Mefentrifluconazole, Pyraclostrobin</td>
<td>Ametoctrandin, Dimethomorph</td>
<td>Pyroxasulfone</td>
</tr>
<tr>
<td>Concentration</td>
<td>300 g/L</td>
<td>Not less than 5.5 x 10¹⁰ viable spores/g</td>
<td>16.7 g/L, 16.7 g/L, 8.35 g/L, 16.7 g/L, 10.0 g/L</td>
<td>600 g/L</td>
<td>200 g/L, 200 g/L</td>
<td>300 g/L, 225 g/L</td>
<td>500 g/L</td>
</tr>
<tr>
<td>Type</td>
<td>F</td>
<td>F</td>
<td>I, F</td>
<td>I</td>
<td>F</td>
<td>F</td>
<td>H</td>
</tr>
<tr>
<td>Group</td>
<td>7</td>
<td>BM02</td>
<td>I: 30, F: 3, 4, 7, 11</td>
<td>4</td>
<td>3, 11</td>
<td>40, 45</td>
<td>15</td>
</tr>
<tr>
<td>Formulation</td>
<td>Suspension</td>
<td>Wettable powder</td>
<td>Water-based suspension</td>
<td>Suspension</td>
<td>Suspension concentrate</td>
<td>Suspension</td>
<td>Suspension concentrate</td>
</tr>
<tr>
<td>WAMLEGS</td>
<td>L</td>
<td>W</td>
<td>N/A</td>
<td>L</td>
<td>L</td>
<td>L</td>
<td>L</td>
</tr>
<tr>
<td>Ground Water Volume L/ac, gal/ac⁴</td>
<td>Minimum 40, 10</td>
<td>Minimum 20, 5</td>
<td>N/A</td>
<td>See label</td>
<td>40-80, 10-20</td>
<td>Minimum 80, 20</td>
<td>Minimum 40, 10</td>
</tr>
<tr>
<td>Aerial Application</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Rainfast (Hours)</td>
<td>1</td>
<td>Avoid application if heavy rain is forecast</td>
<td>N/A</td>
<td>N/A</td>
<td>Avoid application if heavy rain is forecast</td>
<td>2</td>
<td>N/A</td>
</tr>
<tr>
<td>REI (Hours)</td>
<td>12</td>
<td>4</td>
<td>N/A</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Pre-Harvest Interval (Days)</td>
<td>7 for potatoes.</td>
<td>0 for all crops.</td>
<td>N/A</td>
<td>N/A</td>
<td>7 for potatoes, 21 for canola, corn, soybeans, sugar beets and wheat. See label for other crops.</td>
<td>4 for potatoes.</td>
<td>Not specified. Follow the application timing for the crop on the label. Harvest can occur at crop maturity.</td>
</tr>
<tr>
<td>Storage</td>
<td>Protect from freezing.</td>
<td>Store between 5°C and 25°C.</td>
<td>Protect from freezing.</td>
<td>Protect from freezing.</td>
<td>Store in a cool, dry area.</td>
<td>Protect from freezing.</td>
<td>Protect from freezing.</td>
</tr>
<tr>
<td>Bulk Density (g/cm³)</td>
<td>N/A</td>
<td>0.2-1.2</td>
<td>1.08</td>
<td>1.25</td>
<td>1.14</td>
<td>1.11</td>
<td>1.21</td>
</tr>
</tbody>
</table>

⁴ Use higher water volumes to ensure adequate coverage.

Information presented is for quick reference only. Always refer to product label.
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® Forte®</th>
<th>Clean Sweep®</th>
<th>Conquest® LQ</th>
<th>Distinct®</th>
<th>Engenia® (Fall Application)</th>
<th>Eragon® LQ (Spring Application)</th>
<th>Frontier® Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alfalfa</td>
<td>FS¹</td>
<td>FS</td>
<td>0 D</td>
<td>B</td>
<td>B</td>
<td>30 D</td>
<td>FS</td>
<td>CF³/FS</td>
<td>100 D¹⁵</td>
</tr>
<tr>
<td>Barley</td>
<td>B</td>
<td>B</td>
<td>&lt;1 M</td>
<td>FS¹</td>
<td>FS¹</td>
<td>30 D</td>
<td>FS</td>
<td>FS</td>
<td>0 D</td>
</tr>
<tr>
<td>Beans (Kidney)</td>
<td>B</td>
<td>B</td>
<td>CF³/FS</td>
<td>CF³/FS</td>
<td>CF³/FS</td>
<td>30 D</td>
<td>FS</td>
<td>FS</td>
<td>0 D</td>
</tr>
<tr>
<td>Beans (White)</td>
<td>FS¹</td>
<td>FS</td>
<td>0 D</td>
<td>CF³/FS</td>
<td>CF³/FS</td>
<td>30 D</td>
<td>FS</td>
<td>FS</td>
<td>0 D</td>
</tr>
<tr>
<td>Canola</td>
<td>FS</td>
<td>FS</td>
<td>&lt;1 M</td>
<td>CF³/FS</td>
<td>CF³/FS</td>
<td>30 D</td>
<td>FS</td>
<td>FS</td>
<td>0 D</td>
</tr>
<tr>
<td>Corn (Field)</td>
<td>CF³/FS</td>
<td>CF³/FS</td>
<td>0 D</td>
<td>CF³/FS</td>
<td>CF³/FS</td>
<td>30 D</td>
<td>FS</td>
<td>CF³/FS</td>
<td>0 D</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>CF³/FS</td>
<td>0 D</td>
</tr>
<tr>
<td>Corn (Sweet)</td>
<td>B</td>
<td>B</td>
<td>&lt;1 M</td>
<td>B</td>
<td>B</td>
<td>30 D</td>
<td>FS</td>
<td>CF³/FS</td>
<td>0 D</td>
</tr>
<tr>
<td>Oats</td>
<td>B</td>
<td>B</td>
<td>&lt;1 M</td>
<td>B</td>
<td>9</td>
<td>30 D</td>
<td>FS</td>
<td>CF³/FS</td>
<td>100 D¹⁵</td>
</tr>
<tr>
<td>Potatoes</td>
<td>FS¹</td>
<td>FS</td>
<td>&lt;1 M</td>
<td>B</td>
<td>B</td>
<td>30 D</td>
<td>FS</td>
<td>FS</td>
<td>0 D</td>
</tr>
<tr>
<td>Rye</td>
<td>B</td>
<td>B</td>
<td>&lt;1 M</td>
<td>B</td>
<td>9</td>
<td>30 D</td>
<td>FS</td>
<td>FS</td>
<td>100 D¹⁵</td>
</tr>
<tr>
<td>Soybeans</td>
<td>FS¹</td>
<td>FS</td>
<td>0 D</td>
<td>CF³/FS</td>
<td>CF³/FS</td>
<td>30 D</td>
<td>0 D¹¹</td>
<td>FS</td>
<td>0 D</td>
</tr>
<tr>
<td>Sugar beets</td>
<td>B</td>
<td>B</td>
<td>&lt;1 M</td>
<td>B</td>
<td>9</td>
<td>30 D</td>
<td>FS</td>
<td>CF³/FS</td>
<td>0 D</td>
</tr>
<tr>
<td>Wheat (Spring)</td>
<td>FS</td>
<td>FS</td>
<td>&lt;1 M</td>
<td>FS</td>
<td>FS</td>
<td>30 D</td>
<td>FS</td>
<td>CF³/FS</td>
<td>100 D¹⁵</td>
</tr>
<tr>
<td>Wheat (Winter)</td>
<td>4 M</td>
<td>4 M</td>
<td>&lt;1 M</td>
<td>100 D³/FS</td>
<td>100 D³/FS</td>
<td>30 D</td>
<td>FS</td>
<td>CF³/FS</td>
<td>100 D¹⁵</td>
</tr>
<tr>
<td>Other Crops</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>30 D</td>
<td>120 D</td>
<td>11 M¹³</td>
<td></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.
### Herbicide Information

<table>
<thead>
<tr>
<th>Herbicide</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; 200 SN</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>
<th>Pursuit&lt;sup&gt;®&lt;/sup&gt;</th>
<th>Select&lt;sup&gt;®&lt;/sup&gt;</th>
<th>Zidus&lt;sup&gt;®&lt;/sup&gt; SC (Fall Application)</th>
<th>Zidus SC (Spring Application)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alfalfa</td>
<td>0 D</td>
<td>10 M</td>
<td>22 M</td>
<td>B</td>
<td>0 D</td>
<td>B</td>
<td>B</td>
<td>0 D&lt;sup&gt;20&lt;/sup&gt;</td>
<td>B</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>Barley</td>
<td>70 D</td>
<td>100 D</td>
<td>10 M</td>
<td>FS&lt;sup&gt;4&lt;/sup&gt;</td>
<td>0 D</td>
<td>B</td>
<td>FS</td>
<td>0 D&lt;sup&gt;20&lt;/sup&gt;</td>
<td>B</td>
<td>11 M&lt;sup&gt;20&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Beans (Kidney)</td>
<td>0 D&lt;sup&gt;17&lt;/sup&gt;</td>
<td>FS</td>
<td>CF&lt;sup&gt;13,19&lt;/sup&gt;/FS&lt;sup&gt;19&lt;/sup&gt;</td>
<td>CF&lt;sup&gt;19&lt;/sup&gt;/FS</td>
<td>0 D</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beans (White)</td>
<td>0 D&lt;sup&gt;17&lt;/sup&gt;</td>
<td>FS</td>
<td>CF&lt;sup&gt;13,19&lt;/sup&gt;/FS&lt;sup&gt;19&lt;/sup&gt;</td>
<td>CF&lt;sup&gt;19&lt;/sup&gt;/FS</td>
<td>0 D</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Canola</td>
<td>0 D</td>
<td>22 M</td>
<td>0 D</td>
<td>B</td>
<td>0 D</td>
<td>B</td>
<td>B</td>
<td>0 D</td>
<td>B</td>
<td>12 M&lt;sup&gt;20&lt;/sup&gt;</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&lt;sup&gt;13,19&lt;/sup&gt;/FS</td>
<td>CF&lt;sup&gt;19&lt;/sup&gt;/FS</td>
<td>FS</td>
<td>B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corn (Seed)</td>
<td>4 M</td>
<td>B</td>
<td>B</td>
<td>B</td>
<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>
<td>0 D</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oats</td>
<td>70 D</td>
<td>100 D</td>
<td>10 M</td>
<td>B</td>
<td>0 D</td>
<td>B</td>
<td>B</td>
<td>0 D</td>
<td>FS</td>
<td>11 M&lt;sup&gt;20&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Potatoes</td>
<td>0 D</td>
<td>22 M</td>
<td>0 D</td>
<td>B</td>
<td>0 D</td>
<td>B</td>
<td>B</td>
<td>0 D</td>
<td>FS</td>
<td>BS</td>
<td></td>
</tr>
<tr>
<td>Rye</td>
<td>70 D</td>
<td>100 D</td>
<td>10 M&lt;sup&gt;3&lt;/sup&gt;</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soybeans</td>
<td>0 D</td>
<td>10 M</td>
<td>0 D</td>
<td>CF&lt;sup&gt;19&lt;/sup&gt;/FS</td>
<td>0 D</td>
<td>CF&lt;sup&gt;13,19&lt;/sup&gt;/FS</td>
<td>CF&lt;sup&gt;19&lt;/sup&gt;/FS</td>
<td>FS</td>
<td>CF&lt;sup&gt;19&lt;/sup&gt;/FS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sugar beets</td>
<td>22 M&lt;sup&gt;14&lt;/sup&gt;</td>
<td>22 M</td>
<td>0 D</td>
<td>B</td>
<td>0 D</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>BS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wheat (Spring)</td>
<td>70 D</td>
<td>100 D</td>
<td>10 M</td>
<td>B</td>
<td>FS</td>
<td>B</td>
<td>FS</td>
<td>B</td>
<td>FS&lt;sup&gt;21&lt;/sup&gt;</td>
<td></td>
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</tr>
<tr>
<td>Wheat (Winter)</td>
<td>70 D</td>
<td>100 D</td>
<td>10 M&lt;sup&gt;14&lt;/sup&gt;</td>
<td>100 D&lt;sup&gt;15&lt;/sup&gt;/FS</td>
<td>B</td>
<td>100 D&lt;sup&gt;15&lt;/sup&gt;/FS</td>
<td>B</td>
<td>4 M</td>
<td>B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Crops</td>
<td>120 D</td>
<td>11 M</td>
<td>120 D</td>
<td>B</td>
<td>30 D</td>
<td>B</td>
<td>B</td>
<td>30 D</td>
<td>B</td>
<td>B</td>
<td></td>
</tr>
</tbody>
</table>

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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® herbicide) and may be injured if planted in soil treated with Conquest LQ during the year of application or the following crop year. 9 If using for perennial rosette control in summerfallow or perennial weed control in summerfallow and stubble, refer to the label for recropping restrictions. 10 Roundup Ready 2 Xtend<sup>®</sup> soybeans and XtendFlex<sup>®</sup> soybeans only. 11 All crops can be planted the second spring after application. 12 A second application of the product cannot be made in the rescue crop. 13 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. 14 In mineral soil, if applied to muck soils, a field bioassay must be done. 15 Inbred lines grown in Southern Ontario only. 16 Not grown for seed. 17 22 months at the 1.1 L/ha rate, 11 months for lower rates. 18 See label for crop dependent restrictions. 19 Seedling alfalfa. 20 At the total seasonal rate of 120-240 ml/ha.
Mixing order for tank mixes.

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

- Wettable powders, flowable
  - Distinct®, Optill®, Serifel®

- Agitate¹, Anti-foaming compounds, buffers

- Microcapsule suspension
  - Prowl® H2O

- Liquid and soluble
  - Armezon®, Basagran® Forte, Caramba®, Cevya®, Cimegra®, Clean Sweep®, Conquest® LQ, Cotegra®,
  - Engenia®, Eragon® LQ, Forum®, Headline® AMP, Ignite®, Liberty® 200 SN, Marksman®, Priaxor®, Pursuit®,
  - Sercadis®, Titan®, Veltyma®, Zampro®, Zidua® SC

- Emulsifiable concentrates
  - Armezon PRO, Frontier® Max, Headline, Integrity®, Poast® Ultra, Sefina®, Select®

- Glyphosate
  - (high load, containing adjuvant)

- Surfactants
  - Merge®

¹ Do not over-agitate at any point in the process.

Always consult the label prior to mixing.

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

Always remember:

- Wettable powders, flowable
- Agitate, Anti-foaming compounds, buffers
- Microcapsule suspension
- Liquid and soluble
- Emulsifiable concentrates
- Glyphosate
- Surfactants

TECH TIP

WAMLEGS does not apply when tank mixing Select herbicide with Liberty 200 SN herbicide in LibertyLink® canola. The following order should be used:

1. Ammonium sulphate
2. Amigo® adjuvant
3. Liberty 200 SN
4. Select

Click here for details on rates.
**Big operation? Get it in bulk.**

Explore our bulk packaging options for select products this season. Designed for mobility and ease of storage, our totes, shuttles and drums are convenient solutions for high-volume users.

**Totes:**

<table>
<thead>
<tr>
<th>Available Products</th>
<th>Volume</th>
<th>Acres/Tote</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Integrity</strong>&lt;br&gt;Powered by Klixor® Herbicide</td>
<td>450 L</td>
<td>1,000 to 1,500 (corn rate)&lt;br&gt;3,000 (soybean rate)</td>
</tr>
<tr>
<td><strong>Liberty® 200 SN</strong>&lt;br&gt;Herbicide</td>
<td>400 L</td>
<td>400</td>
</tr>
<tr>
<td><strong>Marksman®</strong>&lt;br&gt;Herbicide</td>
<td>450 L</td>
<td>250 to 450</td>
</tr>
<tr>
<td><strong>Prowl H2O</strong>&lt;br&gt;Herbicide</td>
<td>450 L</td>
<td>506</td>
</tr>
<tr>
<td><strong>Teraxxa® F4</strong>&lt;br&gt;Seed Treatment</td>
<td>450 L</td>
<td>300 ml per 100 kg seed</td>
</tr>
<tr>
<td><strong>Merge®</strong>&lt;br&gt;Surfactant</td>
<td>400 L</td>
<td>Rate will vary depending on tank mix</td>
</tr>
</tbody>
</table>

**Shuttles:**

<table>
<thead>
<tr>
<th>Available Products</th>
<th>Volume</th>
<th>Acres/Shuttle</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Armezon® PRO</strong>&lt;br&gt;Herbicide</td>
<td>121.5 L</td>
<td>300</td>
</tr>
<tr>
<td><strong>Basagran® Forté</strong>&lt;br&gt;Herbicide</td>
<td>130 L</td>
<td>145 to 185</td>
</tr>
<tr>
<td><strong>Engenia®</strong>&lt;br&gt;Herbicide</td>
<td>121.2 L</td>
<td>300 to 600</td>
</tr>
<tr>
<td><strong>Caramba®</strong>&lt;br&gt;Fungicide</td>
<td>128 L</td>
<td>320</td>
</tr>
</tbody>
</table>

**Drums:**

<table>
<thead>
<tr>
<th>Available Products</th>
<th>Volume</th>
<th>Acres/Drum</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ignite®</strong>&lt;br&gt;Herbicide</td>
<td>100 L</td>
<td>50 to 100</td>
</tr>
<tr>
<td><strong>Teraxxa F4</strong>&lt;br&gt;Seed Treatment</td>
<td>120 L</td>
<td>300 ml per 100 kg seed</td>
</tr>
</tbody>
</table>

**TECH TIP**

*When using a pump with any bulk containers, ensure the pump is calibrated and properly agitate prior to use. Refer to product label or speak to your BASF AgSolutions® Retail Representative for more information.*

Submit all bulk orders to BASF retailers by December 1, 2021. For more information about products available in totes, shuttles and drums, contact your BASF AgSolutions Retail Representative or call AgSolutions Customer Care at 1-877-371-BASF (2273).
2022 Eastern Canada Grower Program

Elite Bonus

Purchase $100,000 or more of BASF Products (including InVigor® hybrid canola and Liberty® 200 SN herbicide) and receive a 1% reward on all BASF Products (excluding InVigor).

For a quick way to calculate your possible rewards, visit our online rewards calculator at agsolutions.ca/eastrewardscalculator.
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.

### Baseline Rewards
- **Purchase from all five Segments**: 12% for each segment
- **Purchase from four Segments**: 7% for each segment
- **Purchase from three Segments**: 5% for each segment
- **Purchase from two Segments**: 3% for each segment

### Corn Herbicide Bonus
- Purchase a minimum of 40 acres each of Armezon PRO or Zidua SC and Engenia or Marksman.
- Add 2% for each segment.

### Fungicide Bonus
- Purchase a minimum of 200 acres from any product (or combination of products) in Segments 4 and/or 5.
- Add 3% for each segment.

### Integrity Bonus
- Purchase a minimum of 160 acres of Integrity.
- Add 7% for each segment.

### Engenia / Kixor Herbicide Bonus
- Purchase a minimum of 40 acres each of Kixor herbicides (Integrity and/or Eragon LQ and/or Optill) and Engenia or Marksman.
- Add 2% for each segment.

### MAXIMUM TOTAL SAVINGS
<table>
<thead>
<tr>
<th>Segment 1</th>
<th>Segment 2</th>
<th>Segment 3</th>
<th>Segment 4</th>
<th>Segment 5</th>
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<tr>
<td>12%</td>
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<td>12%</td>
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<td>7%</td>
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<td>5%</td>
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<td>5%</td>
</tr>
<tr>
<td>3%</td>
<td>3%</td>
<td>3%</td>
<td>3%</td>
<td>3%</td>
</tr>
</tbody>
</table>

**CALCULATE YOUR SAVINGS**

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1. Qualifying BASF Crop Protection Products now include InVigor hybrid canola. In order for InVigor and Liberty 200 SN herbicide to qualify as a BASF Product, growers are required to sign, or have already signed, a Liberty and Trait Agreement (LTA), and operate in full compliance as per the requirements outlined within the signed LTA (see Section 5 of the Official Terms and Conditions for more details).
2. See Section 5 of the Official Terms and Conditions on the pages to follow for additional details on the Bonus Rewards.
BASF Ag Rewards - 2022 Eastern Canada Grower Program

1. Offer Period: The 2022 Grower Program/Grower Program (the “Offer”) is administered by BASF Canada Inc. o/a BASF Canada ("BASF") and begins on October 1, 2021 at 7:00 a.m. Eastern Time (“ET”) and ends on September 30, 2022 at 11:59 p.m. ET (the “Offer Period”).

2. Eligibility: The Offer is open to Canadian growers who (i) reside in Ontario, New Brunswick, Nova Scotia, Newfoundland and Labrador, Prince Edward Island, British Columbia (including the Fraser River Region of British Columbia) and Quebec (each, an “Eligible Territory”); (ii) are the owner, operator or designated representative of a farm located in the Program Areas (the “Farm”); and (iii) have reached the age of majority in their province of residence (if over 18 years of age) or are a parent, legal guardian, or other person in a position of supervision (if under 18 years of age) of the Eligible Participant.

3. How to Qualify for a Baseline Reward: To qualify for the Offer, each Eligible Participant is signifying his/her agreement to unconditionally comply with, and be legally bound by, these Terms. This Offer is not available to buying groups, relationship groups (including but not limited to any BASF reward program) or any individual or entity other than an Eligible Participant as set forth above. Note: BASF will grandfather any buying group that existed prior to October 1, 2020. BASF will consider family relationships going forward if the family relationship is a direct family relationship: immediate family-member (spouse, mother, stepmother, foster mother, father, stepfather, foster father, grandparent, stepgrandparent, foster grandparent, sister, half-sister, brother, half-brother, stepchild, foster child, children, grandchildren, foster children).

4. How to Qualify for a Bonus Reward: To be eligible to earn a Bonus Reward (a “Bonus Reward”), an Eligible Participant must: (i) qualify for the Offer in accordance with Section 3; and (ii) purchase from an authorized retailer located in an Eligible Territory that consists of $50,000 CAD to Qualify for the Offer.

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) or 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 Enerva herbicide and/or Markman herbicide; and</td>
</tr>
<tr>
<td></td>
<td>• Purchase a minimum of forty (40) acres of Amzone PRO herbicide and/or Zidua SC herbicide.</td>
</tr>
<tr>
<td>Fungicide Bonus</td>
<td>To qualify, during the Offer Period an Eligible Participant must:</td>
</tr>
<tr>
<td></td>
<td>• Purchase a minimum of two hundred (200) acres of a combination of any products</td>
</tr>
<tr>
<td></td>
<td>• Purchase a minimum of one hundred and sixty (160) acres of integrity herbicide</td>
</tr>
<tr>
<td>Fungicide / Kixor® Herbicides 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 the following Kixor® herbicide products:</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**RESOURCES**

BASF Ag Rewards

**BASF Brands**

- ACROBAT
- FORUM
- LANCE
- COTEGRA
- ERAGON LQ
- ERAGON
- FRONTIER MAX
- OUTLOOK
- HEADLINE
- HEADLINE AMP

**Qualifying Reward Product**

- CIMEGRA®
- SEFINA®
- TITAN®
- PURSUIT®, SELECT® and ZIDUA® SC
- ENGENIA®, ERAGON® LQ, FRONTIER® MAX, INTEGRITY®, LIBERTY® 200 SN, MARKSMAN®, OPTILL®, OUTLOOK®, POAST® ULTRA, PROWL® H2O, TWINLINE®, VELTYMA® and ZAMPRO®
- ACROBAT®, CARAMBA®, CEVYA®, COTEGRA®, FORUM®, HEADLINE®, HEADLINE AMP, LANCE®, PRIAXOR®, SERCADIS®, SERIFEL®, TWIN LINE®, VELTYMA® and ZAMPRO®
- AIRZOM®, AIRZOM PRO, ASSIGNMENT®, BASAGRAN®, BASAGRAN FORTE, CLEAN BREAK®, CONQUEST®, CONQUEST® MAX, DISTINCT®, ENGENIA®, ERAGON® LQ, FRONTIER® MAX, INTEGRITY®, LIBERTY® 200 SN, MARKSMAN®, OPTILL®, OUTLOOK®, POAST® ULTRA, PROWL® H2O, PURSUIT®, SELECT® and ZIDUA® SC

**Herbicides**

- • Purchase a minimum of forty (40) acres of Engenia herbicide and/or Marksman herbicide and/or Titan herbicide, and 2% on Eragon LQ and 2% on Engenia.
- • Purchase a minimum of forty (40) acres of Engenia herbicide and/or Marksman herbicide and/or Titan herbicide, and 2% on Eragon LQ and 2% on Engenia.
- • Purchase a minimum of forty (40) acres of Engenia herbicide and/or Marksman herbicide and/or Titan herbicide, and 2% on Eragon LQ and 2% on Engenia.
- • Purchase a minimum of forty (40) acres of Engenia herbicide and/or Marksman herbicide and/or Titan herbicide, and 2% on Eragon LQ and 2% on Engenia.
- • Purchase a minimum of forty (40) acres of Engenia herbicide and/or Marksman herbicide and/or Titan herbicide, and 2% on Eragon LQ and 2% on Engenia.
- • Purchase a minimum of forty (40) acres of Engenia herbicide and/or Marksman herbicide and/or Titan herbicide, and 2% on Eragon LQ and 2% on Engenia.
- • Purchase a minimum of forty (40) acres of Engenia herbicide and/or Marksman herbicide and/or Titan herbicide, and 2% on Eragon LQ and 2% on Engenia.
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 Sections 4 and 5; and (iii) makes purchases within the Offer Period from an authorized retailer located in an Eligible Territory that consist of $100,000 CAD or more (exclusive of fees and taxes) of BASF Products is eligible to earn an additional reward related to all Elite Qualifying Products (as defined below), provided that the Eligible Participant from an authorized retailer located in an Eligible Territory during the Offer Period (the "Elite Reward") the value of the Elite Reward is calculated at 1% of the SRP (exclusive of fees and taxes) of the Elite Qualifying Products purchased in accordance with these Terms (the "Elite Reward Percentage Value"). The following are each an Elite Qualifying Product:

- Herbicides: ARMEZON, ARMEZON PRO, ASSINGMENT, BASAGRAN, BASAGRAN FORTE, CLEAN SWEEP, CONQUEST LD, DISTINCT, ENGENA, ENGENA LD, FRONTIER MAX, INDEPENDENCY, LIBERTY 200 CN, MARQUAT, OPTIL, OUTLOOK, PROST, PROLINE, PROLIN, PURSUIT, SELECT, VELTHYA, VELTHYA PRO, ZAMPRO and ZAMPRO.
- Fungicides: ACREDENT, CARIBUA, CAVENA, COTEGA, FORUM, HEADLINE, HEADLINE AMP, LANCE, PROXAM, SERCEAS, SERCEAS PRO, TITAN, VELTHYA and ZAMPRO.
- Insecticides: CMAG, CITRAVEN, SEFINA and TITAN.

7. Reward Percentage Value and Bonus Reward Calculation: BASF will determine the reward percentage value (the "Reward Percentage Value") that an Eligible Participant is entitled to receive pursuant to these Terms. The Reward Percentage Values outlined in Sections 4, 5 and 6 represent the percent of the SRP that BASF will use to calculate the amount of the BASF Bonus Reward (as applicable) (collectively, the "Total Reward on Qualifying Reward Products") that an Eligible Participant is eligible to receive as a reward, exclusive of taxes, on each occasion of the applicable Qualifying Reward Products purchased in accordance with these Terms. The Elite Bonus Reward outlined in Section 6 represents the percent of the SRP that BASF will use to calculate the amount that an Eligible Participant is eligible to receive as a reward, exclusive of taxes, on each occasion of the applicable Elite Qualifying Products purchased in accordance with these Terms (the "Total Reward on Elite Qualifying Products").

8. The calculation of Total Reward on Qualifying Reward Products and the Total Reward on Elite Qualifying Products (collectively, the "Total Reward") will be based on the SRP in the Eligible Territories multiplied by the corresponding Reward Percentage Values and Elite Reward Percentage Value for the applicable Qualifying Reward Products and Elite Qualifying Products, respectively. Participants have complete autonomy to determine the retail pricing for the products described herein and may choose to sell such products at prices which are different from those suggested by BASF. Total Rewards will be calculated on a per acre basis, using all Qualifying Reward Products and Elite Qualifying Products purchased, including partial cases. Prior to qualifying for the Elite Reward, the Eligible Participant must agree to and accept to be legally bound by these Terms. In addition, the Eligible Participant will have the opportunity to agree to the terms and conditions contained within the BASF/AgSolutions Consent Form (collectively, the "Consent Forms"). Copies of the Consent Forms can be obtained by contacting AgSolutions Customer Care at 1-888-426-4383. An Eligible Participant may subsequently withdraw his/her consent to receive electronic communications at any time without affecting their eligibility for this Offer.

If an Eligible Participant completes all of the preceding steps in accordance with these Terms (as determined by BASF in its sole and absolute discretion), then the Eligible Participant will be eligible to qualify for the Offer and to receive a Total Reward. There is a limit of one (1) Total Reward per Farm.

9. Qualifying Reward Products: For the purposes of the Offer, the Eligible Participant must purchase the following BASF Products (the "Qualifying Products") to receive the following reward rates:
- ACREDENT Case 20
- ARMEZON Case 40
- ARMEZON PRO Case 40
- BASAGRAN Jug 13
- BASAGRAN FORTE Case 29
- BAVEL II Case 40
- CANTUS Case 40
- CARIBUA Case 40
- CEVVA Case 20
- CMAG Case 20
- CLEAN SHRED Case 20
- CONQUEST LD Case 40
- COTEGA Case 70
- DISTINCT Case 80
- ENGENA Case 40
- ENGENA LD Case 120
- ENGENA PRO Case 160
- FORUM Case 50
- FRONTIER MAX Case 72
- HEADLINE Case 40
- HEADLINE AMP Case 40
- INNOX HYBRID CANOLA 10 acres Bag –
- INOXT PRESS Case 20
- INVERA Case 60
- INVECTOR Case 20
- INTENSA Case 60
- LANCE Case 25
- LIBERTY 200 CN Case 20
- MARKSMAN Case 20
- OPALL Case 120
- OUTLOOK Case 52
- PROST Case 80
- PROXAM Case 160
- PROXAM LD Case 39
- PROXYL Case 160
- PURSUIT Case 80
- SELECT Case 60
- SELECTA Case 20
- SERCEAS Case 20
- SERCEAS Pro Case 20
- TITAN Case 44
- VELTHYA Case 80
- VELTHYA PRO Case 51
- ZAMPRO Case 80
- ZAMPRO Pro Case 80

10. To the fullest extent permitted by applicable law, all issues and questions concerning the construction, validity, interpretation and enforceability of these Terms or the rights and obligations of Eligible Participants, BASF and/or any other Released Parties in connection with these Terms (or any component thereof) (whether arising before, during or after the Offer Period) will be governed by and construed in accordance with the domestic laws of the Province of Ontario and the federal laws of Canada applicable therein, without giving effect to any choice of law or conflict of law rules or provisions that would cause the application of any other jurisdiction’s laws. The parties hereby consent to the exclusive jurisdiction and venue of the courts located in Ontario to enjoin or otherwise remedy any dispute arising in connection with the Offer or these Terms.

11. BASF reserves the right, in its sole and absolute discretion, to adjust any of the dates, timeframes and/or other Offer mechanics stipulated in these Terms, to the extent deemed necessary by BASF, for purposes of verifying compliance by any Eligible Participant or other information with these Terms, to the extent deemed necessary by BASF in its sole and absolute discretion to be a violation of criminal and civil laws and should such an attempt be made, BASF reserves the right to seek remedies and damages to the fullest extent permitted by law.

12. This Offer is subject to all applicable federal, provincial and municipal laws. This Offer is void where prohibited or restricted by law. The decisions of BASF with respect to all aspects of this Offer are final and binding on all Eligible Participants without right of appeal.
Always read and follow label directions.

AgSolutions, ACROBAT, ARMEZON, ASSIGNMENT, BASAGRAN, BIOSTACKED, CANTUS, CARAMBA, CEVYA, CIMEGRA, CLEAN SWEEP, Clearfield, CONQUEST, COTEGRA, DISTINCT, ENGENIA, ERAGON, FORUM, FRONTIER, HEADLINE, IGNITE, ILEVO, INSICALIS, INSURE, INTEGRAL, INTEGRITY, INVIGOR, KIXOR, LANCE, LIBERTY, LIBERTYLINK, MARKSMAN, MERGE, NODULATOR, OPTILL, OUTLOOK, POAST, PONCHO, PRIAXOR, PROWL, PURSUIT, REVYSOL, SEFINA, SELECT, SERCADIS, SERIFEL, TERAXXA, TITAN, TWINLINE, VELTYMA, VERCORAS, XEMIUM, ZAMPRO and ZIDUA are registered trade-marks of BASF; all used under license by BASF Canada Inc. INSURE CEREAL FX4, TERAXXA F4, VERCORAS XC and/or VERCORAS F3 seed treatments, and ACROBAT, CANTUS, CARAMBA, CEVYA, COTEGRA, FORUM, HEADLINE, HEADLINE AMP, LANCE, PRIAXOR, SERCADIS, SERIFEL, TWINLINE, VELTYMA and/or ZAMPRO fungicides should be used in a preventative disease control program. © 2021 BASF Canada Inc.

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ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS. It is a violation of violation of federal law to use any pesticide product other than in accordance with its labeling. NOT ALL formulations of dicamba, glyphosate or glufosinate are approved for in-crop use with products with XtendFlex® Technology. ONLY USE FORMULATIONS THAT ARE SPECIFICALLY LAbelled AND APPROVED FOR SUCH USES. Contact the Pest Management Regulatory Agency with any questions about the approval status of dicamba herbicide products for in-crop use with Roundup Ready 2 Xtend® soybeans or products with XtendFlex® Technology.

Products with XtendFlex® Technology contain genes that confer tolerance to glyphosate, glufosinate and dicamba. Glyphosate will kill crops that are not tolerant to glyphosate. Dicamba will kill crops that are not tolerant to dicamba. Glufosinate will kill crops that are not tolerant to glufosinate. Contact your Bayer retailer, refer to the Bayer Technology Use Guide, or call the technical support line at 1-888-283-6847 for recommended Roundup Ready® Xtend Crop System weed control programs.

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