BASF
We create chemistry





2025 CROP PRODUCTION GUIDE

EASTERN CANADA

CONTENTS

FROM START TO FINISH, WE'VE GOT A SOLUTION FOR EVERY STEP OF THE WAY.

At BASF, we're here to provide you with the solutions and support you need to take on the season with confidence to grow healthy crops while managing weeds, diseases and other pests.

In the 2025 Crop Production Guide, learn about our latest innovations and our portfolio of tried-and-true solutions to help make the best decisions for your crops—all the way from seeding to harvest.

A new, exciting hybrid joins the lineup.

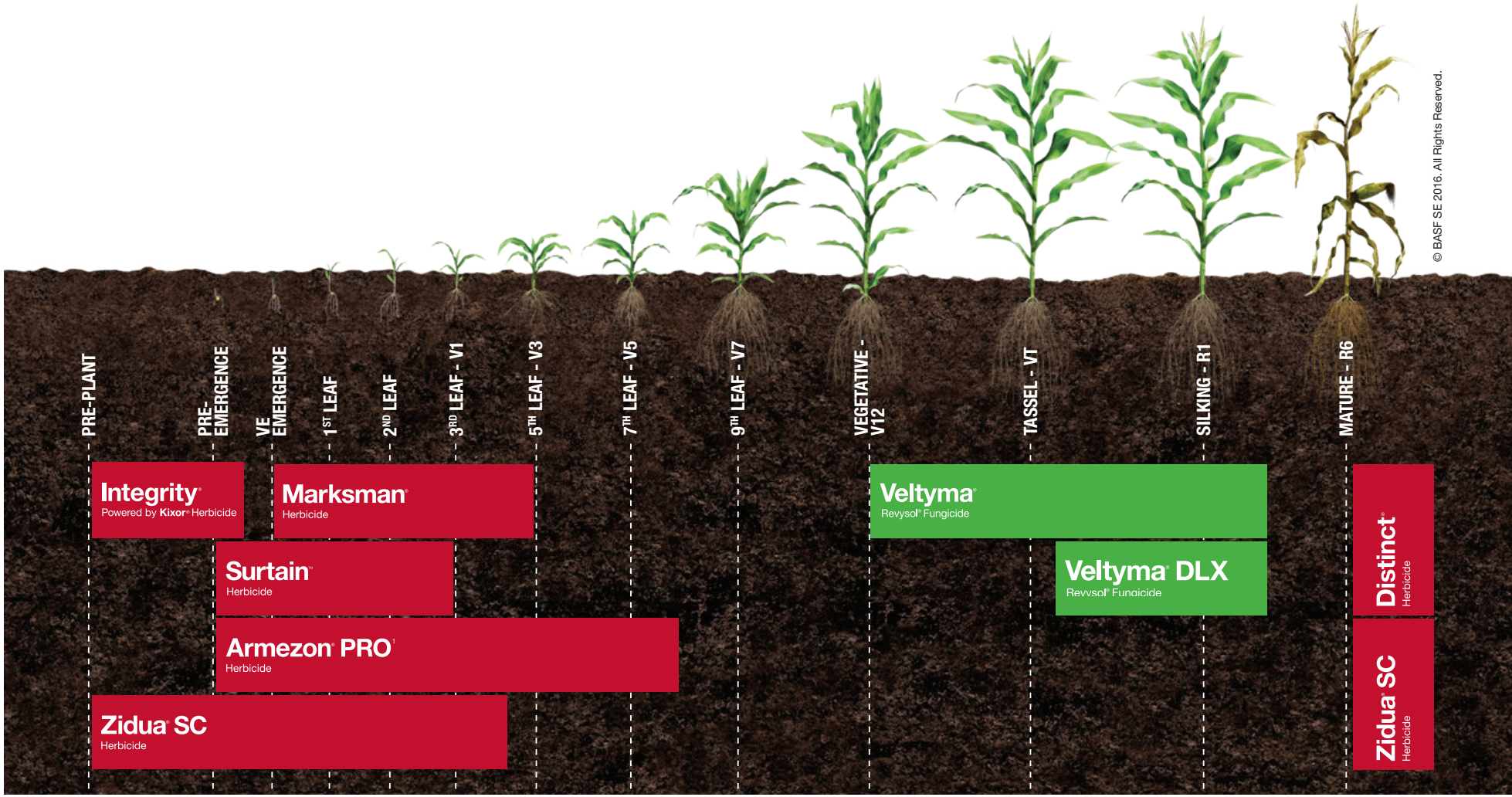
InVigor® L330PC

You asked and we have answered: Introducing InVigor L330PC, an early-maturing 300 series InVigor® canola hybrid. With strong yield potential, this hybrid is a great fit for those looking for an earlier-maturing hybrid. Coupled with our patented Pod Shatter Reduction technology, first-generation clubroot resistance, strong standability, and the yield potential to exceed InVigor L233P all make InVigor L330PC a strong performer across all growing zones.

the new InVigor® earlies


Introducing residual control in corn that's unlike any other.
As a first-of-its-kind formulation, Surtain™ herbicide is a powerful combination of Group 14 and 15 chemistries. Applied pre-emergence to early post-emergence, Surtain delivers residual control on a broad spectrum of grassy and broadleaf weeds in field corn when it matters.
Surtain™
Herbicide
For quick access to solution options and information, visit our resource section here.
Learn more by visiting agsolutions.ca, contacting your BASF AgSolutions® Retail Representative or by calling AgSolutions Customer Care at 1-877-371-BASF (2273).
CORN
SOYBEANS
CEREALS
CANOLA
POTATOES
POST-HARVEST
RESOURCES

Solutions for 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.

[1] In conventional field corn, apply from pre-emergence to 3rd leaf. Applied in tank mix. See label for tank-mix partners.

Crop Staging

BASF lead recommendations.

Select the solution that's right for your operation.

WEED MANAGEMENT

Integrity®
Powered by **Kixor®** Herbicide

OR

Zidua® SC
Herbicide

FOLLOWED BY

Marksman® [1]
Herbicide

Surtain™ NEW
Herbicide

+

Marksman®
Herbicide

OR

Engenia®
Herbicide

Armezon® PRO
Herbicide

+

Marksman® [2]
Herbicide

DISEASE MANAGEMENT

Veltyma®
Revysol® Fungicide

OR

Veltyma® DLX
Revysol® Fungicide

POST-HARVEST

Distinct®
Herbicide

OR

Zidua® SC
Herbicide

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

[1] Can also be tank mixed with Integrity® herbicide or Zidua® SC herbicide if applied pre-emergence.
[2] In tank mix with glyphosate.

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

Source: Grower Applied Strip Trials, Middlesex County, ON, 2022, 5 weeks after treatment

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

Crop staging

Pre-plant[1], pre-plant incorporated, pre-emergence

Weeds controlled[2]

Broadleaf weeds

Canada fleabane[3]
Common ragweed[3]
Eastern black nightshade[4]
Giant ragweed[3]
Hairy galinsoga
Lamb's quarters
Palmer amaranth[3]
Redroot pigweed
Smallflower galinsoga
Velvetleaf
Waterhemp[3]
Wild buckwheat
Wild mustard

Grasses

Barnyard grass
Crabgrass (large, smooth)
Fall panicum
Foxtail (giant, green, yellow)
Old witchgrass
Yellow nutsedge[4]

[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] Includes glyphosate-resistant biotypes. [4] Pre-plant incorporated only. [5] 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. [6] Integrity can be used with 28% UAN as a carrier for pre-plant incorporated and pre-emergent applications. [7] 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. [8] Marksman and glyphosate are sold separately.

Application rates

One case treats 40 to 60 acres.
One tote treats 1,010 to 1,525 acres.

Full rate[5]

Integrity[6]	450 ml/ac (1.1 L/ha)

Set-up rate[7]

Integrity[6]	300 ml/ac (730 ml/ha)

or

Integrity[6]	300 to 450 ml/ac (0.73 to 1.1 L/ha)
followed by **Marksman® herbicide**[8]	1.0 L/ac (2.5 L/ha)
Glyphosate[8]	See label for rate

Water volume

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

Pre-harvest interval

60 days after application for 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, peppers and onions

NEW

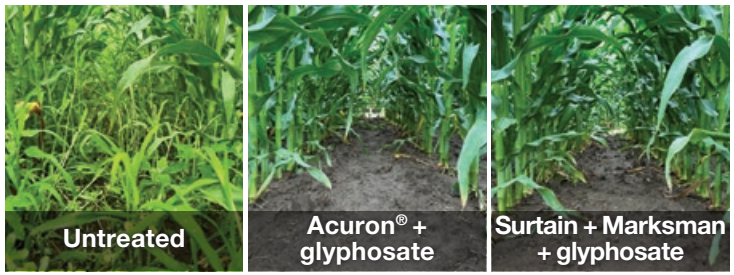
Surtain™

Herbicide

A powerful combination of Group 14 and 15 chemistries for residual weed control in field corn when it matters.

- **Residual endurance:** delivers residual control on a broad spectrum of grassy and broadleaf weeds, including resistant biotypes
- **Unique chemistry combination:** first-of-its-kind solid-encapsulated herbicide technology that provides multiple modes of effective action
- **Flexibility:** from pre-emergence to early post-emergence, the residual power of Surtain™ herbicide is an excellent tank-mix partner to Marksman® herbicide, Engenia® herbicide and atrazine plus glyphosate

Control of grassy and broadleaf weeds at 2 leaf application in field corn, 46 days after application



Source: BASF Small Plot Trials, Maryhill, ON, 2024

Active ingredients	Pyroxasulfone – Group 15 Saflufenacil – Group 14
Formulation	Microcapsule suspension
One case contains	2 x 8.1 L jugs

Crop staging
Pre-emergence, post-emergence up to 3 leaf

Weeds controlled[1]

Broadleaf weeds
Cleavers[2], Common chickweed[2], Common ragweed, Eastern black nightshade[2], Kochia[3], Lamb's quarters, Palmer amaranth[4], Redroot pigweed, Shepherd's-purse[2], Velvetleaf, Volunteer canola[2], Waterhemp[5], Wild buckwheat[2], Wild mustard[3]

Grasses
Barnyard grass[3,6], Downy brome[2], Fall panicum, Giant foxtail[6,7], Green foxtail[3], Japanese brome[2], Large crabgrass, Ryegrass (Italian)[6,7], Wild oats[2], Yellow foxtail[3,6]

Application rates
One case treats 32 or 40 acres.

Surtain	405 or 506 ml/ac (1.0 or 1.25 L/ha)

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

Pre-harvest interval
60 days after application for field corn.[8]

Follow crops

In case of crop failure:
Chickpeas[9], dry field peas[9], field corn, winter wheat[10]

In the next season following application:
Barley (malting, spring, winter)[9], canola[9], chickpeas, dry field peas, field corn, oats[9], soybeans, wheat (durum[9], spring[9], winter)

In the second season following application:
No restrictions.

[1] Control at 405 ml/ac (1.0 L/ha) and 506 ml/ac (1.25 L/ha). [2] Suppression only. [3] Suppression at 405 ml/ac (1.0 L/ha) and control at 506 ml/ac (1.25 L/ha). [4] The level of control of this weed may be reduced on medium and fine textured soils at 405 ml/ac (1.0 L/ha) and 506 ml/ac (1.25 L/ha). [5] Including biotypes resistant to Group 2, 5, 9, 14 and 27. [6] The level of control of this weed may be reduced on medium and fine textured soils at 506 ml/ac (1.25 L/ha).[7] Control only at 506 ml/ac (1.25 L/ha). [8] Corn forage and silage can be used as feed or grazed 60 days or more after an early-season application of Surtain. [9] These crops can be planted in the same season only if the maximum application rate to the primary crop is 405 ml/ac (1.0 L/ha).[10] May be planted 4 months after application.

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 15 and 27 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[1]

Source: BASF Small Plot Trials, Maryhill, ON, 2015

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

Crop staging
Pre-emergence to 8 leaf[1]
Emergence to 5 leaf (for tank mix)

Weeds controlled[2]
Broadleaf weeds
Common chickweed[3]
Common ragweed
Eastern black nightshade
Green pigweed
Lady's thumb
Lamb's quarters
Redroot pigweed
Velvetleaf[3]
Wild mustard

Grasses
Barnyard grass
Crabgrass (large)
Fall panicum[4]
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.

Armezon PRO	405 ml/ac (1.0 L/ha)
Marksman[5]	1.0 L/ac (2.5 L/ha)
Glyphosate[5,6]	See label for rate

or

Armezon PRO	405 ml/ac (1.0 L/ha)
Aatrex® 480 herbicide[5]	420 ml/ac (1.04 L/ha)
Glyphosate[5,6]	See label for rate

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

Follow crops
4 months after application:
Winter wheat
Following spring after application:
Alfalfa, canola, field corn, potatoes, soybeans, spring wheat, white beans

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

[1] Crop staging depends on labelled tank mix. [2] Weeds controlled when Armezon PRO is applied in a tank mix with atrazine (500 g ai/ha) and Merge® adjuvant or UAN plus Assist® adjuvant. [3] Suppression only. [4] Apply before fall panicum exceeds the 2 leaf growth stage. If applied later, this weed will only be suppressed. [5] Aatrex® 480, glyphosate and Marksman are sold separately. [6] 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

Source: BASF Small Plot Trials, Maryhill, ON, 2015

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-plant[1], pre-emergence, early post-emergence up to 4 leaf

Weeds controlled

Broadleaf weeds

Cleavers[2,3], Common chickweed[2], Eastern black nightshade[2,3], Kochia[2,3], Lamb's quarters[2], Palmer amaranth, Redroot pigweed, Shepherd's-purse[2], Waterhemp, Wild buckwheat[2]

Grasses

Barnyard grass, Crabgrass (large), Downy brome[2], Foxtail (giant, green, yellow), Japanese brome[2], Ryegrass (Italian), Wild oats[2]

Application rates

One case treats 41 to 80 acres, depending on soil texture.

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

Tank mix

Apply post-emergence up to 4 leaf.

Zidua SC	97 ml/ac (240 ml/ha)
Marksman® herbicide[4]	1.0 L/ac (2.5 L/ha)
Glyphosate[4,5]	See label for rate

Click here to learn more about tank-mix order.

Water volume

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

[1] Up to 30 days before planting. [2] Early-season residual suppression only when the application rate is 120 ml/ha to 240 ml/ha. [3] Including biotypes resistant to Group 2 chemistries. [4] Sold separately. [5] Glyphosate rate is 364 g a.e./ac (900 g a.e./ha). See glyphosate label for corresponding product use rate.

Marksman®

Herbicide

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

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

Source: BASF Small Plot Trials, Maryhill, ON, 2015

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

[1] Do not apply to sweet corn. [2] See label for rates. [3] Apply annually for three years at the flowering stage of bindweed and the budding stage of thistles. [4] Post-emergence only. Apply at cotyledon to 6 leaf stage of common cocklebur. [5] Including triazine-resistant biotypes. [6] Pre-emergence only. [7] For post-emergent applications, apply at unifoliate to fourth trifoliate stage of weed. Suppression only when applied pre-emergence. [8] Post-emergence only. [9] Integrity® herbicide, Armezon PRO, Prowl® H2O herbicide and glyphosate are sold separately. [10] Use only 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.

Crop staging[1]

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

Weeds controlled[2]

Buckwheat (tartary, wild), Canada thistle[3], Cleavers, Common cocklebur[4], Corn spurry, Cow cockle, Field bindweed[3], Green smartweed, Lady's thumb, Lamb's quarters[5], Mustard (hare's-ear, Indian, tumble, wild, wormseed), Perennial sow thistle[3], Pigweed (redroot[5], Russian), Ragweed (common[5], false, giant), Spreading atriplex[6], Velvetleaf, Volunteer adzuki beans[7], Waterhemp[8]

Application rates

One case treats 11 to 20 acres. One tote treats 247 to 444 acres.

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

Marksman	1.0 L/ac (2.5 L/ha)
Armezon PRO[9]	405 ml/ac (1.0 L/ha)
Glyphosate[9,10]	See label for rate

Marksman	1.0 L/ac (2.5 L/ha)
Prowl H2O[9]	890 ml/ac (2.2 L/ha)
Glyphosate[9,10]	See label for rate

Marksman	1.0 L/ac (2.5 L/ha)
Glyphosate[9,10]	See label for rate

Planned 2-pass

Integrity[9]	300 to 450 ml/ac (0.73 to 1.1 L/ha)
followed by **Marksman**	1.0 L/ac (2.5 L/ha)
Glyphosate[9]	See label for rate

Water volume

Ground application
90 L/ac to 140 L/ac (25 to 35 gal/ac)

Pre-harvest interval

60 days for field corn.

Follow crops

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

TECH TIP

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

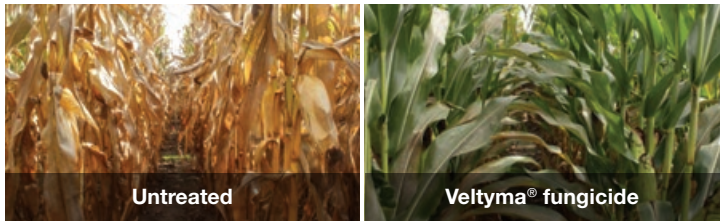
Veltyma®

Revysol® Fungicide

For use on: ALL CORN TYPES — YES

An 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



Source: BASF Small Plot Trials, Middlesex County, ON, 2021, 7 weeks after treatment

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.

Active ingredients	Mefentrifluconazole – Group 3 Pyraclostrobin – Group 11
Formulation	Suspension concentrate
One case contains	2 x 8.1 L jugs

Crop staging

V12 to silk browning

Diseases controlled[3]

Common rust *(Puccinia sorghi)*
Eyespot *(Aureobasidium zeae)*
Gray leaf spot *(Cercospora zeae-maydis)*
Northern corn leaf blight *(Setosphaeria turcica)*
Tar spot *(Phyllachora maydis)*

Application rate

One case treats 80 acres.

Veltyma	202 ml/ac (500 ml/ha)

Water volume

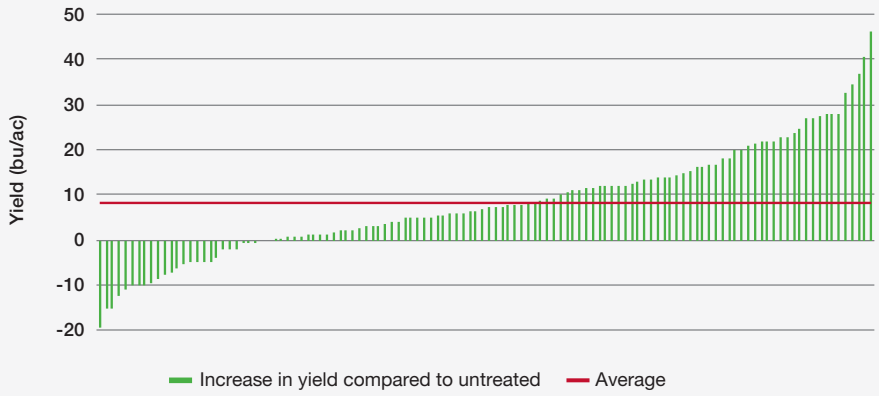
Ground application
80 L/ac (20 gal/ac)

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

Pre-harvest interval

21 days after application for corn.

Increased yield potential with Veltyma compared to untreated



Source: Grower Applied Strip Trials, ON & QC, 2020-2022, n=120

[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.

Veltyma® DLX

Revysol® Fungicide

For use on: ALL CORN TYPES — YES

Veltyma® DLX fungicide delivers protection against key leaf diseases and ear rots.

- Broad-spectrum management of both key leaf and ear diseases, including fusarium and gibberella ear rots
- Unique properties leading to better management of minor stress, better standability, increased growth efficiency and greener leaves[1]
- Multiple modes of effective action for improved disease control and resistance management
- Reduces deoxynivalenol (DON) contamination to preserve grade quality

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.

Active ingredients	Mefentrifluconazole – Group 3 Pyraclostrobin – Group 11 Metconazole – Group 3
Formulation	Suspension concentrate Liquid
One case contains	4.04 L jug of Veltyma DLX One 8.1 L jug of Veltyma DLX Two

Crop staging
Full silking to silk browning

Diseases controlled
Common rust
(Puccinia sorghi)
Eyespot
(Aureobasidium zeae)
Fusarium ear rot
(Fusarium graminearum)[2]
Gibberella ear rot
(Gibberella zeae)[2]
Grey leaf spot
(Cercospora zeae-maydis)
Northern corn leaf blight
(Setosphaeria turcica)
Tar spot
(Phyllachora maydis)

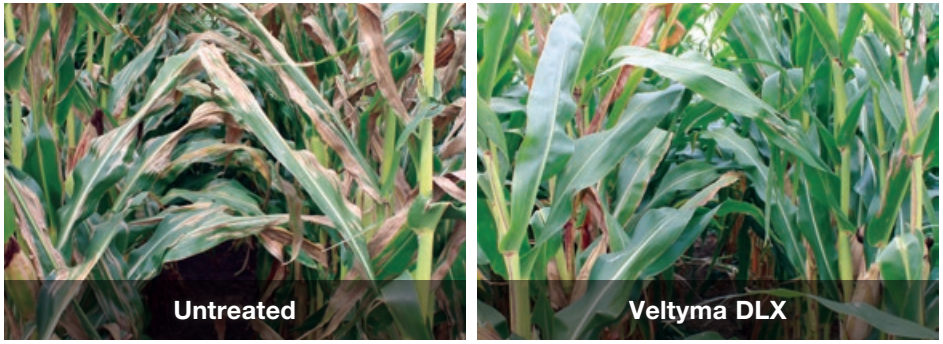
Application rates
One case treats 20 acres.

Veltyma DLX One	202 ml/ac (500 ml/ha)
Veltyma DLX Two	405 ml/ac (1.0 L/ha)

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

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

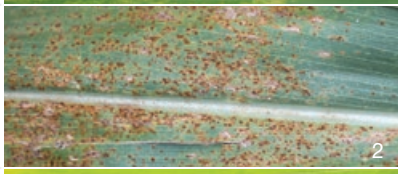
Pre-harvest interval
21 days after application for corn.



Source: BASF Small Plot Trials, Belmont, ON, 2021

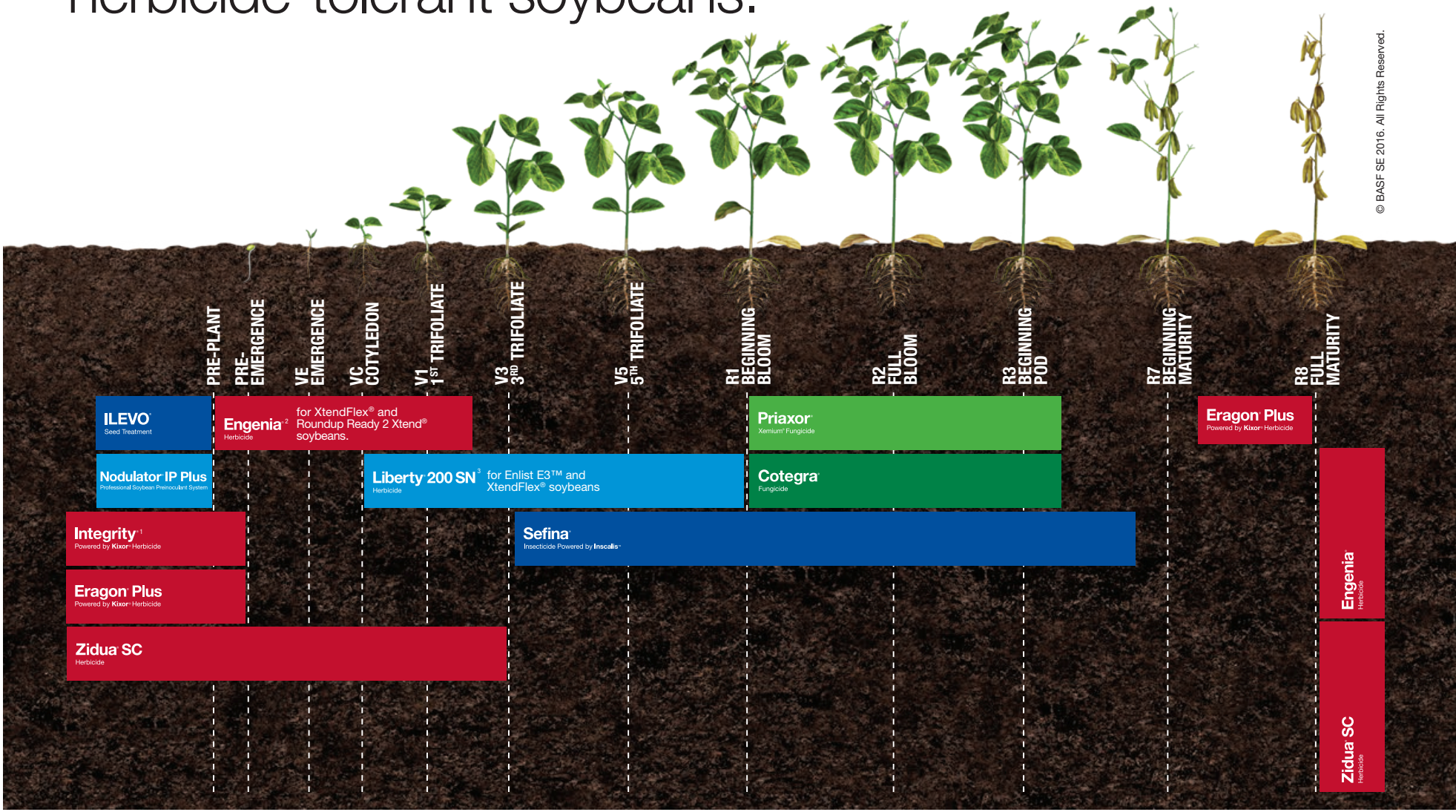
[1] All comparisons are to untreated, unless otherwise stated.
[2] Suppression only.

Identifying corn diseases.

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

[1] Source: Daren Mueller, Iowa State University, Bugwood.org. [2,3,4,5,6,7] Source: BASF.

Solutions for herbicide-tolerant soybeans.

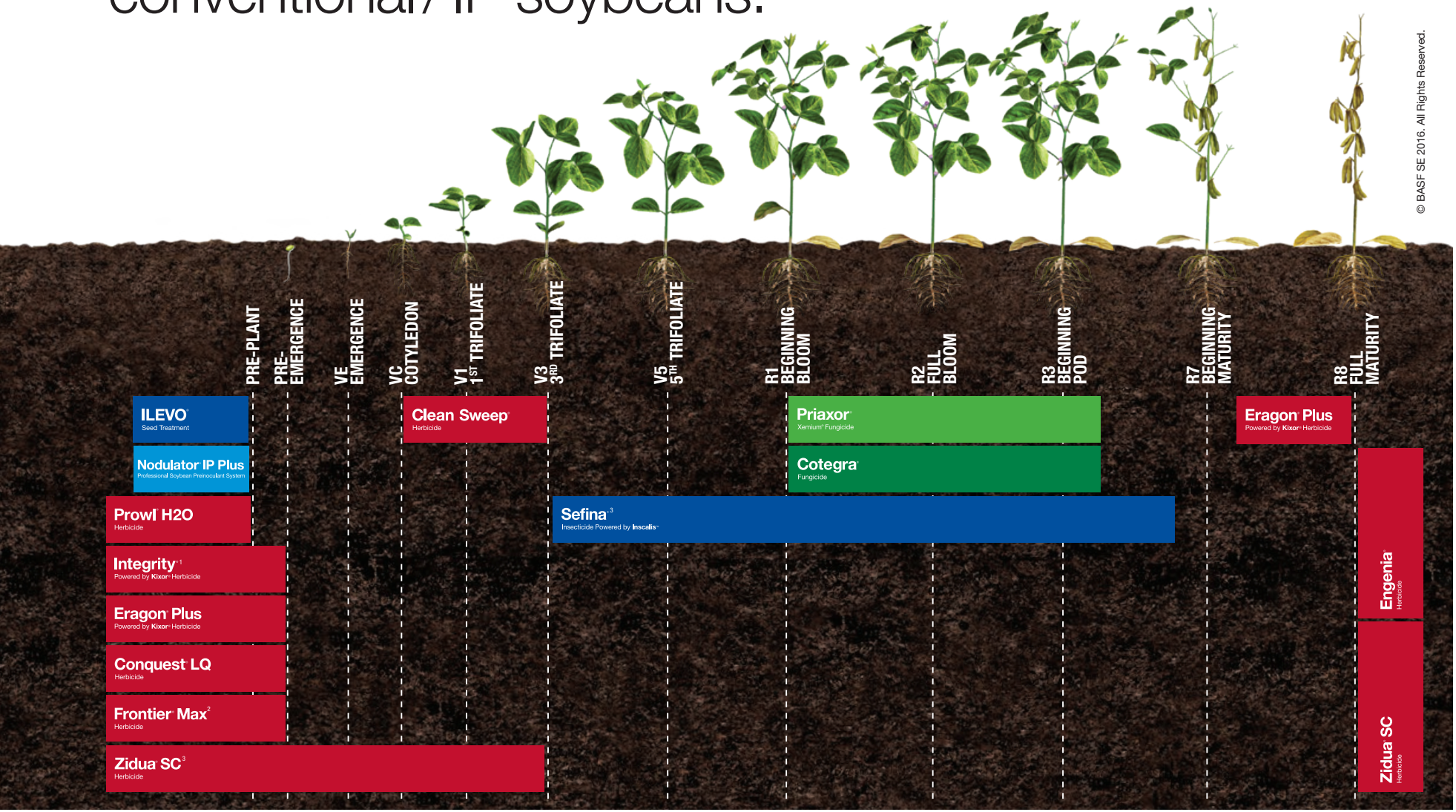


Crop Staging

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] Apply in tank mix with glyphosate and Merge® adjuvant.
[2] Apply by ground ONLY to XtendFlex® and Roundup Ready 2 Xtend® soybeans. Soybean varieties that are not designated as dicamba-tolerant will be damaged or destroyed by this treatment.
[3] Apply by ground ONLY to Liberty®-tolerant soybeans, including Enlist E3™ and XtendFlex® soybeans. Soybean varieties that are not designated as Liberty-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] Apply in tank mix with glyphosate and Merge® adjuvant.
[2] Frontier® Max herbicide can be applied at pre-plant incorporated to pre-emergence.
[3] Talk to your grain buyer regarding maximum residue limits for markets around the world before applying to conventional or IP soybeans.

BASF lead recommendations.

Select the solution that's right for your operation.

CROP ESTABLISHMENT

ILEVO®
Seed Treatment

Nodulator® IP Plus
Professional Soybean Preinoculant System

WEED MANAGEMENT

Roundup Ready 2 Xtend® soybeans

Integrity®
Powered by **Kixor®** Herbicide

OR

Eragon® Plus
Powered by **Kixor®** Herbicide

OR

Zidua® SC
Herbicide

+

Engenia®
Herbicide

XtendFlex® soybeans

Integrity®
Powered by **Kixor®** Herbicide

OR

Eragon® Plus
Powered by **Kixor®** Herbicide

OR

Zidua® SC
Herbicide

+

Engenia®
Herbicide

FOLLOWED BY

Liberty® 200 SN
Herbicide

Enlist E3™ soybeans

Integrity®
Powered by **Kixor®** Herbicide

OR

Eragon® Plus
Powered by **Kixor®** Herbicide

+

Zidua® SC
Herbicide

FOLLOWED BY

Liberty® 200 SN
Herbicide

Conventional/IP soybeans

Frontier® Max
Herbicide

OR

Prowl® H2O
Herbicide

OR

Zidua® SC
Herbicide

Speak to your grain buyer first

+

Conquest® LQ
Herbicide

INSECT MANAGEMENT	DISEASE MANAGEMENT	HARVEST MANAGEMENT	POST-HARVEST
Sefina® Insecticide Powered by **Inscalis**®	**Cotegra**® Fungicide *AND/OR* **Priaxor**® Xemium® Fungicide	**Eragon**® **Plus** Powered by **Kixor**® Herbicide	**Zidua**® **SC** Herbicide *OR* **Engenia**® Herbicide

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

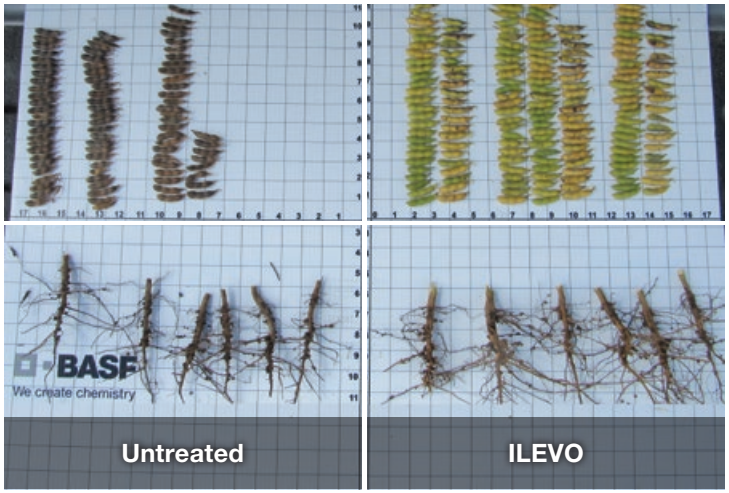
ILEVO®
Seed Treatment

For use on: ALL SOYBEAN PLATFORMS — YES

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 protects against nematodes



Source: Grower Applied Strip Trials, Oregon, WI, USA, 2019

Active ingredient	Fluopyram – Group 7
Formulation	Suspension

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*)

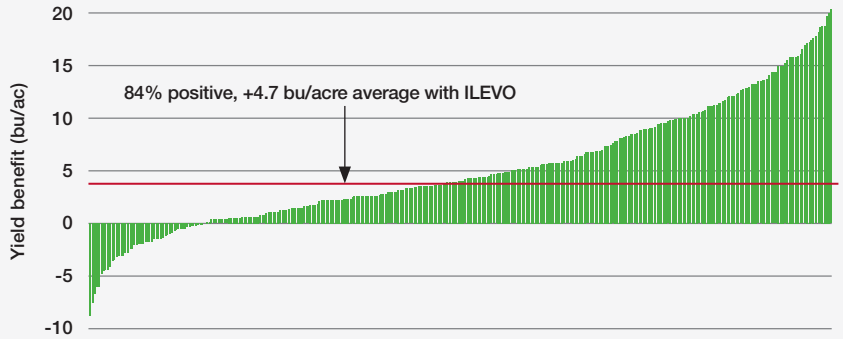
Application rates
One tote treats 19,455 to 64,935 kg of seed. The recommended application rate is 154 ml/100kg of seed.

ILEVO	154 ml/100 kg

Talk to your seed treater about application.

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 potential on soybeans



Source: Grower Applied Strip Trials, USA and Canada, 2011-2016, n=338

Nodulator® IP Plus

Professional Soybean Preinoculant System

For use on: ALL SOYBEAN PLATFORMS — YES

Biostacked® preinoculant system for soybean nodulation and root development.

- Activity by proven *Bradyrhizobium japonicum* and dual strain biofungicide
- New and exclusive to BASF patented bladder technology improves stability and vitality of biologicals
- BASF patented biologicals have impact on root architecture and plant development during key crop establishment timing

Nodulator® IP Plus professional soybean preinoculant system

Bioactive ingredient	*Bradyrhizobium japonicum* (strain 532C)
Formulation	Liquid

Velondis® Plus biofungicide

Bioactive ingredients	*Bacillus amyloliquefaciens* (strain MBI 600) *Bacillus subtilis* (strain BU 1814)
Formulation	Liquid
Package options	
200 SU	3.0 L inoculant bladder 3.0 L conditioner bladder 0.2 L Velondis Plus bottle[1]
400 SU	6.0 L inoculant bladder 6.0 L conditioner bladder 0.4 L Velondis Plus bottle[1]

Crop treatment

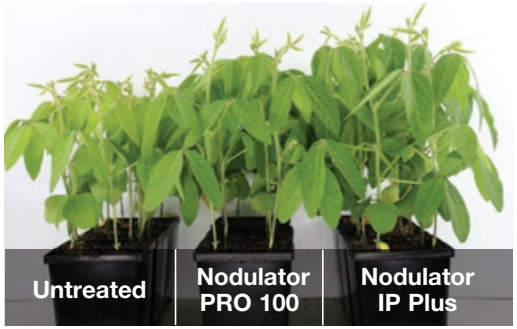
Applied on-seed exclusively by bulk seed treaters

Application rates

One 200 SU case of Nodulator IP Plus will treat 4,536 kg (10,000 lbs) of seed.
One 400 SU case of Nodulator IP Plus will treat 9,072 kg (20,000 lbs) of seed.

	Rate per 100 kg seed
Nodulator IP Plus (inoculant + conditioner)	130 ml[2]
Velondis Plus	4.4 ml

Improved nitrogen fixation

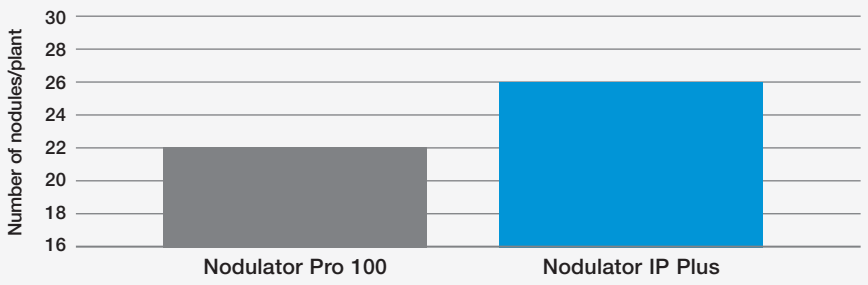


Source: BASF Greenhouse Trial, SK, 2022

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] Packaged separately.
[2] Please refer to the product label for application rates without pesticides, as 134.4 ml/100 kg is not sufficient for even seed coverage and requires additional liquid volume (water and/or pesticide).

Improved nodule formation



Source: Grower Applied Strip Trials, MB, 2018, n=6

Eragon® Plus

Powered by **Kixor®** Herbicide

PRE-PLANT/PRE-EMERGENCE

For use on: ALL SOYBEAN PLATFORMS — YES

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

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

Source: University of Guelph Small Plot Trials, Ridgetown, ON, 2020, 4 weeks after application

Active ingredient	Saflufenacil – Group 14
Formulation	Water-based suspension concentrate
One case contains	1 x 1.182 L jug of Eragon LQ herbicide 2 x 8.1 L jugs of Merge® adjuvant Also available as a tote: 4 x 7.39 L jugs of Eragon LQ 1 x 405 L jug of Merge

Crop staging
Pre-plant, pre-emergence

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

Application rates
One case treats 40 acres.
One tote treats 1,000 acres.

Eragon LQ	30 ml/ac (73 ml/ha)[6]
Merge	400 ml/ac (1.0 L/ha)
Glyphosate[7]	See label for rate

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)

[1] Controlled with a tank mix of Eragon Plus 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) is not included in the case. See respective glyphosate label for application rate of glyphosate. Use liquid glyphosate formulations in which glyphosate is present as isopropylamine salt, diammonium salt or potassium salt. [8] Use a higher water volume for larger weeds or when weed densities are high.

Integrity®

Powered by **Kixor®** Herbicide

For use on: ALL SOYBEAN PLATFORMS — YES

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

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

On glyphosate-resistant Canada fleabane.
Source: University of Guelph Small Plot Trials, Ridgetown, ON, 2020

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

Crop staging
Pre-plant[1], pre-emergence[1]

Weeds controlled
Broadleaf weeds
Broadleaf plantain, Canada fleabane[2], Common ragweed[2], Dandelion[3], Giant ragweed[2], Lady's thumb, Lamb's quarters, Palmer amaranth, Perennial sow thistle[4], Prickly lettuce[5], Redroot pigweed, Shepherd's-purse, Stinkweed, Waterhemp, Wild buckwheat, Wild mustard

Grasses
Barnyard grass[6], Crabgrass (large)[6], Foxtail (green, yellow)[6]

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

Integrity[7]	150 ml/ac (370 ml/ha)
Merge[8]	400 ml/ac (1.0 L/ha)
Glyphosate[8]	See label for rate

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

Pre-harvest interval
60 days after application for soybeans.

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

TECH TIP

Use multiple modes of effective action. If targeting larger glyphosate-resistant Canada fleabane, use 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.

Zidua® SC

Herbicide

For use on:

CONVENTIONAL/ IP SOYBEANS	ALL OTHER SOYBEAN PLATFORMS
TALK TO GRAIN BUYER[1]	YES

Residual control of key annual grasses and select broadleaf weeds.

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

Source: BASF Small Plot Trials, ON, 2017

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

Crop staging

Pre-plant[2], pre-emergence, early post-emergence up to 3rd trifoliate

Weeds controlled

Broadleaf weeds

Cleavers[3,4], Common chickweed[3], Eastern black nightshade[3,4], Kochia[3,4], Lamb's quarters[3], Palmer amaranth, Redroot pigweed, Shepherd's-purse[3], Waterhemp, Wild buckwheat[3]

Grasses

Barnyard grass, Crabgrass (large), Downy brome[3], Foxtail (giant, green, yellow), Japanese brome[3], Ryegrass (Italian), Wild oats[3]

Application rates

One case treats 41 to 111 acres, depending on soil texture.

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

Water volume

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

Follow crops

4 months following application:

Winter wheat

Following spring after application:

Chickpeas, field corn, field peas, flax, lentils, potatoes, soybeans, spring wheat[5], sunflowers[5]

[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] Early-season residual suppression only when the application rate is 120 to 180 ml/ha. [4] Including biotypes resistant to Group 2 chemistries. [5] This applies if total seasonal rate of Zidua SC was 120 to 240 ml/ha.

Planning your soybean herbicide program.

Soybean varieties can contain different traits that allow them to tolerate different herbicides. Below is a breakdown of what is available in the market today as well as some general guidelines for each of them. The bottom chart describes when to use our different products to help you round out your herbicide program.

Trait	Roundup Ready®	Roundup Ready 2 Xtend®	XtendFlex®	Enlist E3™
Herbicide tolerance	Glyphosate	Glyphosate Dicamba	Glyphosate Dicamba Glufosinate	Glyphosate Glufosinate 2,4-D
BASF multiple mode of action program recommendation	Tank mix Zidua® SC herbicide with a Kixor® product pre-plant or pre-emergence followed by glyphosate	Tank mix Engenia® herbicide with a Kixor product or Zidua SC pre-plant or pre-emergence followed by Engenia (low rate) in-crop up to the second trifoliate (if necessary)	Tank mix Engenia with a Kixor product or Zidua SC pre-plant or pre-emergence followed by an in-crop application of Liberty® 200 SN herbicide before the start of flowering	Tank mix Zidua SC with a Kixor product pre-plant or pre-emergence followed by an in-crop application of Liberty 200 SN before the start of flowering
More information		**Click here** for Engenia best practices	**Click here** for Liberty 200 SN best practices	

Choosing your best herbicide tank-mix option.

	Eragon® Plus herbicide	Integrity® herbicide[1]	Zidua SC
Group(s)	14	14, 15	15
Staging	← Pre-plant, pre-emergence →		← Pre-plant, pre-emergence, post-emergence →
Rate	30 ml/ac	150 ml/ac	101 ml/ac
Water volume	← 10-20 gal/ac →		
Effects	• Adds an additional mode of effective action on broadleaf weeds (including resistant biotypes)	• Adds two additional modes of effective action on broadleaf weeds (including resistant biotypes) • Short-term residual activity • Flexible application options	• Adds an additional mode of effective action • Extended residual activity on key grasses and select broadleaf weeds such as pigweed and waterhemp (including resistant biotypes)

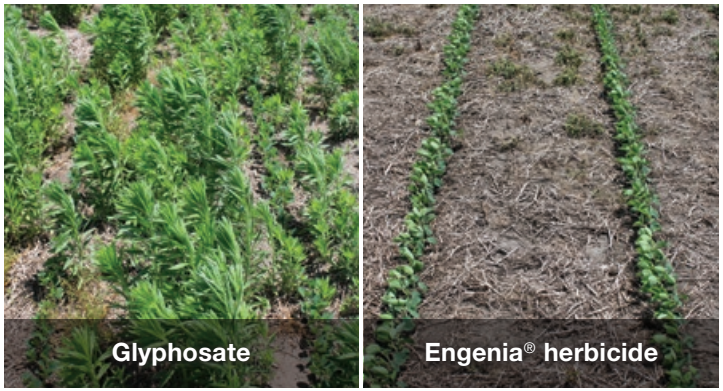
[1] In tank mix with glyphosate and Merge® adjuvant.

Engenia®
Herbicide

For use on:	ROUNDUP READY 2 XTEND® SOYBEANS	XTENDFLEX® SOYBEANS	ALL OTHER SOYBEAN PLATFORMS
	YES	YES	NO

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 resistant biotypes (including biotypes resistant to Group 2, Group 14, triazine and glyphosate)



On glyphosate-resistant Canada fleabane.
Source: University of Guelph Small Plot Trials, Ridgetown, ON, 2020

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

Crop staging[1]
Pre-plant, pre-emergence, early post-emergence

Weeds controlled[2,3]
Buckwheat (tartary, wild), Canada fleabane[4], Canada thistle[5], Cleavers, Common chickweed[6,7], Corn spurry, Cow cockle, Eastern black nightshade[7], Field bindweed[5], Green smartweed, Hairy nightshade[6,8], Kochia[9], Lady's thumb, Lamb's quarters, Mustards (including wild), Narrow-leaved hawk's beard[6,7], Perennial sow thistle[5], Ragweed (common, false, giant), Redroot pigweed, Russian pigweed, Velvetleaf, Volunteer canola[6,10]

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

Engenia[11,12,13,14,15]	200 to 400 ml/ac (0.5 to 1.0 L/ha)

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

Use a higher water volume to ensure adequate coverage.[16]

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.

ROUNDUP READY 2 XTEND SOYBEANS XTENDFLEX SOYBEANS

[1] Apply by ground ONLY to Roundup Ready 2 Xtend® and XtendFlex® soybeans. Soybean varieties that are not designated as dicamba-tolerant will be damaged or destroyed by this treatment. [2] For a complete list of proper weed staging, please refer to the product label. [3] Controlled by Engenia alone at 200 to 400 ml/ac (0.5 to 1.0 L/ha). [4] Post-emergence only. [5] Apply Engenia herbicide annually for three years at the flowering stage of bindweed and the budding stage of thistles. [6] Suppression only. [7] Including biotypes resistant to Group 2 chemistries. [8] When Engenia is applied at 283 to 400 ml/ac (0.7 to 1.0 L/ha). [9] Including biotypes resistant to Group 2 and 9 chemistries. [10] Including conventional, Roundup Ready® and LibertyLink® cultivars, when Engenia is applied at 400 ml/ac (1.0 L/ha). [11] Engenia can be used alone or in tank mix with glyphosate for additional broadleaf and grassy weed control. See label for important details. [12] Only use glyphosate products registered for use in soybeans. Do not tank mix Engenia with glyphosate products where glyphosate is present as an ammonium salt. [13] For application to XtendFlex® and Roundup Ready 2 Xtend® soybeans, apply Engenia using nozzles that deliver extremely coarse to ultra-coarse spray droplets. [14] The 400 ml/ac (1.0 L/ha) rate of Engenia is to be used only once a season and should be used pre-plant, pre-emergence or in-crop early post-emergence. [15] 793 ml/ac (1.96 L/ha) of Engenia is the maximum total to be applied in a single growing season. [16] See label for water application rate.

Weed control is your goal. Stewardship is your priority.

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

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

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 common 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 one hour before sunset.

Learn about temperature inversions here.

Engenia®
Herbicide

Visit **agsolutions.ca/engenia** to learn more and access the Engenia Stewardship learning module.

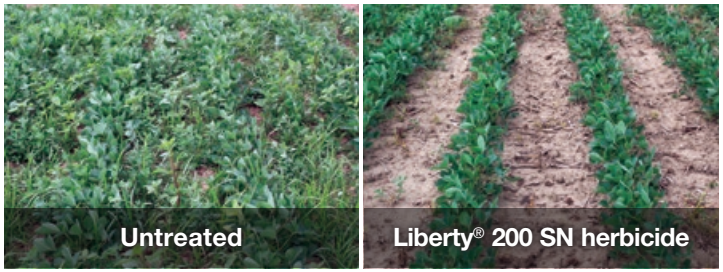
Liberty® 200 SN

Herbicide

For use on:	XTENDFLEX® SOYBEANS	ENLIST E3™ SOYBEANS	ALL OTHER SOYBEAN PLATFORMS
	YES	YES	NO

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



Zidua® SC herbicide applied pre-emergence followed by Liberty 200 SN. Source: BASF Small Plot Trials, London, ON, 2020, 7 days after post-emergence treatment

TECH TIP

Learn more about Liberty 200 SN herbicide best management practices here.

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

Crop staging[1]

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

Weeds controlled

Broadleaf weeds

Canada fleabane[2,3], Canada thistle[4], Chickweed, Cleavers[3,5], Cocklebur, Common ragweed[2], Eastern black nightshade, Field bindweed[4], Giant ragweed[2,5], Green pigweed, Jimsonweed, Kochia[2,3,6], Lady's thumb, Lamb's quarters, Perennial sow thistle, Redroot pigweed, Shepherd's-purse, Stinkweed, Velvetleaf, Volunteer canola[7], Waterhemp[2,8], Wild buckwheat, Wild mustard, Wormseed mustard

Grasses

Barnyard grass, Bristly foxtail, Fall panicum, Giant foxtail, Green foxtail, Large crabgrass, Proso millet, Quackgrass[4,9], Wild oats, Witchgrass, Yellow foxtail

Application rate[10]

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

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

Add ammonium sulfate (AMS) for enhanced activity on tough weeds.[11]

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

[1] Apply by ground ONLY to Liberty-tolerant soybeans, including Enlist E3™ and XtendFlex® soybeans. Soybean varieties that are not designated as Liberty-tolerant will be damaged or destroyed by this treatment. [2] Including glyphosate-resistant biotypes. [3] Including biotypes resistant to Group 2 chemistries. [4] Season-long suppression. [5] Suppression only. [6] Including biotypes resistant to Group 4 chemistries. [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. [9] Add ammonium sulphate to the tank at a rate of 6.0 L/ha (49% solution) or 3.0 kg/ha (99%). [10] See label for use rates on specific weeds and weed stages. [11] See label for specific weeds.

SOYBEANS

Weed Management

Conquest® LQ

Herbicide

For use on: ALL SOYBEAN PLATFORMS — YES

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

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: 2.53 L Pursuit® herbicide 6.88 L Conquest® 480 herbicide

Crop staging
Early pre-plant, pre-emergence

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.

Pursuit	126 to 168 ml/ac (312 to 420 ml/ha)
Conquest 480[3]	348 to 445 ml/ac (0.86 to 1.1 L/ha)

Water volume

Ground application	60 to 120 L/ac (15 to 32 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]

TECH TIP

Ideal tank-mix partner with Eragon® Plus 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] Early pre-plant: medium soils only. Pre-emergence: coarse soils with more than 2% organic matter.
[4] Winter wheat may be grown 100 days after the application of Conquest LQ herbicide.

Frontier® Max

Herbicide

For use on: ALL SOYBEAN PLATFORMS — YES

Reliable control of tough broadleaf and grassy weeds.

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

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

Crop staging

Pre-plant incorporated[1], pre-emergence[1]

Weeds controlled

Broadleaf weeds

Eastern black nightshade[2]
Redroot pigweed[3]
Waterhemp[4]

Grasses

Barnyard grass
Crabgrass (large, smooth)
Fall panicum
Foxtail (giant, green, yellow)
Old witchgrass
Yellow nutsedge[5]

Application rates

One case treats 45 to 60 acres.

Frontier® Max herbicide	305 to 390 ml/ac (756 to 963 ml/ha)[6]

Water volume

Ground application — Minimum 70 L/ac (17 gal/ac)

[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, pre-emergence only (390 ml/ac).
[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

For use on: ALL SOYBEAN PLATFORMS — YES

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

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

Crop staging
Early pre-plant, pre-plant incorporated

Weeds controlled[1]
Barnyard grass
Crabgrass (large, smooth)[2]
Foxtail (green, yellow)
Lamb's quarters[3,4]
Redroot pigweed[4]

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

Prowl® H2O herbicide[1]	890 ml/ac (2.2 L/ha)

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

Pre-harvest interval
100 days after application for soybeans.

Follow crops
1 year after application:
Field corn
Kidney beans
Soybeans
White beans

TECH TIP

If planning to use a vertical tillage implement, apply the herbicide prior to the tillage pass for better weed control.[5]

[1] Applied in tank mix. See label for tank-mix partners. [2] In tank mix with glyphosate. [3] Suppression only. [4] Includes triazine-resistant biotypes. [5] Always read and follow label directions.

Clean Sweep®

Herbicide

For use on: ALL SOYBEAN PLATFORMS — YES

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

20 days after planting.
Source: BASF Small Plot Trials, London, ON, 2011

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

Crop staging
Cotyledon to 3rd trifoliate

Weeds controlled
Broadleaf weeds

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

Grasses

Barnyard grass, Green foxtail, Large crabgrass[4], Old witchgrass[3], Proso millet[4], Yellow foxtail

Application rates
One case treats 20 acres.

Pursuit	126 ml/ac (312 ml/ha)
Basagran Forte	708 ml/ac (1.75 L/ha)
28% UAN[5]	809 ml/ac (2.0 L/ha)

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

Pre-harvest interval
100 days after application for soybeans.

TECH TIP

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

[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.

Match these herbicides with your IP soybeans.

	Conquest® LQ			Prowl® H2O[1]	Frontier® Max
	+ Prowl H2O[1]	+ Frontier Max	+ Zidua® SC[2]	Followed by Clean Sweep®	
Groups	2, 3, 5	2, 5, 15	2, 5, 15	2, 3, 6	2, 6, 15
Staging	PP	PRE	PP, PRE	Prowl H2O: PP Clean Sweep: cotyledon – 3rd trifoliate	Frontier Max: PP[3], PPI or PRE Clean Sweep: cotyledon – 3rd trifoliate
Rate	Conquest LQ: Pursuit® 126 to 168 ml/ac, Conquest 480 348 to 445 ml/ac Prowl H2O: 890 ml/ac	Conquest LQ: Pursuit 126 to 168 ml/ac, Conquest 480 348 to 445 ml/ac Frontier Max: 305 to 390 ml/ac	Conquest LQ: Pursuit 126 to 168 ml/ac, Conquest 480 348 to 445 ml/ac Zidua SC: 101 to 200 ml/ac	Prowl H2O: 890 ml/ac Clean Sweep[4]: Pursuit 126 ml/ac, Basagran® Forte 708 ml/ac	Frontier Max: 305 to 390 ml/ac Clean Sweep[4]: Pursuit 126 ml/ac, Basagran Forte 708 ml/ac
Broadleaf weeds[5]	Common ragweed Eastern black nightshade Lady's thumb Lamb's quarters Redroot pigweed Velvetleaf	Common ragweed Eastern black nightshade Lady's thumb Lamb's quarters Redroot pigweed Velvetleaf	Cleavers[6,7] Common chickweed[7] Common ragweed Eastern black nightshade Kochia[6,7] Lady's thumb Lamb's quarters Palmer amaranth Redroot pigweed Shepherd's-purse[7] Velvetleaf Waterhemp Wild buckwheat[7] Wild mustard	Canada thistle[8] Cocklebur Common ragweed Eastern black nightshade Field bindweed[8] Lady's thumb Lamb's quarters Redroot pigweed Shepherd's-purse Velvetleaf Wild buckwheat	Canada thistle[8] Cocklebur Common ragweed Eastern black nightshade Field bindweed[8] Lady's thumb Lamb's quarters Redroot pigweed Shepherd's-purse Velvetleaf Wild buckwheat
Grasses[5]	Barnyard grass Crabgrass (large) Fall panicum Foxtail (green, yellow)	Barnyard grass Crabgrass (large, smooth) Fall panicum Foxtail (giant, green, yellow) Old witchgrass	Barnyard grass Crabgrass (large) Downy brome[7] Foxtail (giant, green, yellow) Japanese brome[7] Old witchgrass Ryegrass (Italian) Wild oats[7]	Barnyard grass Crabgrass (large, smooth) Foxtail (green, yellow) Old witchgrass Proso millet[8] Yellow nutsedge[8]	Barnyard grass Crabgrass (large, smooth) Fall panicum Foxtail (giant, green, yellow) Old witchgrass Proso millet[8] Yellow nutsedge[8]
Use when	Best for heavy grass pressure including crabgrass, or additional activity on lamb's quarters.	Best for heavy grass or nightshade pressure.	Best for waterhemp pressure. Best for heavy grass pressure including crabgrass, or additional activity on lamb's quarters and eastern black nightshade.	Planned 2-pass program. The soil-applied residual at planting will allow for more uniform weed emergence, which will decrease the selection pressure of the in-crop herbicide and make it easier to time the in-crop herbicide application. Use Prowl H2O on light soils or if there is a lot of grass and lamb's quarters. Apply Clean Sweep 17-24 days after the initial burndown or tillage pass.	Planned 2-pass program. The soil-applied residual at planting will allow for more uniform weed emergence, which will decrease the selection pressure of the in-crop herbicide and make it easier to time the in-crop herbicide application. Frontier Max is strong on nightshade. Apply Clean Sweep 17-24 days after the initial burndown or tillage pass.

[1] In tank mix with glyphosate. [2] Talk to your grain buyer regarding maximum residue limits for markets around the world before applying to conventional or IP soybeans. [3] For minimum, reduced or no-till systems, applied as tank mix. See label for tank-mix partners. [4] The recommended application water volume is 20 to 30 gal/ac for Clean Sweep. [5] For the complete list of weeds controlled and/or suppressed, consult the product labels. [6] Including biotypes resistant to Group 2 chemistries. [7] Early-season residual suppression only. [8] Suppression only.

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

Sefina®

Insecticide Powered by **Inscalis®**

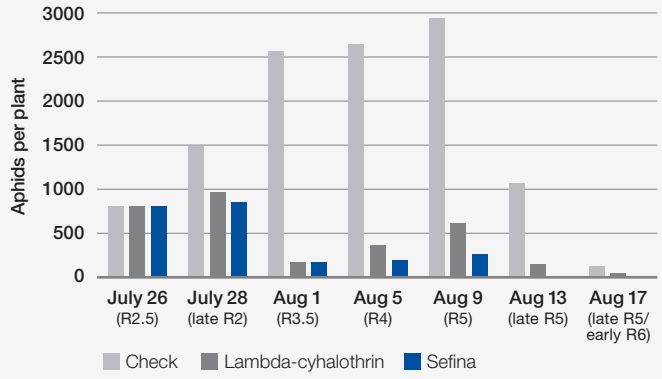
For use on:

CONVENTIONAL/ IP SOYBEANS	ALL OTHER SOYBEAN PLATFORMS
TALK TO GRAIN BUYER[1]	YES

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 when used according to the label

Aphid reduction with Sefina® insecticide



Plots sprayed on July 26. Sefina insecticide was applied at 81 ml/ac.
Source: University of Guelph Small Plot Trials, Winchester Research Station, Winchester, ON, 2022, n=1

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

Crop staging
Emergence to full maturity[2]

Pest controlled
Soybean aphid *(Aphis glycines)*

Application rate[3,4]
One case treats 80 acres.

Sefina	81 ml/ac (200 ml/ha)

Water volume

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

Pre-harvest interval
7 days after application.

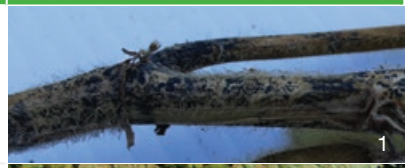
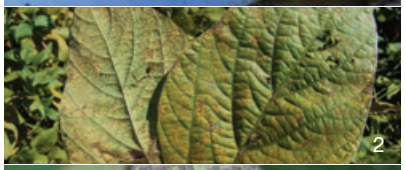
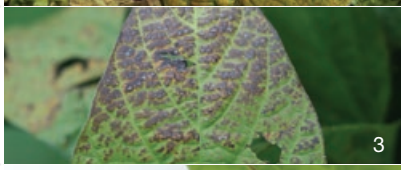
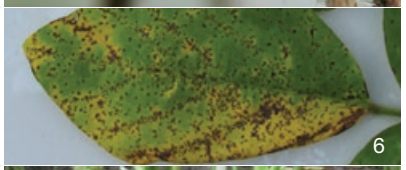
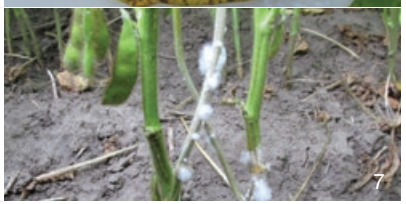
TECH TIP

Use a higher water volume to ensure adequate coverage.

Integrated pest management (IPM) strategies rely on different measures 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.

[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.

Identifying soybean diseases.

Disease	Visual symptoms	Picture
Anthracnose	• Irregular reddish/dark brown to black lesions (blotches) are found on the stems • Foliar symptoms include red/brown discolouration of veins, leaf rolling and premature leaf drop • Petiole infection can make the stem resemble a shepherd's crook • Pods can produce smaller seeds or have missing seeds	 1
Asian soybean rust	• Small gray/yellow water-soaked lesions that become tan/dark brown and increase in size • Symptoms start in the lower canopy before moving to the mid to upper canopy • Lesions are mostly found on the leaves but can also be on the petioles, stems and pods • High lesion density will cause leaves to drop and plants to mature early	 2
Cercospora blight and purple seed stain	• Red to purple lesions; from needle tip size up to 1 cm • Lesions can coalesce to form larger irregular lesions • Symptoms can be found on the midrib, lateral veins, stems, petioles and pods • Develops during senescence	 3
Frog eye leaf spot	• Round lesions that are 1 to 5 mm in diameter; lesions will coalesce over time • The centre of the lesions are usually tan with a brown or dark red margin • Gray spores can be seen on the lesions • Symptoms tend to appear during flowering and pod development	 4
Phomopsis	• Affects the stems, petioles, pods and seeds mostly in the lower part of the plant • Black dots (pycnidia) placed in rows can be seen on parts of the stem • Infected seeds are dull, chalky white and look shriveled • Usually a late-season disease	 5
Septoria brown spot	• Small irregular-shaped dark brown lesions that can coalesce • Lesions are on both sides of the leaves • Progresses from the bottom of the plant to the upper leaves • Infected leaves turn yellow and will drop	 6
White mold	• White to gray/bleached lesions are present on stems, leaves and petioles • Fluffy white mycelium can be found on the lesions under humid temperatures • Lesions are mostly found in the lower half of the canopy • Once the plant is infected, it will start wilting, turn brown and die • Hard, black sclerotia can be found on or in the stem lesions and in infected pods	 7

[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.

Make 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]

White mold risk level	R1 – Early flower	R2 – Full flower	R2.5	R3 – Early to mid-pod	R4 – Full pod
Low[2]		**Priaxor®** Xemium® Fungicide 180 ml/ac (450 ml/ha)			
Moderate		**Priaxor®** Xemium® Fungicide 180 ml/ac (450 ml/ha) → 10 – 14 days →		**Cotegra®** Fungicide (if needed) 280 ml/ac (700 ml/ha)	
High[3]		**Cotegra®** Fungicide 280 ml/ac (700 ml/ha) → 10 – 14 days →		**Priaxor®** Xemium® Fungicide 180 ml/ac (450 ml/ha)	

[1] Yang, Lundeen and Uphoff, 1999.

[2] Low risk is defined by the following factors: below average moisture, no-till and tolerant varieties.

[3] High risk is defined by the following factors: above-average moisture, moderate temperatures, field history, tight crop rotations, manure, tillage, high plant population, narrow row spacing and susceptible varieties.

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

For use on: ALL SOYBEAN PLATFORMS — YES

Proven and consistent. A more advanced fungicide that enhances your soybean yield potential.[1]

- More consistent[2] and continuous control of diseases including frog eye leaf spot and septoria brown spot
- Proven **Plant Health Benefits**[3] including increased seed weight[1]
- Multiple modes of action for increased performance and reduced risk for the onset of fungicide resistance

Source: Grower Applied Strip Trials, ON, 2013

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

Crop staging[4]
Early flower to mid-pod development (R1 to R3)

Diseases controlled
Asian soybean rust *(Phakopsora pachyrhizi)*

Frog eye leaf spot *(Cercospora sojina)*

Septoria brown spot *(Septoria glycines)*

White mold *(Sclerotinia sclerotiorum)*[5]

Application rates
One case treats 107 to 160 acres.

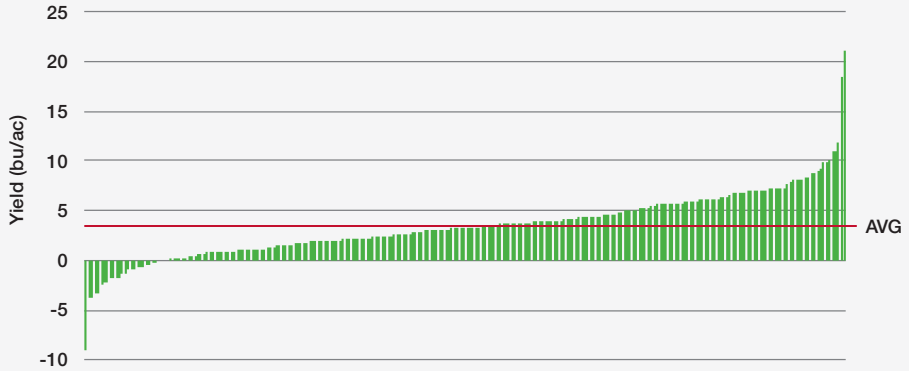
Priaxor[5]	120 to 180 ml/ac (300 to 450 ml/ha)

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.

Increased soybean yield potential with Priaxor compared to untreated



Source: Grower Applied Strip Trials, ON & QC, 2013-2019, n=252

[1] All comparisons are to untreated, unless otherwise stated. [2] Compared to competitor products. Source: BASF Small Plot Trials, ON & QC, 2013-2018, n=16. [3] **Plant Health Benefits** refer to products that contain the active ingredient pyraclostrobin. [4] While Priaxor can be applied at earlier growth stages, research suggests the stated timing provides optimal **Plant Health Benefits**. [5] Apply Priaxor fungicide at 180 ml/ac for suppression of sclerotinia stem rot. [6] BASF recommends using a higher water volume to ensure adequate coverage and better activity on leaf diseases.

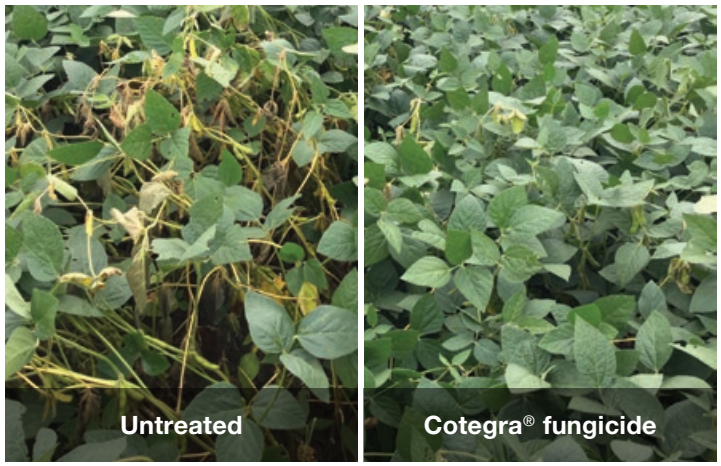
Cotegra®

Fungicide

For use on: ALL SOYBEAN PLATFORMS — YES

The standard for sclerotinia management.

- Combines two leading active ingredients in a convenient liquid premix
- Provides control of pod and stem blight
- Offers significant yield potential improvements



Source: Grower Applied Strip Trials, Ripley, ON, 2017

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

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

Diseases controlled
Asian soybean rust (*Phakopsora pachyrhizi*)

Frog eye leaf spot (*Cercospora sojina*)

Pod and stem blight *(Diaporthe phaseolorum)*

Septoria brown spot (*Septoria glycines*)[1]

White mold (*Sclerotinia sclerotiorum*)[1]

Application rate
One case treats 70 acres.

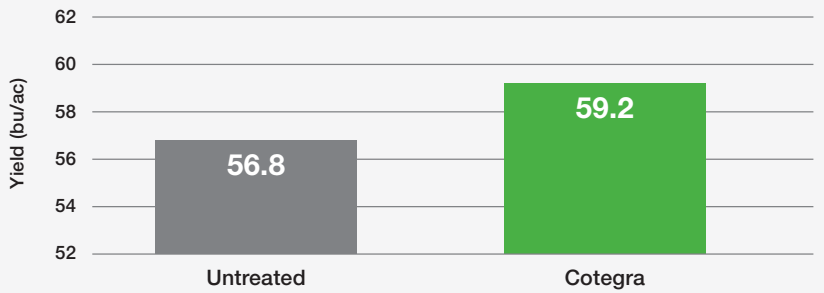
Cotegra	280 ml/ac (700 ml/ha)

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 potential with Cotegra fungicide



Source: Grower Applied Strip Trials, ON & QC, 2015-2019, n=59

[1] Suppression only.

Eragon® Plus

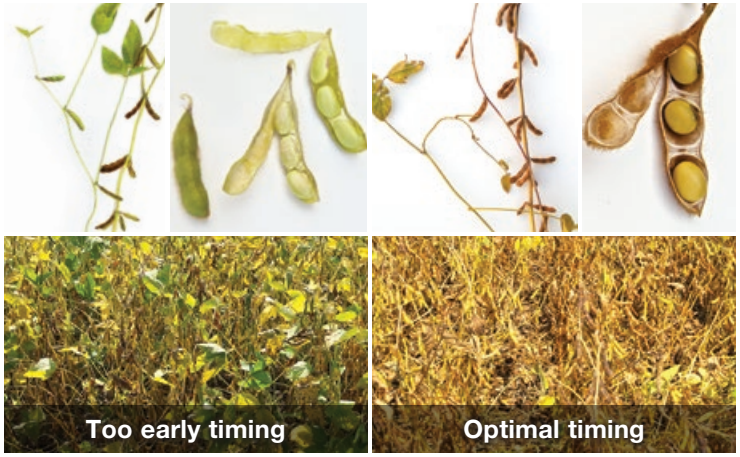
Powered by **Kixor®** Herbicide

PRE-HARVEST

For use on: ALL SOYBEAN PLATFORMS — YES

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

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



Active ingredient	Saflufenacil – Group 14
Formulation	Water-based suspension concentrate
One case contains	1 x 1.182 L jug of Eragon® LQ herbicide 2 x 8.1 L jugs of Merge® adjuvant Also available as a tote: 4 x 7.39 L jugs of Eragon LQ 1 x 405 L jug of Merge

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 gray in some varieties. At this point, 80% of leaves should have dropped with the remaining leaves being yellow.

TECH TIP

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

- ***Use 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***

Application rates

One case treats 20 to 40 acres.
One tote treats 500 to 1,000 acres.

Eragon LQ[1]	30 to 59 ml/ac (73 to 146 ml/ha)
Merge	400 to 800 ml/ac (1.0 to 2.0 L/ha)
Glyphosate[2] **(360 g/L equivalent)**	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	800 ml/ac (2.0 L/ha)

Water volume

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

Pre-harvest interval

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

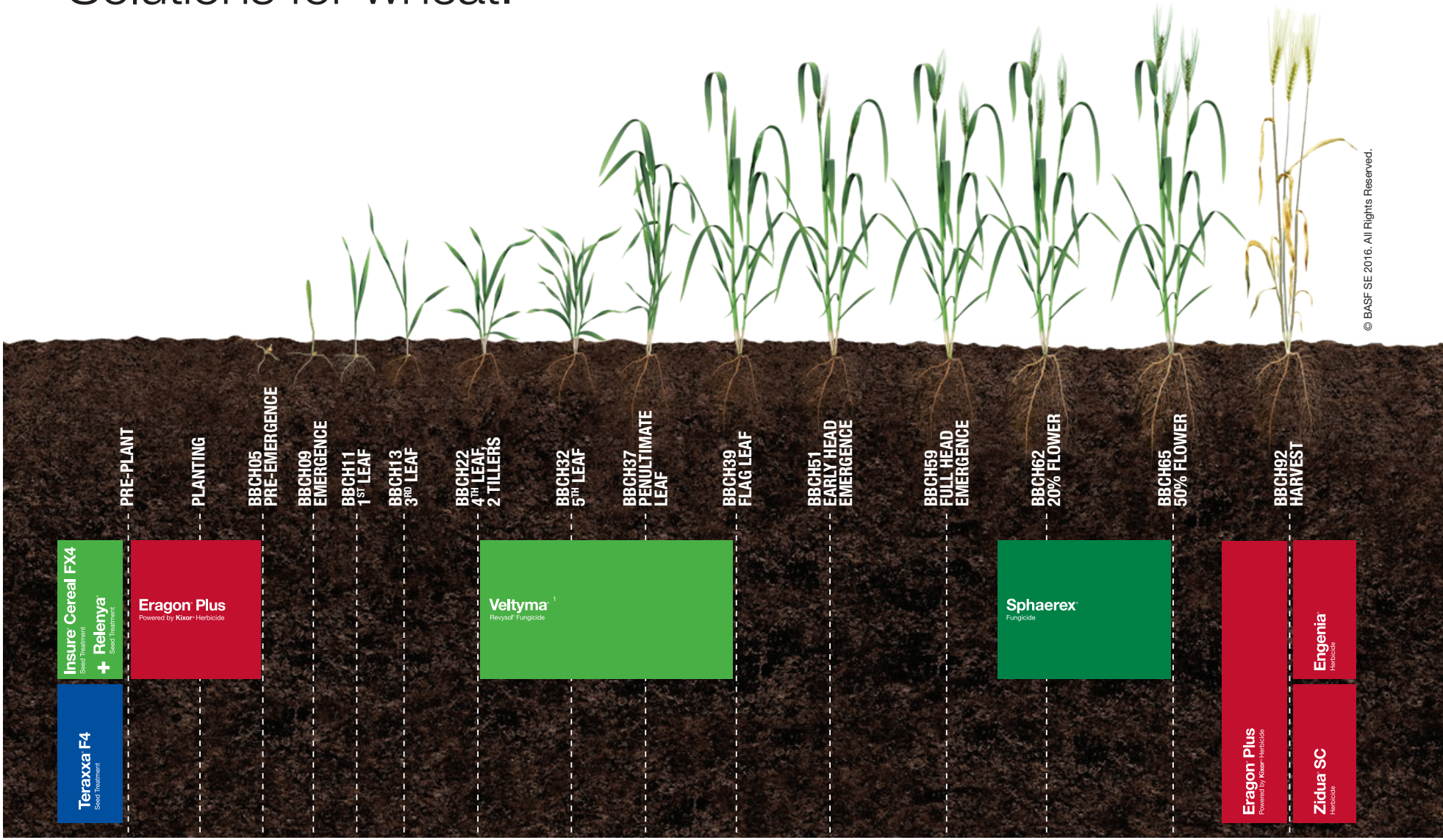
[1] Use higher rate for heavier weed pressure or if glyphosate-resistant weeds are present.
[2] Glyphosate is not included in the case.

Access the Eragon Plus staging guide at **agsolutions.ca/eragon-guide.**

SOYBEANS

Harvest Management

Solutions for wheat.



Crop Staging

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] 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.

CROP ESTABLISHMENT

Insure® Cereal FX4
Seed Treatment +

Relenya®
Seed Treatment

OR

Teraxxa® F4
Seed Treatment

WEED MANAGEMENT

Eragon® Plus
Powered by **Kixor®** Herbicide

DISEASE MANAGEMENT

Veltyma®
Revysol® Fungicide

FOLLOWED BY

Sphaerex®
Fungicide

HARVEST MANAGEMENT

Eragon® Plus
Powered by **Kixor®** Herbicide

POST-HARVEST

Zidua® SC
Herbicide

OR

Engenia®
Herbicide

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

Insure® Cereal FX4 + Relenya®

Seed Treatment | Seed Treatment

Combining Insure® Cereal FX4 with Relenya® seed treatment for enhanced yield potential and broad-spectrum disease protection on wheat.

Insure Cereal FX4

- Four modes of effective action, including three active ingredients targeting fusarium
- **Plant Health Benefits**[1] offer greater germination for improved emergence and enhanced seedling vigour, including better management of minor stress[2]

Relenya

- Designed to perform with cutting-edge Revysol® technology that binds to pathogens
- Partners with Insure Cereal FX4 to add protection against dwarf bunt and boost protection under fusarium pressure

Insure Cereal FX4	
Active ingredients	Triticonazole – Group 3 Metalaxyl – Group 4 Fluxapyroxad – Group 7 Pyraclostrobin – Group 11
Formulation	Water-based suspension
Packaging contains	120 L drum

Relenya	
Active ingredient	Mefentrifluconazole – Group 3
Formulation	Water-based suspension
One case contains	4 x 5 L jugs

Crop treatment
Insure Cereal FX4 and Relenya:
Standard slurry, gravity flow or mist-type seed treatment

Diseases controlled with Insure Cereal FX4

In wheat.
Seed rot and damping off (pre-emergent) caused by *Fusarium* spp., *Rhizoctonia solani, Cochliobolus sativus* and *Pythium* spp.

Damping off (post-emergent), seedling blight and root rot caused by *Fusarium* spp., *Rhizoctonia solani* and *Pythium* spp.

Loose smut (*Ustilago tritici*) and common bunt (*Tilletia tritici, T. lavies*)

Diseases controlled with Relenya

In wheat.

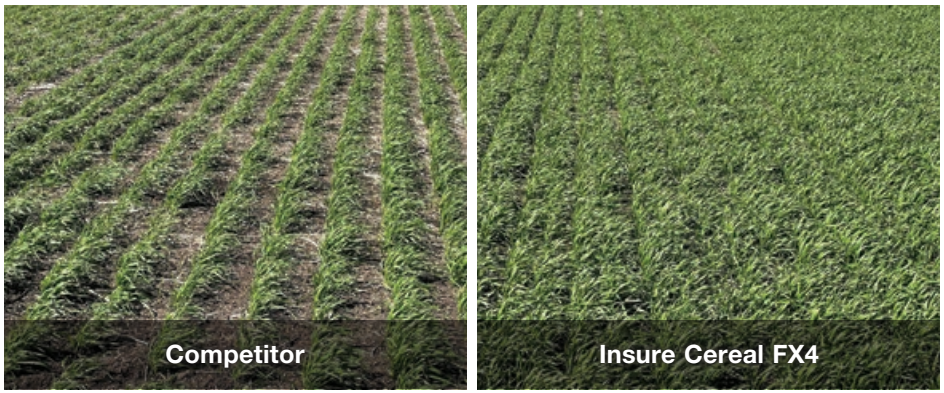
Seed rot, damping off (pre- and post-emergent) and seedling blight caused by *Fusarium* spp.

Dwarf bunt caused by *Tilletia controversa*

Application rates

Insure Cereal FX4	300 ml/100 kg seed
Relenya	12.5 ml/100 kg seed

Increased emergence in wheat



Source: Grower Applied Strip Trials, Cut Knife, SK, 2021

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

Teraxxa® F4

Seed Treatment

The proven solution for wireworm control in cereals.

- Novel insecticide mode of action that is the proven standard for wireworm control in cereals
- Rapidly eliminates wireworms upon contact and reduces resident populations in season for true control
- Includes four fungicide active ingredients for effective broad-spectrum protection against key seed- and soil-borne diseases, including fusarium
- Optimized formulation for reduced viscosity and improved usability

Insecticide active ingredient	Broflanilide – Group 30
Fungicide active ingredients	Triticonazole – Group 3 Metalaxyl – Group 4 Fluxapyroxad – Group 7 Pyraclostrobin – Group 11
Formulation	Water-based suspension
One case contains	2 x 9.8 L jugs Also available in 120 L drum

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

Pest controlled
Wireworms

Diseases controlled

In barley, oats, rye, triticale and wheat.
Seed rot, damping off (pre- and post-emergent)[1], seedling blight[2], root rot[2], crown rot[3] and foot rot[3] caused by *Cochliobolus sativus, Fusarium* spp., *Pythium* spp. and *Rhizoctonia solani*

In barley.
Covered smut *(Ustilago hordei)*, false loose smut *(U. nigra)* and true loose smut *(U. nuda)*

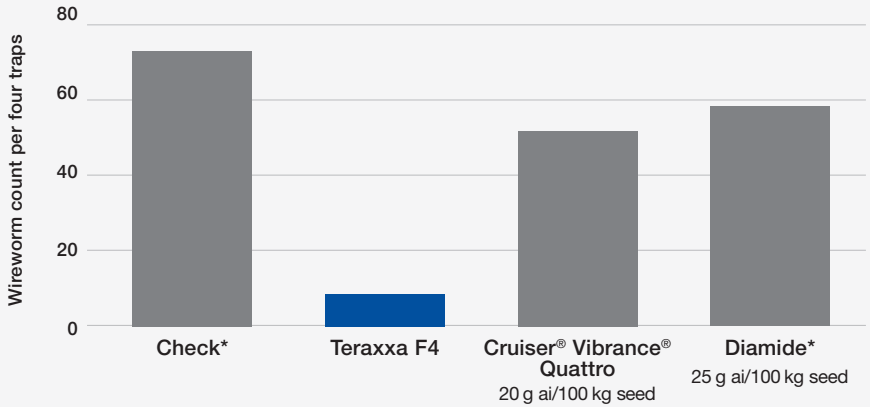
In oats.
Covered smut *(U. kolleri)* and loose smut *(U. avenae)*

In rye, triticale and wheat.
Common bunt *(Tilletia tritici, T. lavies)* and loose smut *(U. tritici)*

Application rate

Teraxxa® F4 seed treatment	300 ml/100 kg seed

Reduced wireworm populations



* Mixed with Insure® Cereal FX4 seed treatment at 300 ml/100 kg rate.
Source: BASF Small Plot Trials, Agassiz, BC, 2019, n=1

[1] Except in *Cochliobolus sativus* (pre-emergent only). [2] Suppression only when caused by *Cochliobolus sativus*.
[3] Only applies to *Fusarium* spp.; suppression only.

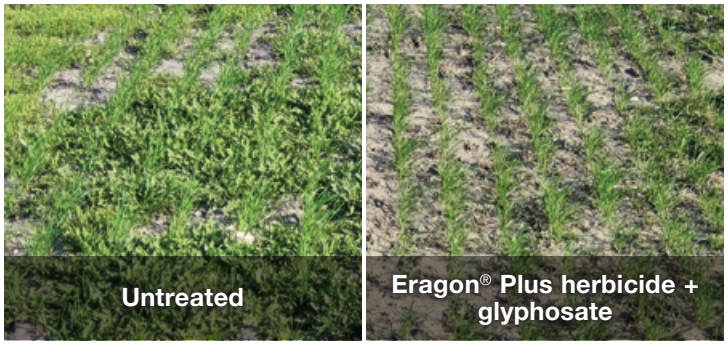
Eragon® Plus

Powered by **Kixor®** Herbicide

PRE-PLANT/PRE-EMERGENCE

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 potential
- Complements and improves the efficacy of your glyphosate application while providing an additional mode of effective action for resistance management
- Use as a fall application for winter wheat or as a spring application for spring cereals



Source: Grower Applied Strip Trials, Maryhill, ON, 2012

Active ingredient	Saflufenacil – Group 14
Formulation	Water-based suspension concentrate
One case contains	1 x 1.182 L jug of Eragon LQ herbicide 2 x 8.1 L jugs of Merge® adjuvant Also available as a tote: 4 x 7.39 L jugs of Eragon LQ 1 x 405 L jug of Merge

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

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

TECH TIP

Eragon Plus can help you achieve a clean start in the fall, which may 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.

Application rates[6]
One case treats 20 acres.
One tote treats 500 acres.

Eragon LQ	59 ml/ac (146 ml/ha)
Merge	400 ml/ac (1.0 L/ha)
Glyphosate[7]	See label for rate

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 the next season after spring pre-plant/pre-emergent application:
Barley, canola, corn (field, sweet), dry beans, oats, soybeans, triticale, wheat (durum, spring, winter)
In the next season after fall pre-plant/pre-emergent application:
Barley, canola, corn (field, sweet), oats, soybeans, triticale, wheat (durum, spring, winter)

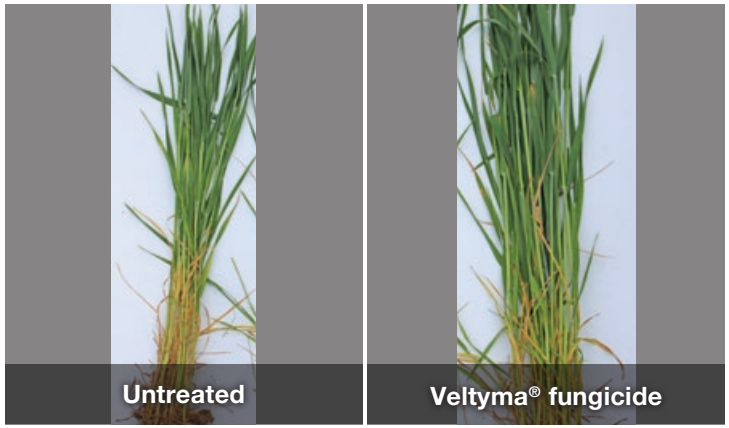
[1] Controlled with a tank mix of Eragon Plus and glyphosate for pre-plant and pre-emergent applications. [2] Includes glyphosate-resistant biotypes. [3] Suppression only. [4] Top growth burndown control only. [5] Top growth only. [6] See label for use rates on specific weeds and weed stages. [7] Glyphosate (required for optimum activity) is 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.

Veltyma®

Revysol® Fungicide

An 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 Benefits**[1] for increased growth efficiency, better management of minor stress and greater yield potential[2]
- Delivers preventative and post-infection activity



Source: BASF Small Plot Trials, Maryhill, ON, 2021

Active ingredients	Mefentrifluconazole – Group 3 Pyraclostrobin – Group 11
Formulation	Suspension concentrate
One case contains	2 x 8.1 L jugs

Crop staging

Stem elongation to flag leaf

Diseases controlled[3]

In wheat.

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

TECH TIP

If tank mixing Veltyma + 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***
- ***Be cautious when adding more than two products in the tank***

Application rates

One case treats 80 to 106 acres.

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

Water volume

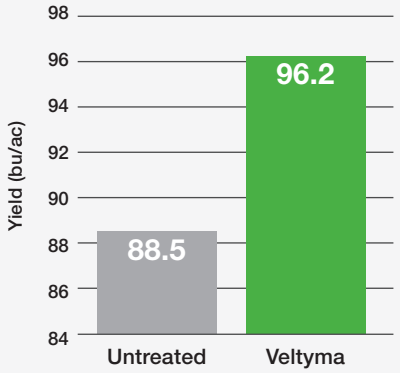
Ground application
Minimum 40 L/ac (10 gal/ac)

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

Pre-harvest interval

21 days after application for wheat.

Yield results with an application at flag-leaf



Source: Grower Applied Strip Trials, ON & QC, 2020-21, n=10

[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.

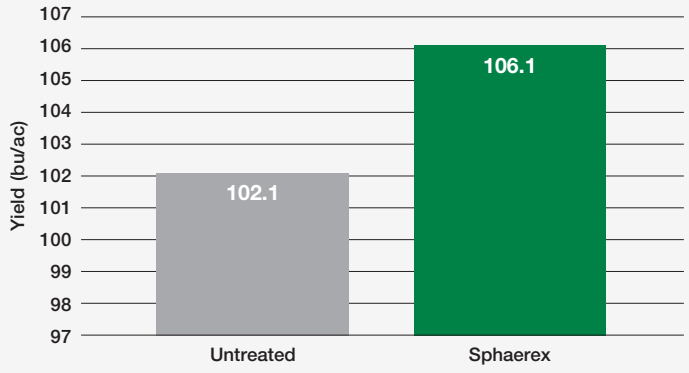
Sphaerex®

Fungicide

Improved cereal head timing fungicide.

- Helps improve yield and protects quality
- Best-in-class fusarium head blight (FHB) efficacy to drive improved quality management
- Provides management of late-season leaf diseases in barley, oats, rye, triticale and wheat

Higher yield potential with Sphaerex® fungicide on winter wheat in Ontario



Source: Grower Applied Strip Trials, ON, 2023, n=5

Active ingredients	Metconazole – Group 3 Prothioconazole – Group 3
Formulation	Emulsifiable concentrate
One case contains	2 x 8.65 L jugs Also available in 138.24 L shuttle

Crop staging

Barley: 75% spike emergence to 3 days after full emergence

Oats: Early panicle to end of flowering

Rye, triticale: Early heading to end of flowering

Wheat (all types): 75% head emergence to end of flowering

Diseases controlled

In barley.

Ergot (*Claviceps purpurea*)[1]
Fusarium head blight (*Fusarium graminearum*)[1,2]
Leaf rust (*Puccinia hordei*)
Net blotch (*Pyrenophora teres*)
Powdery mildew (*Erysiphe graminis*)
Scald (*Rhynchosporium secalis*)
Spot blotch (*Cochliobolus sativus*)[1]
Stripe rust (*Puccinia striiformis*)

In oats.

Crown rust (*Puccinia coronata*)
Ergot (*Claviceps purpurea*)[1]
Fusarium head blight (*Fusarium graminearum*)[1,3]
Stagonospora (septoria) leaf blotch and black stem (*Stagonospora avenae* syn. *Septoria avenae*)

In rye and triticale.

Ergot (*Claviceps purpurea*)[1]
Fusarium head blight (*Fusarium graminearum*)[1,4]
Leaf rust (*Puccinia recondita*)
Powdery mildew (*Erysiphe graminis*)
Stripe rust (*Puccinia striiformis*)

In wheat (all types).

Ergot (*Claviceps purpurea*)[1]
Fusarium head blight (*Fusarium graminearum*)[1,5]
Leaf rust (*Puccinia recondita*)
Powdery mildew (*Erysiphe graminis* f. sp. *tritici*)
Septoria/stagonospora leaf blotch (*Septoria tritici* or *Stagonospora nodorum*)
Spot blotch (*Cochliobolus sativus*)[1]
Stem rust (*Puccinia graminis*)
Stripe rust (*Puccinia striiformis*)
Tan spot (*Pyrenophora tritici-repentis*)

Application rate

One case treats 80 acres.
One shuttle treats 640 acres.

For fusarium head blight

Sphaerex	216 ml/ac (530 ml/ha)

Water volume

Ground application	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, triticale and wheat.

[1] Suppression only. [2] Apply when 75-100% of main stem barley spikes are emerged until 3 days after. [3] Apply at anthesis stage or at early panicle stage when anthers are yellow to white. [4] Apply when at least 75% of mainstem cereal heads are fully emerged until the end of anthesis. [5] Apply preventively, beginning when at least 75% of mainstem wheat heads are fully emerged until anthesis stage (Growth Stage (GS) 61-69), early heading stage when anthers are yellow to white. Optimal timing is at anthesis, or until 50% flower.

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

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

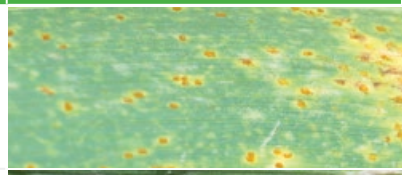
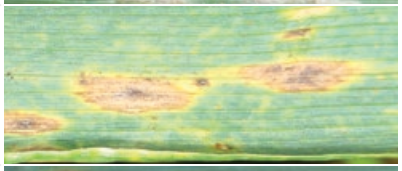
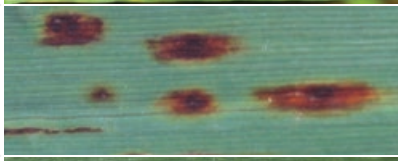
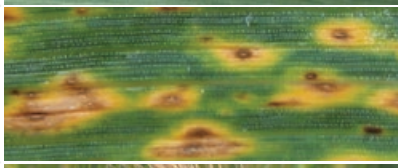
[1] Can vary based on environmental conditions.

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.

Disease	Visual symptoms	Picture
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 • Pustules appear in random scatter distribution • If there are a lot of pustules, the leaves may appear orange	
Powdery mildew	• White grayish mycelium colonies on the upper leaf surface • Over time, the whole plant can be covered by colonies which become grayer with black spots (fruiting bodies) • Leaves that are infected will shrivel	
Septoria leaf spot	• Yellow flecking of the lower leaves at the start • Yellow, gray, 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	
Spot blotch	• 2-4 mm dark brown lesions • Lesions can coalesce when infection is severe • A chlorotic area can form around the lesions	
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	
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	
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	

Source: BASF

Eragon® Plus

Powered by **Kixor®** Herbicide

PRE-HARVEST

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

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

Active ingredient	Saflufenacil – Group 14
Formulation	Water-based suspension concentrate
One case contains	1 x 1.182 L jug of Eragon® LQ herbicide 2 x 8.1 L jugs of Merge® adjuvant Also available as a tote: 4 x 7.39 L jugs of Eragon LQ 1 x 405 L jug of Merge

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 20 to 40 acres. One tote treats 500 to 1,000 acres.

Eragon LQ[1]	30 to 59 ml/ac (73 to 146 ml/ha)
Merge	400 to 800 ml/ac (1.0 to 2.0 L/ha)
Glyphosate[2] **(360 g/L equivalent)**	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	800 ml/ac (2.0 L/ha)

Water volume

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

Pre-harvest interval

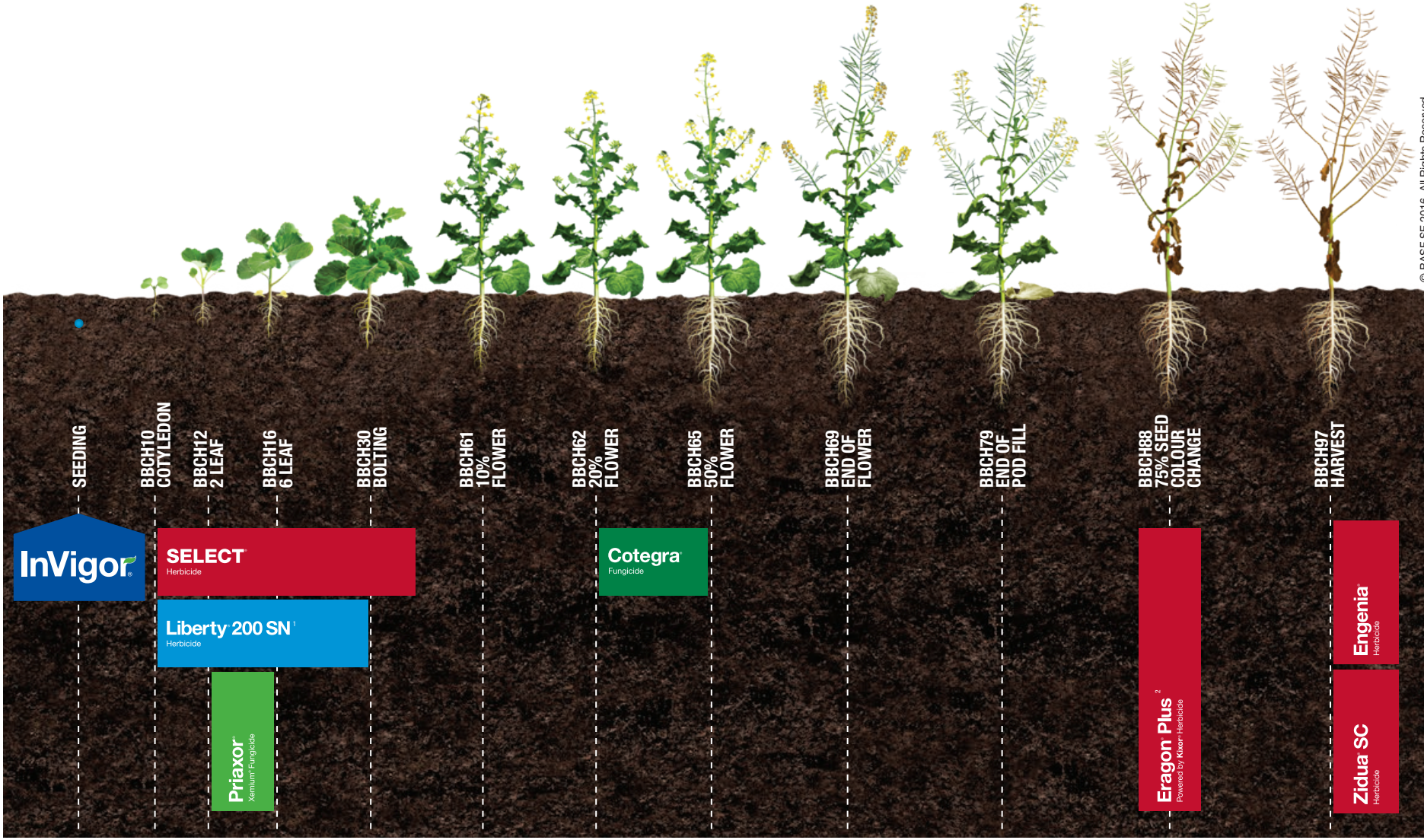
3 days after application of Eragon Plus.
7 days after application if tank mixed with glyphosate.

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.

[1] Use higher rate for heavier weed pressure or if glyphosate-resistant weeds are present.
[2] Glyphosate is 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.

[1] For hybrids tolerant to Liberty® herbicide. [2] Apply when 75% of seeds have changed colour.

BASF lead recommendations.

Select the solution that's right for your operation.

SEED

InVigor®

WEED MANAGEMENT

Liberty® 200 SN
Herbicide

SELECT®
Herbicide

DISEASE MANAGEMENT

Priaxor®
Xemium® Fungicide

FOLLOWED BY

Cotegra®
Fungicide

HARVEST MANAGEMENT

Eragon® Plus
Powered by **Kixor®** Herbicide

POST-HARVEST

Engenia®
Herbicide

OR

Zidua® SC
Herbicide

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

InVigor® | BASF We create chemistry

Canola without compromise.

You don't compromise when it comes to performance. At BASF, we share that same philosophy. See how our lineup of canola solutions take your crop from seeding to harvest seamlessly.

NEW InVigor® L330PC	You asked and we have answered: Introducing InVigor L330PC an early-maturing 300 series InVigor hybrid. With strong yield potential this hybrid is a great fit for those looking for an earlier-maturing hybrid. Coupled with our patented Pod Shatter Reduction technology, first-generation clubroot resistance, strong standability, and the yield potential to exceed InVigor L233P all make InVigor L330PC a strong performer across all growing zones.	**108% of the checks (InVigor L255PC and Pioneer® 45H33), BASF internal trials, 2022 & 2023, n=46** **101.4% of InVigor L340PC, BASF internal trials, 2023, n=33** **105.7% of InVigor L233P, BASF internal trials, 2023, n=33**
InVigor® L350PC	Looking for a high-yielding hybrid that thrives in the mid to long growing zones? InVigor L350PC features high yield potential, strong standability, first-generation clubroot resistance and our patented Pod Shatter Reduction technology. It is a great fit for growers when lodging is a concern.	**115.6% of the checks (InVigor L255PC and Pioneer® 45H33), BASF internal trials, 2020 & 2021** **108.9% of InVigor L340PC, 2021, n=22** **114.3% of InVigor L233P, 2020 & 2021, n=36**
InVigor® L343PC	InVigor L343PC is our top choice for second-generation clubroot-resistant LibertyLink® canola hybrids. It's a great fit for growers that require an extra layer of clubroot protection. We recommend growing InVigor L343PC with second-generation clubroot resistance in clubroot-affected areas after two cycles of growing first-generation clubroot-resistant hybrids or when clubroot symptoms are noticed in first-generation clubroot-resistant hybrids.	**111.3% of the checks (InVigor L233P and Pioneer® 45H33), WCC/RRC[1] trials, 2019 & 2020** **106% of InVigor L233P, 2019 & 2020, n=43**
InVigor® L340PC	As Canada's most grown canola hybrid over the last three years, InVigor L340PC excels across all growing zones. It has it all – high yield potential, Pod Shatter Reduction first-generation clubroot resistance and strong standability. It is a great fit for growers when lodging is a concern.	**108.9% of the checks (InVigor L233P and Pioneer® 45H33), WCC/RRC[1] trials, 2019** **107.8% of InVigor L233P, 2019, n=16**

[1] Western Canadian Canola/Rapeseed Recommending Committee.
Please note: All growers must sign a Liberty & Trait Agreement (LTA) prior to their first purchase of InVigor hybrid canola. For more information visit **agsolutions.ca/LTA**.

Seed

BASF solutions for canola.

MATURITY

NEW InVigor L330PC | InVigor L340PC | InVigor L343PC | InVigor L350PC

EARLY | EARLY TO MID | MID TO LATER

STANDABILITY

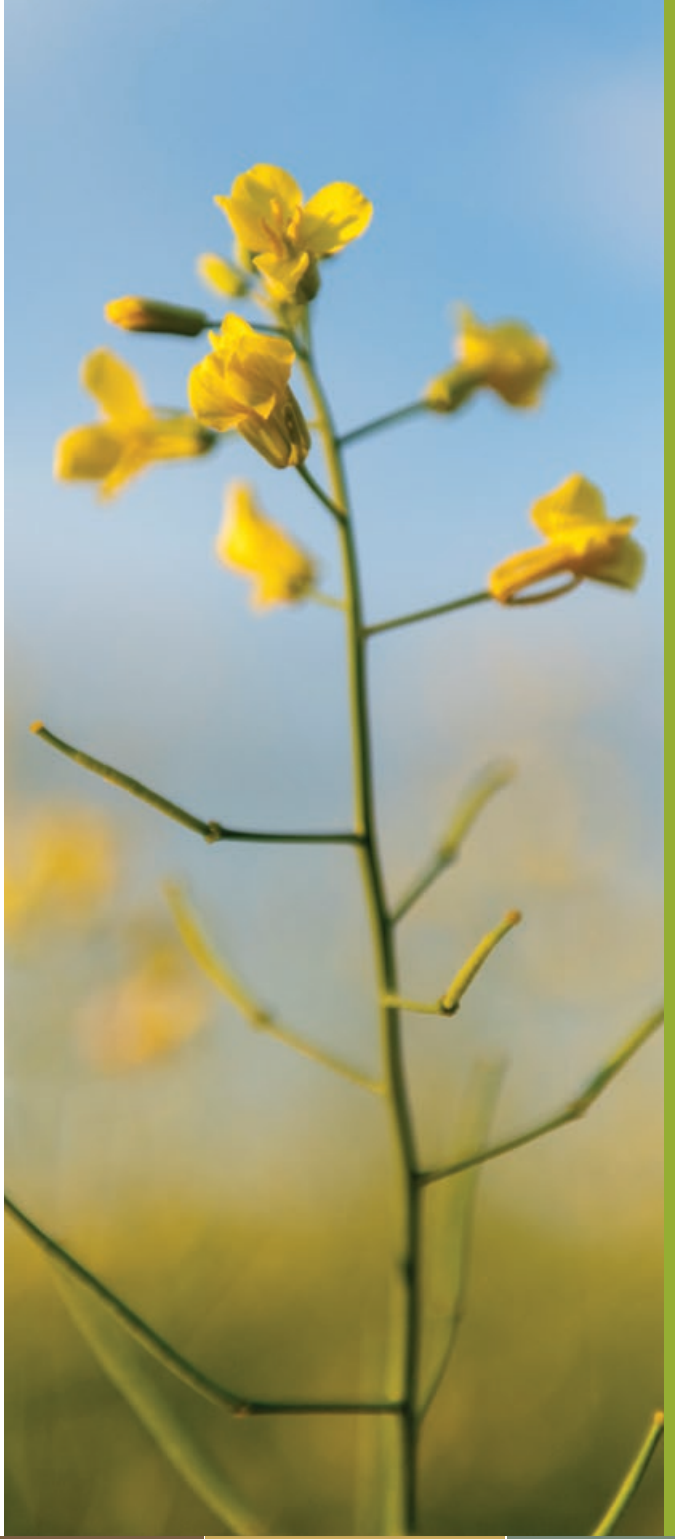
NEW InVigor L330PC

InVigor L343PC | InVigor L340PC | InVigor L350PC

GOOD — STRONG

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.



CANOLA

Seed

Liberty & Trait Agreement.

The Liberty & Trait Agreement (LTA) is a key evergreen contract between BASF and its growers that governs the possession and use of certain innovative traits and technologies in LibertyLink® certified canola seed.

LTA facts.

- All growers must sign the LTA prior to their first purchase
- Growers who sign the LTA agree to use these products according to the terms and conditions, for example:
  - Seed can only be purchased from an authorized retailer. It may not be provided or sold to another entity or person unless they have a valid LTA and are farming together
  - Certified seed can only be used to plant one commercial crop in Canada (planting or growing a crop from harvested grain, volunteer seeds, or plants is not permitted)
  - No seed, crop or grain can be used for breeding or research. These may not be used in trials without written permission from BASF
  - Growers allow transactional information to be used for administration and enforcement of the LTA. This includes monitoring and safeguarding the intellectual property of BASF

How can you help?

- Ensure you have a signed LTA in place and follow the terms and conditions
- Contact your local authorized LibertyLink seed retailer, talk to your BASF **AgSolutions®** Retail Representative or call **AgSolutions** Customer Care at 1-877-371-BASF (2273)
- Visit **agsolutions.ca/LTA**

Seed treatment stewardship.

Treated seed must be handled properly to protect wildlife, pollinators, human health and the environment.

- Read and adhere to the product label and seed tag directions
- Wear the appropriate personal protective equipment when handling treated seed
- Always handle treated seed with care to reduce abrasion, dust generation and spillage
- Seed that has fallen or spilled out of the planter should be covered with soil or removed to avoid potential risks to birds and wildlife
- Store treated seed appropriately and keep it away from feed, food and livestock
- Never reuse empty seed bags and dispose of them properly. Seed bags can be returned to a Cleanfarms collection site. Visit **cleanfarms.ca** for details

Visit **agsolutions.ca/TreatedSeed** to learn more.

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 grayish-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 shriveled 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.

Practice good sanitation.

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

Pull infected plants.

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

Galls on infected roots

Source: BASF, QC, 2019

Patches of prematurely ripened canola could be a sign of clubroot

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

Use resistant hybrids.

Grow first-generation clubroot-resistant hybrids at the first sign of clubroot in the field or if clubroot is present in your farming community. We recommend seeding a second-generation clubroot 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** or see our frequently asked questions at **agsolutions.ca/InVigorFAQ**.

Liberty® 200 SN

Herbicide

For use on:	GLYPHOSATE TOLERANT CANOLA	LIBERTY TOLERANT CANOLA	CONVENTIONAL CANOLA
	NO	YES	NO

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

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

TECH TIP

Learn more about Liberty® 200 SN herbicide best management practices here.

All growers must sign a Liberty & Trait Agreement (LTA) prior to their first purchase of InVigor hybrid canola. For more information visit agsolutions.ca/LTA

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

Crop staging

For InVigor® hybrid canola with the LibertyLink® trait only

Apply from cotyledon to prior to bolting[1]

Weeds controlled

Broadleaf weeds

Canada fleabane[2,3], Canada thistle[4], Chickweed, Cleavers[3,5], Cocklebur, Common ragweed[2], Eastern black nightshade, Field bindweed[4], Giant ragweed[2,5], Green pigweed, Jimsonweed, Kochia[2,3,6], Lady's thumb, Lamb's quarters, Perennial sow thistle, Redroot pigweed, Shepherd's-purse, Stinkweed, Velvetleaf, Volunteer canola[7], Wild buckwheat, Wild mustard, Wormseed mustard

Grasses

Barnyard grass, Bristly foxtail, Fall panicum, Giant foxtail, Green foxtail, Large crabgrass, Proso millet, Quackgrass[4,8], Wild oats, Witchgrass, Yellow foxtail

Application rates[9]

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

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

Add ammonium sulfate (AMS) for enhanced activity on tough weeds.[10]

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 biotypes resistant to Group 2 chemistries. [4] Season-long suppression. [5] Suppression only. [6] Including biotypes resistant to Group 4 chemistries. [7] Including conventional, Roundup Ready®, and Clearfield® biotypes. [8] Add ammonium sulphate to the tank at a rate of 6.0 L/ha (49% solution) or 3.0 kg/ha (99%). [9] See label for use rates on specific weeds and weed stages. [10] See label for specific weeds.

SELECT®

Herbicide

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

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

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

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

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

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

Pre-harvest interval
60 days after application for canola.

Application rates
One case treats 20 to 40 acres.

Select[1]	77 to 154 ml/ac (190 to 380 ml/ha)
Amigo	0.5 to 1.0% v/v (5 to 10 L per 1000 L spray solution)

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

1	**Amigo** 0.5% v/v (5 L per 1000 L spray solution)
2	**Liberty 200 SN** 0.8 to 1.0 L/ac (2.0 to 2.5 L/ha)
3	**Select** 25 ml/ac (63 ml/ha)

Add ammonium sulfate (AMS) for enhanced activity on tough weeds.[2]

[1] Consult the label for rates to control specific weeds. [2] See label for specific weeds.

Priaxor®

Xemium® Fungicide

A more advanced fungicide that helps enhance your canola yield potential.

- Tank mixed with your canola herbicide[1], Priaxor® fungicide combines the active ingredients Xemium® with the proven **Plant Health Benefits**[2] from pyraclostrobin
- Multiple modes of action for increased performance and reduced risk of developing fungicide resistance
- Increased growth efficiency and better management of minor stress[3]

Taller plants with Priaxor on canola

Source: Grower Applied Strip Trials, Rosetown, SK, 2014

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 rate

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.

Priaxor vs. untreated

Priaxor sprayed at the 2 to 6 leaf stage.

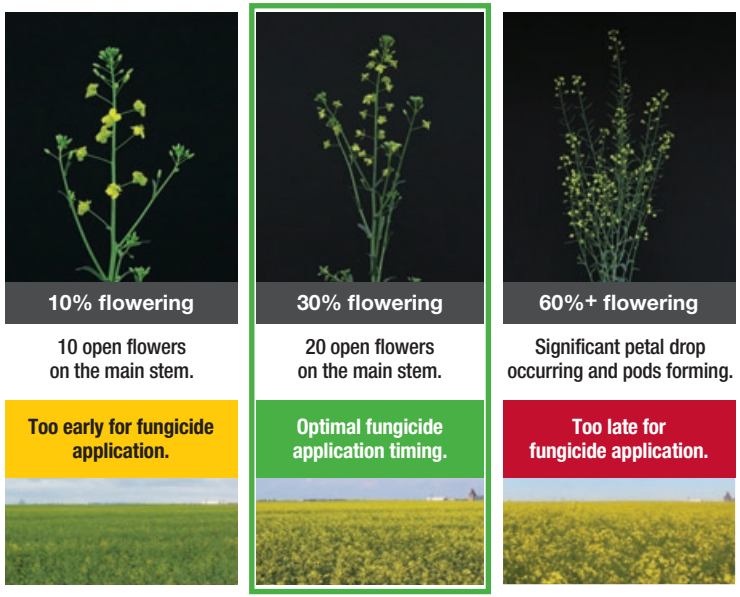
Source: Grower Applied Strip Trials, Western Canada, 2014

[1] See label for permitted herbicide tank mixes in canola. [2] **Plant Health Benefits** refer to products that contain the active ingredient pyraclostrobin. [3] All comparisons are to untreated, unless otherwise stated.

Cotegra®
Fungicide

The standard for sclerotinia management.

- Combines the two leading active ingredients that target sclerotinia in a convenient liquid premix
- Vigorously tested with proven performance under the toughest disease conditions



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

Crop staging
20 to 50% flowering

Disease controlled
Sclerotinia stem rot
(*Sclerotinia sclerotiorum*)

Application rates
One case treats 70 to 80 acres.

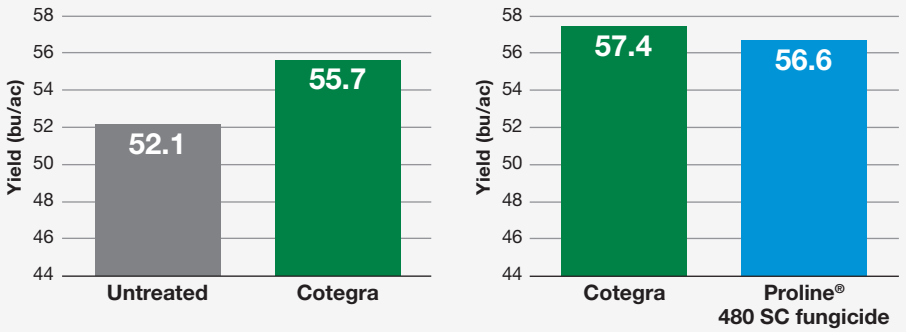
Cotegra® fungicide	240 to 280 ml/ac (600 to 700 ml/ha)[1]

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.

The effect of Cotegra on canola yield potential



For all trials, Cotegra was applied at the 80 ac/case rate (240 ml/ac).
Source: Grower Applied Strip Trials, 2016-2020, n=36 (untreated comparison); n=32 (Proline 480 SC comparison)

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

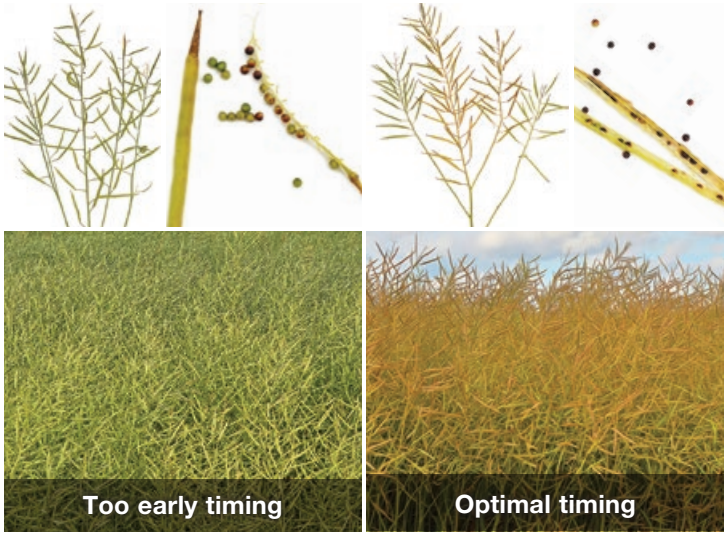
Eragon® Plus

Powered by **Kixor®** Herbicide

PRE-HARVEST

Cut straight to an easier harvest.

- Consistent crop and weed dry down
- Improved harvest efficiency
- Cleaner fields the following spring



Active ingredient	Saflufenacil – Group 14
Formulation	Water-based suspension concentrate
One case contains	1 x 1.182 L jug of Eragon® LQ herbicide 2 x 8.1 L jugs of Merge® adjuvant Also available as a tote: 4 x 7.39 L jugs of Eragon LQ 1 x 405 L jug of Merge

Crop staging

Apply when the canola crop has reached 75% 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 20 acres. One tote treats 500 acres.

Recommended use pattern

Eragon LQ	59 ml/ac (146 ml/ha)
Merge	800 ml/ac (2.0 L/ha)
Glyphosate[1] (360 g/L equivalent)	1.0 L/ac (2.5 L/ha)

Water volume

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

Pre-harvest interval

3 days after application for canola.

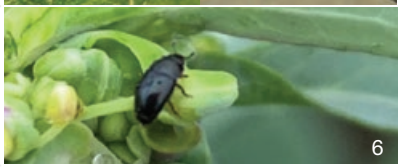
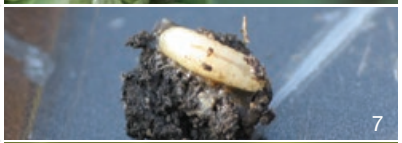
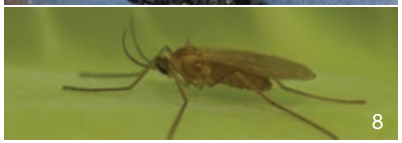
Follow crops

In the first spring following a fall application: Barley, canola, corn (field, sweet), oats, soybeans, triticale, wheat (durum, spring, winter)
In the second spring following a fall application: All crops can be grown

[1] Glyphosate is not included in the case.

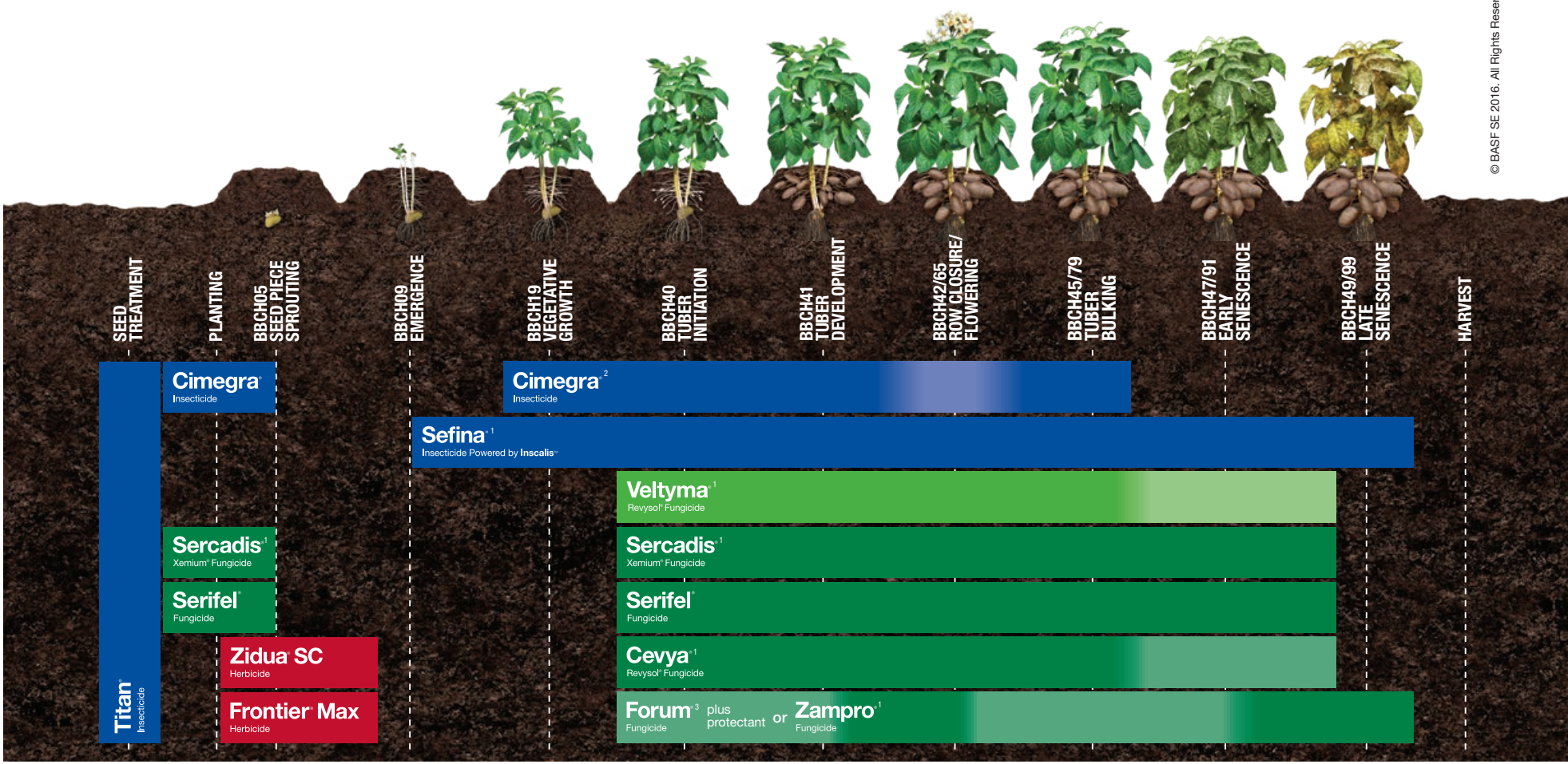
Access the Eragon Plus staging guide at **agsolutions.ca/eragon-guide**.

Insect identification.

Insect name	Economic threshold	Picture
Bertha armyworm	Provided by government websites and depends on insecticide cost and canola value.	 1
Cabbage seedpod weevil	3 to 4 adults/sweep.	 2
Diamondback moth	100 to 150 larvae/m^2 in immature and flowering canola. 200 to 300 larvae/m^2 in podded canola.	 3
Flea beetles	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.	 Crucifer flea beetle 4 Striped flea beetle 5
Pollen beetle	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.	 6
Root maggot	No established thresholds.	 7
Swede midge	When 20 adults have been captured from the start of trapping (pheromone traps).	 8

[1] Source: Manitoba Agriculture. [2,7] Source: Canola Council of Canada. [3] Source: Government of Australia, Department of Agriculture and Food. [4,5] Source: Agriculture and AgriFood Canada. [6] Source: BASF.
[8] Source: Cheung, D., Swede Midge Identification & Hallett, R., Swede Midge Damage, School of Environmental Sciences, University of Guelph.

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 area reflect recommended application period for Cimegra® insecticide.

Darker areas reflect recommended application period for Veltyma® fungicide.

Darker areas reflect recommended application period.

[1] Do not exceed the total number of sequential applications or total number of applications per season as stated by specific product labels. [2] Toxic to bees. Avoid application during the crop blooming period. If applications must be made during the crop blooming period, restrict applications to evening when most bees are not foraging. When using managed bees for pollination services, DO NOT apply during the crop blooming period. [3] Always apply Forum® fungicide in a tank mix with a fungicide from a different group that is effective on the target pathogen when such use is permitted. Do not apply more than three applications per season.

Crop Staging

BASF lead recommendations.

Select the solution that's right for your operation.

INSECT MANAGEMENT	WEED MANAGEMENT	DISEASE MANAGEMENT
Cimegra® Insecticide	**Zidua**® **SC** Herbicide	**Veltyma**® Revysol® Fungicide
Titan® Insecticide	**Frontier**® **Max** Herbicide	**Sercadis**® Xemium® Fungicide
Sefina® Insecticide Powered by **Inscalis**®		**Cevya**® Revysol® Fungicide
		Serifel® Fungicide
		Forum® Fungicide

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

Titan®

Insecticide

A broad-spectrum seed-piece insecticide.

- 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

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

Crop treatment
Apply as a seed-piece treatment

Pests controlled
Buckthorn aphid *(Aphis nasturtii)*, Colorado potato beetle *(Leptinotarsa decemineata)*, foxglove aphid *(Aulacorthum solani)*, green peach aphid *(Myzus persicae)*, potato aphid *(Macrosiphum euphoribae*), potato flea beetle *(Epitrix cucumeris)*[1], potato leafhopper *(Empoasca fabae)*, wireworm *(Agriotes obscurus, A. lineatus, Limonius agonus, Melanotus* spp., *M. communis)*[2,3]

Application rates

Aphids, Colorado potato beetle, potato flea beetle, potato leafhopper	10.4 to 20.8 ml per 100 kg potato seed pieces
Wireworms[2]	20.8 ml per 100 kg potato seed pieces

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 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.

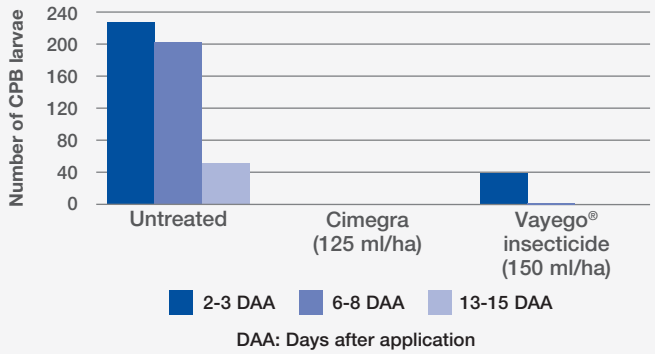
Cimegra®

Insecticide

Powered by the unique IRAC Group 30 mode of action, Cimegra® insecticide is an innovative solution in potatoes that provides true control of wireworms in-furrow and foliar control of Colorado potato beetles.

- Unique mode of action that works through contact and ingestion
- Delivers fast knockdown and control growers can count on
- Effective resistance management tool when used in rotation with other insecticide groups

Colorado potato beetle (CPB) foliar control



Source: BASF Third Party Small Plot Trials, MB & ON, 2021-2022, n=2

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

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.

Foliar applications should be made at the first sign of insects and before the build-up of heavy pressure.[1]

Pest controlled

Colorado potato beetle *(Leptinotarsa decemlineata)*
Wireworms[2]

Application rates

One case treats 60 acres (24 hectares) in-furrow and 79 to 118 acres (32 to 47.8 hectares) with foliar application.

Potatoes – In-furrow application	
For wireworm control[3]	100 ml/ac (250 ml/ha)
For 90 cm (36″) row spacing[4]	2.3 ml per 100 metres of row
Apply the in-furrow spray to uniformly cover the seed pieces and surrounding soil. Do not apply Cimegra to the soil surface of a closed furrow.	
Potatoes – Foliar application[5]	
For control of Colorado potato beetle	50 to 75 ml/ac (125 to 187.5 ml/ha)

Water volume

For in-furrow use, dilute Cimegra insecticide product in a minimum of 20 L of water per acre (50 L of water per hectare). Use sufficient water to ensure thorough coverage of the seed or seed piece and surrounding seed furrow.

For foliar use, ensure thorough coverage of the entire plant.

[1] Toxic to bees. Avoid application during the crop blooming period. If applications must be made during the crop blooming period, restrict applications to evening when most bees are not foraging. When using managed bees for pollination services, DO NOT apply during the crop blooming period.

[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.

[5] DO NOT apply more than 2 foliar applications per year. Allow a minimum of 7 days between applications. DO NOT apply more than 50 g ai/ha of broflanilide (500 ml/ha of Cimegra) per year. This includes all application types (soil and foliar).

Insecticide stewardship.

- Insecticide use should be based on an integrated pest management (IPM) program that includes identifying pests of concern, scouting and record keeping, and considers pest thresholds, as well as cultural, mechanical, biological, and other chemical control practices
- Follow the product label for the specific crop application timing and rate
- It's important to understand pollinator visitation habits and the attractiveness of the crop and surrounding landscape
- Take note of bee hives in the area and communicate with beekeepers
- Avoid spraying when pollinators are present or crops and/or weeds are in bloom
    - Most pollinators tend to be less active in the evening
- Use recommended spray pressure and nozzle selection to minimize drift
    - Check the weather forecast before application and be mindful of current and changing weather conditions during application to minimize drift
- Always refer to and follow the product label for the required spray buffer zones
    - A spray buffer zone is the downwind distance separating the point of direct pesticide application from the nearest boundary of a sensitive habitat (terrestrial or aquatic habitat)
- Some pesticide product labels recommend or require a vegetative filter strip (VFS)
    - Sometimes referred to as a riparian buffer, a VFS is a strip of land with permanent vegetation mainly composed of grasses and located between a cultivated field and the bank of a body of water. The VFS helps protect surface water located at the bottom of a slope by limiting the quantities of pesticides that could potentially enter it, as the VFS slows down runoff and filters transported pesticides
- Follow resistance management recommendations on the product label
    - Where possible, rotate the use of insecticides with different insecticide groups and modes of action that controls the same pest(s)

Vegetative filter strip

Source: BASF

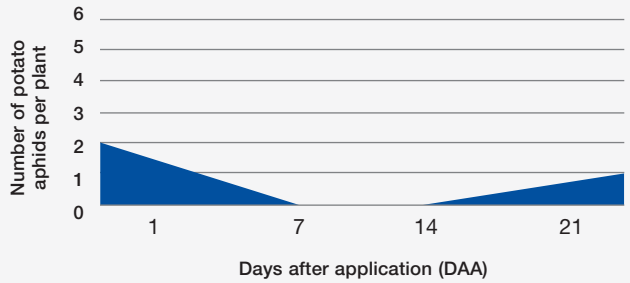
Sefina®

Insecticide Powered by **Inscalis®**

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

- Quickly halts feeding, which reduces production losses and virus transmission
- Extended control of labelled pests
- Powered by Inscalis®, a unique mode of action that controls labelled 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 when used according to the label

Efficacy of Sefina® insecticide on potato aphids



Source: Grower Applied Strip Trials, NB, 2019, n=3

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

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[1,2]
One case treats 16 to 80 acres (6 to 32 hectares).

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

Water volume

Ground application	Minimum 40 to 80 L/ac (10 to 20 gal/ac)
Aerial application	Minimum 20 L/ac (5 gal/ac)

Rainfastness: 1 hour. Avoid application if heavy rain is forecast.

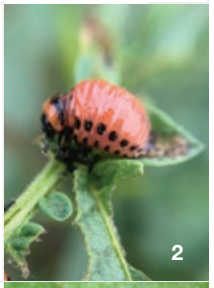
Restricted entry interval: 12 hours.

Pre-harvest interval: 7 days after application.

Resistance management
Do not make more than two sequential applications of Sefina before using a different mode of action.

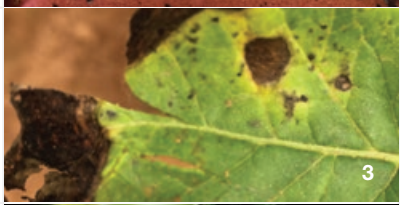
[1] Allow a minimum of 7 days between applications.
[2] Do not apply more than 1.0 L/ac (2.5 L/ha) per year. Do not make more than 4 applications per year.

Identify common potato insects.

Pest	Identifying features			Picture
Aphids	**Nymphs** • No bigger than a pen tip • Smaller version of adult aphid • Egg hatched in spring, live birth in summer	**Adult** • Only a few millimetres in size • Colour ranges from greens to yellows to red/pink depending on crop • In summer, all aphids are female and reproduce asexually • Females can produce both wingless and winged aphids		 1
Colorado potato beetle	**Eggs** • Yellow to orange, elongated and cylindrical • Found on the underside of leaves in masses of 25 to 40	**Larvae** • 4 instars (larvae stages) that all look similar but get progressively larger • Larvae are orange, red to pink in colour with two rows of black spots on each side of the body • Mature larvae drop to the ground to pupate	**Adult** • Beetles are somewhat round and 10 black stripes run lengthwise on the wing covers • Adults overwinter in the soil and emerge in the spring	 2
Flea beetle	**Eggs** • Females lay a single egg or in groups of 3 to 4 in the soil at the base of host plants in spring	**Larvae** • Larvae emerge in the soil and feed on root hairs for approximately 25 to 30 days • Larvae pupate in the soil and emerge as adults after 10 to 15 days	**Adults** • Potato flea beetles are black with brown legs and are 1.7 mm long • Adults don't fly but they can jump very quickly • Adults overwinter in plant litter and move to potato fields to feed on developing leaves, leaving a 'shot hole' appearance	 3
Potato leafhopper	**Eggs** • Females lay 2 to 3 eggs per day in the main veins or petioles of the leaves • They hatch in 10 days	**Nymphs** • Leaf hopper nymphs look like adults but lack fully developed wings • There are 5 instar stages, increasing in size for about 2 weeks until they are adults	**Adults** • Fully grown leafhoppers are approximately 3 mm long, pale green and are a wedge shape • Adults have wings, are very active and quick to fly • They feed by sucking sap from leaves and stems	 4
Wireworm	**Eggs** • Hatch in the soil in spring	**Larvae** • Wireworms can live in soil for 3 to 5 years	**Adult** • Wireworm pupates in soil from late summer to early fall • Click beetle overwinters in soil, emerging in spring to lay eggs	 5

[1, 2, 5] Source: BASF.

Identify common potato diseases.

Disease	Visual symptoms	Picture
Black dot	• Black dot-infected plants display pepper-black dots on stems and leaves • Often mistaken for verticillium wilt – verticillium-affected plants show yellowing leaves and brown discolouration in the cross-section of the roots or lower stem area • Brown to gray-blackish discolouration on tubers • Often confused with silver scurf, with pronounced micro-sclerotia dots on tubers	
Black scurf	• A seed- and soil-borne fungus • Hard black sclerotia of irregular shape develop on the tubers (often referred to as the dirt that won't wash off) • Can also affect sprouts before plant emergence and cause cankers on young stems resulting in uneven or weaker stands • Long, deep sunken cankers can also form on the stems mid-season, and leaves can roll upwards and turn reddish	
Brown spot	• Lesions on leaves are often mistaken for early blight, but can be differentiated because in the case of brown spot, they transform into large masses • Elongated, superficial brown or black lesions on stems • Small black pits form on the tuber surface • Similar in appearance to pits caused by common scab, but usually deeper, narrower and darker	
Early blight	• Dark brown concentric lesions on mature foliage • Elongated brown and black lesions on the stems • Eventually spreads as brown-black sunken lesions on tubers	
Late blight	• Small necrotic spots surrounded with pale green border on leaves • White mycelium on underside of leaf or on stems – visible when plants are moist • Dark green or black water-soaked lesions on stems • Irregular and shallow copper brown dry rot on tubers	
White mold	• High humidity and dense canopies are ideal for white mold • White cottony mycelium develop on stems and leaves, typically lower in the canopy • Black sclerotia can form on old lesions • Can develop on both living and dead tissue	

[1, 2, 3, 5] Source: BASF. [4] Source: Howard F. Schwarz, Colorado State University, Bugwood.org. [6] Source: Gerald Holmes, Strawberry Center, Cal Poly San Luis Obispo, Bugwood.org.

Zidua® SC

Herbicide

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 eastern black nightshade, lamb's quarters, redroot pigweed, 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

Source: Grower Applied Strip Trials, ON, 2020

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

Crop staging

Pre-emergence to crop and weeds

Apply after planting and before potatoes emerge from the final hilling of the season

Weeds suppressed[1]

Broadleaf weeds

Cleavers[2]
Common chickweed
Eastern black nightshade[2]
Kochia[2]
Lamb's quarters
Redroot pigweed
Shepherd's-purse
Waterhemp
Wild buckwheat

Grasses

Barnyard grass
Downy brome
Foxtail (green, yellow)
Japanese brome
Wild oats

Application rates

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

Zidua SC	49 to 97 ml/ac (120 to 240 ml/ha)[1]

Water volume

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

Restricted entry interval: 12 hours.

[1] Early-season residual suppression.
[2] Including biotypes resistant to Group 2 chemistries.

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

Performance of Frontier® Max herbicide

Source: BASF Small Plot Trials, PEI, 2012

[1] Includes biotypes resistant to Group 2 and triazine chemistries.
[2] Controlled at 390 ml/ac (963 ml/ha); lower rates provide suppression only.
[3] Suppression only.

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

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 nightshade[1,2], Fall panicum, Foxtail (giant, green, yellow), Old witchgrass, Redroot pigweed[1,2], Yellow nutsedge[3]

Application rates

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

Frontier Max	Application rates based on % organic matter		
Soil type	**Organic matter < 3%**	**3% < Organic matter < 6%**	**7% < Organic matter <10%**
Coarse textured soils	305 ml/ac (756 ml/ha)	305 ml/ac (756 ml/ha)	348 ml/ac (860 ml/ha)
Medium textured soils	305 ml/ac (756 ml/ha)	348 ml/ac (860 ml/ha)	390 ml/ac (963 ml/ha)
Fine textured soils	305 ml/ac (756 ml/ha)	348 ml/ac (860 ml/ha)	390 ml/ac (963 ml/ha)

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

Water volume

Ground application Minimum 70 L/ac (17 gal/ac)

Restricted entry interval: 24 hours.

Pre-harvest interval: 40 days after application 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 when such use is permitted.

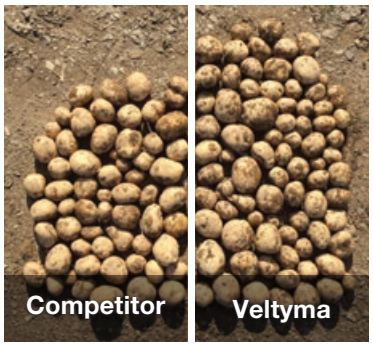
Veltyma®

Revysol® Fungicide

An 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**[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

Increase in yield potential with Veltyma® fungicide



Source: Grower Applied Strip Trials, NB, 2021

Active ingredients	Mefentrifluconazole – Group 3 Pyraclostrobin – Group 11
Formulation	Suspension concentrate
One case contains	2 x 8.1 L jugs

Timing
7 to 14 day application interval

Diseases controlled
Black dot *(Colletotrichum coccodes)*
Brown spot *(Alternaria alternata)*[3]
Early blight *(Alternaria solani)*[4]

Application rate
One case treats 80 acres (32 hectares).

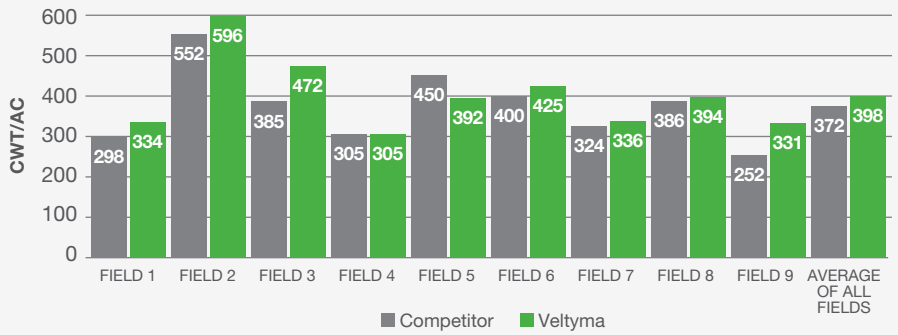
Veltyma	202 ml/ac (500 ml/ha)

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.

Potato yield compared to competitor



Source: Grower Applied Field Trials, PEI, NB, ON, AB, 2021-2022, n=9

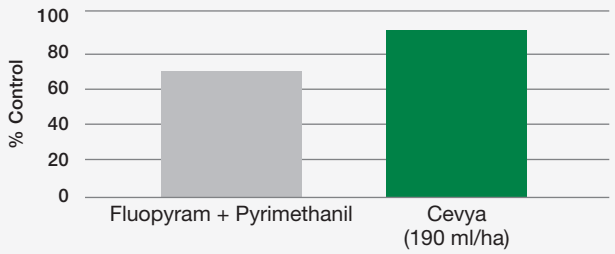
[1] **Plant Health Benefits** refer to products that contain the active ingredient pyraclostrobin. [2] All comparisons are to untreated, unless otherwise stated. [3] Suppression. [4] Includes control of biotypes resistant to Group 11 chemistries.

Cevya®
Revysol® Fungicide

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

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

Early blight control with Cevya



Source: BASF Small Plot Trials, MB & ON, 2016-2018, n=3

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

Timing
7 to 14 day interval

Disease controlled
Early blight *(Alternaria solani)*

Diseases suppressed
Black dot *(Colletotrichum coccodes)*
Brown spot *(Alternaria alternata)*

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

Cevya	75 to 100 ml/ac (190 to 250 ml/ha)[1]

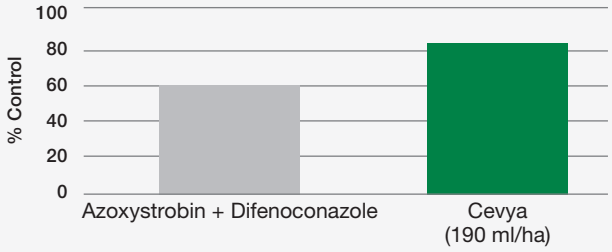
Rainfastness
1 hour.

Restricted entry interval
12 hours.

Pre-harvest interval
7 days after application for potatoes.

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

Early blight control with Cevya



Source: BASF Small Plot Trials, MB & ON, 2016-2018, n=3

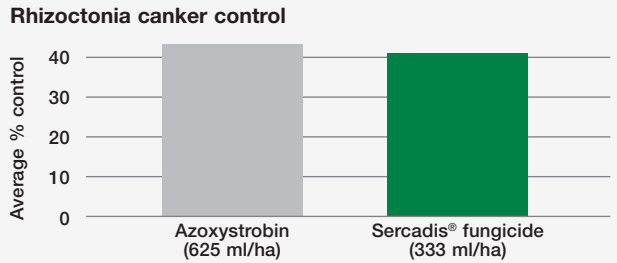
[1] Do not apply more than 455 ml/ac (1.125 L/ha) per year.

Sercadis®

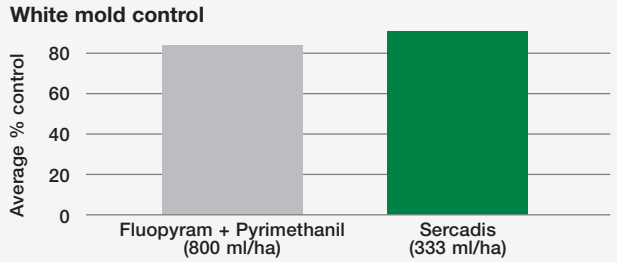
Xemium® Fungicide

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



Source: BASF Small Plot Trials, 2010, n=2



Source: BASF Small Plot Trials, Oregon, USA, 2010, n=1

Active ingredient	Fluxapyroxad – Group 7
Formulation	Suspension
One case contains	2 x 1.35 L jugs OR 2 x 4.05 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
In-furrow applications: Rhizoctonia canker (*Rhizoctonia* spp.)
Foliar applications: Early blight (*Alternaria solani*), white mold (*Sclerotinia sclerotiorum*)

Application rates
2 x 1.35 L case treats 20 to 40 acres (8 to 16 hectares).

2 x 4.05 L case treats 60 to 121 acres (24 to 49 hectares).

In-furrow applications

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

Foliar applications

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

Using 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.

Serifel®

Fungicide

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

Active ingredient	*Bacillus amyloliquefaciens* strain MBI 600 – Group BM02
Formulation	Wettable powder
One case contains	4 x 2 kg jugs

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).

Serifel® fungicide	0.1 to 0.2 kg/ac (0.25 to 0.5 kg/ha)

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* to learn more about integrated pest management strategies.**

[1] Partial suppression.
[2] In-furrow. See label for application instructions.

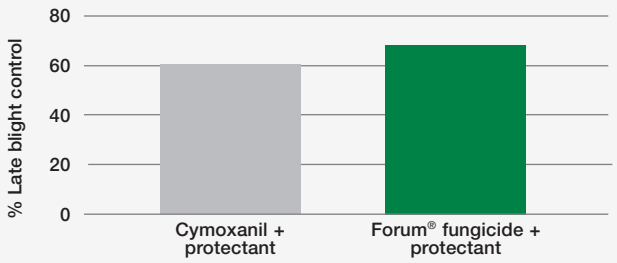
Forum®

Fungicide

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

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

Curative late blight control



Source: BASF Small Plot Trials, average of 7 trials with ratings taken 1 to 4 months after harvest, 2001-2006

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

Timing

5 to 7 day interval under high disease pressure

7 to 10 day interval under low disease pressure

Diseases controlled[1]

Late blight *(Phytophthora infestans)*

Tuber blight in storage *(Phytophthora infestans)*[2]

Application rate

One case treats 50 acres (20 hectares).

Forum	182 ml/ac (450 ml/ha)

Rainfastness: 2 hours.

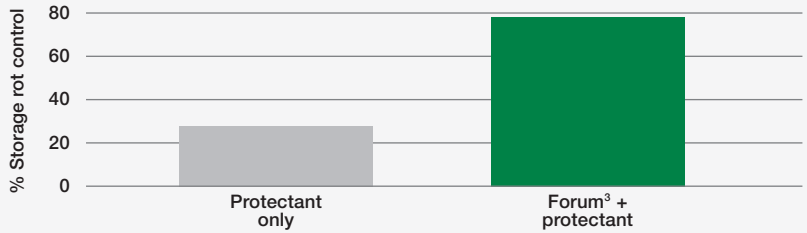
Restricted entry interval: 12 hours.

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

Resistance management

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

Control of tuber blight in storage with Forum



Source: BASF Small Plot Trials, average of 7 trials with ratings taken 1 to 4 months after harvest, 2001-2006

[1] Always apply Forum in a tank mix with a fungicide from a different group that is effective on the target pathogen when such use is permitted. Do not apply more than three applications per season. [2] Suppression only. [3] Applied pre-harvest.

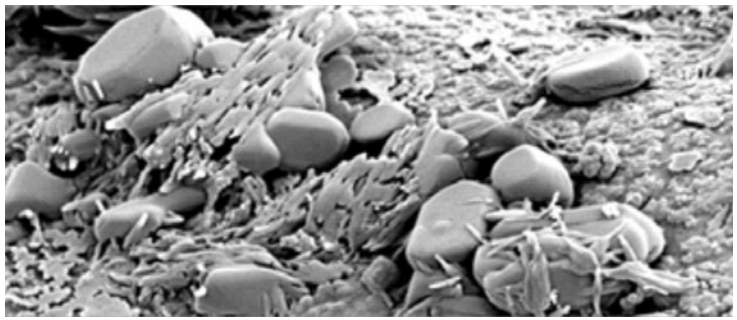
Zampro®

Fungicide

Powerful control of late blight that recharges with moisture.

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

Zampro® fungicide on leaf



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

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

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)*[1]

Application rates

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

Late blight	324 to 404 ml/ac (0.8 to 1.0 L/ha)[2]
Tuber blight	404 ml/ac (1.0 L/ha)

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.

[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


Sow-thistle


Field bindweed


Chickweed


Annual bluegrass


Dandelion


Canada fleabane

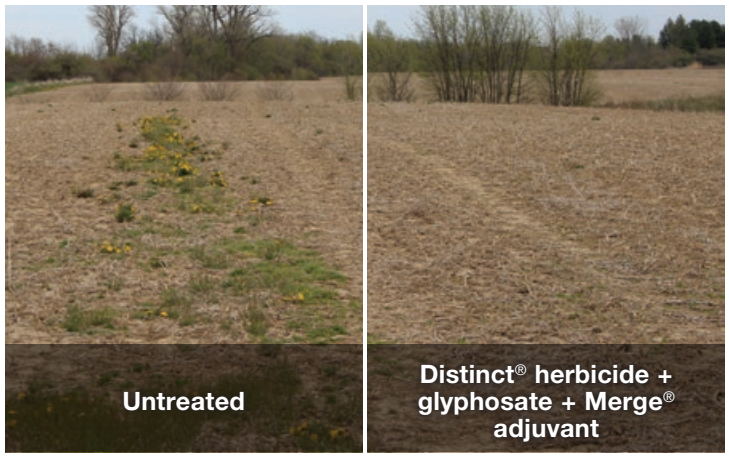
Distinct®
Herbicide

POST-HARVEST

Complements glyphosate for superior post-harvest weed control.

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

Weed control in spring, following previous September application



Source: Grower Applied Strip Trials, St-Joachim, ON, May 2020

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

Staging
Prior to first significant frost

Weeds controlled[1]
Biennial wormwood[2]
Canada thistle[3]
Common cocklebur
Common ragweed
Dandelion[3]
Lady's thumb
Lamb's quarters
Perennial sow thistle[4,5]
Redroot pigweed
Velvetleaf
Volunteer canola[6]
Waterhemp
Wild buckwheat

[1] Tank mixed with glyphosate at 115 g/ac.
[2] Apply at 2 to 8 leaf.
[3] Top growth.
[4] Suppression only.
[5] Apply at 2 to 10 leaf.
[6] Apply at cotyledon to 4 leaf.
[7] Glyphosate and Merge (required for optimum activity) are not included in the case.

Application rate
One case treats 40 acres.

Distinct	115 g/ac (285 g/ha)
Merge[7]	400 ml/ac (1.0 L/ha)
Glyphosate[7]	See label for rate

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

TECH TIP

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

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

Engenia®
Herbicide

POST-HARVEST

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 resistant biotypes (including biotypes resistant to Group 2, Group 14, triazine and glyphosate)

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

Staging
Apply to actively growing weeds[1]

Weeds controlled
Canada thistle
Perennial sow thistle

Application rate
One case treats 40 acres.

One shuttle treats 300 acres.

Engenia® herbicide	404 ml/ac (1.0 L/ha)
Glyphosate[2]	605 g ae/ha

Water volume
Ground application
45 to 90 L/ac (12 to 24 gal/ac)

Use a higher water volume to ensure adequate coverage.

[1] Refer to product label for specific weed staging.
[2] Glyphosate is not included in the case. Only use glyphosate products registered for summerfallow and stubble, and refer to glyphosate label for adjuvant recommendations. Do not tank mix Engenia with glyphosate products where glyphosate is present as an ammonium salt.

Zidua® SC

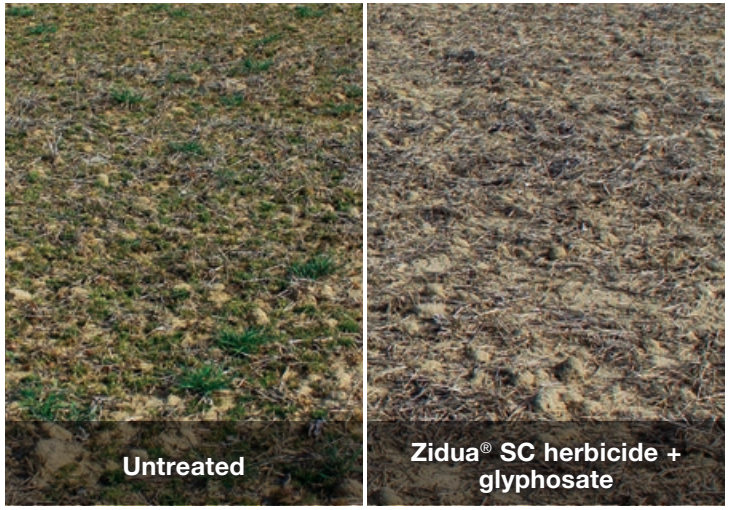
Herbicide

POST-HARVEST

Residual control on annual bluegrass.

- Group 15 chemistry delivers control on annual bluegrass
- Residual activity on late-season germinating seedlings
- Convenient liquid formulation

Bluegrass control in the spring following a fall application



Source: Grower Applied Strip Trials, Thamesville ON, 2021

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

Crop staging
Post-harvest

Weed controlled
Annual bluegrass

Application rate
One case treats 83 acres.

Zidua SC	97 ml/ac (240 ml/ha)
Glyphosate[1]	See label for rate

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

TECH TIP

Annual bluegrass emerges both in the spring and the fall. Apply Zidua SC in the fall to provide short-term residual activity on annual bluegrass and set up your field for a cleaner start the following spring.

[1] Refer to glyphosate label for a complete list of weeds controlled by glyphosate. Glyphosate is not included in the case. Only use glyphosate products registered for post-harvest use.

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

Other Crops

Dry bean solutions
Eragon® Plus 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 waterhemp
Problem weeds
Tar spot
Modes of action
Product details
Crop rotation
WAMLEGS
Bulk packaging

BASF Ag Rewards

BASF Ag Rewards

Dry bean solutions you can depend on.

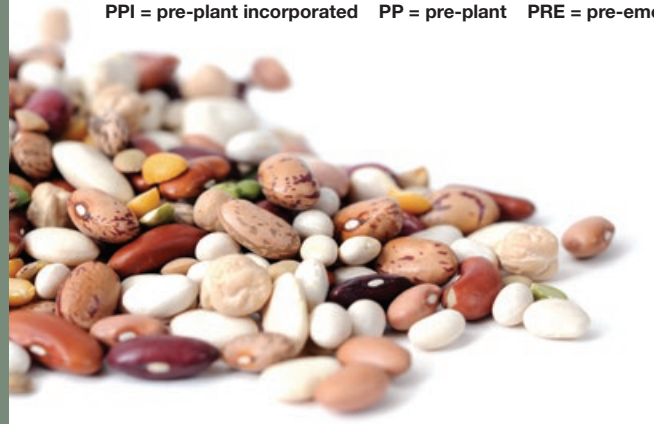
Dry beans are a high value crop that come with production challenges such as yield loss from weeds and diseases. That's why BASF offers a lineup of solutions to help manage these issues.

Become familiar with all of your dry bean options.

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

Herbicide[1]	Timing	Rate	Tips	Dry bean classes
Frontier® Max	PPI	350 to 390 ml/ac	Can incorporate up to 7 days after application. Strong on nightshade (use the high rate if nightshade is present).	*Phaseolus vulgaris*
Prowl® H2O	PPI	960 ml/ac	Good on sandy soil. Incorporate as part of a tank mix.	*Phaseolus vulgaris*
Pursuit®	PPI, PRE	126 ml/ac	For broad-spectrum control of grasses and broadleaf weeds, apply PPI as part of a tank mix.	*Phaseolus vulgaris* and adzuki beans
Basagran® Forte	POST	700 to 900 ml/ac	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.	*Phaseolus vulgaris*
Select®	PP, PRE, POST	77 ml/ac	Strong on grasses. Make sure to add Amigo® adjuvant at 0.5% v/v.	All
Poast® Ultra	POST	445 ml/ac	Strong on grasses.	All

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



TECH TIP

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

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

TECH TIP

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

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

Harvest aid[4]	Timing	Rate	Tips	Dry bean classes
Eragon® Plus[5]	Apply when stems are green to brown, pods are mature (yellow, brown) and 80-90% of leaves have dropped.	59 ml/ac of Eragon LQ + 800 ml/ac of Merge® adjuvant	Spray in the middle of a sunny day with a higher water volume. Avoid spraying on overcast days or at dawn and dusk.	Check with your grain buyer.
Ignite®[6]	Apply when approximately 50-75% of the bean pods have naturally changed colour from green to yellow or brown.	1.2 L/ac	Use when lamb's quarters are the predominant weed.	

TECH TIP

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

[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] Suppression only. [4] Check with your grain buyer before applying. [5] 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. [6] Do not apply to dry beans grown for seed.

Is your dry bean field ready for Eragon Plus herbicide?

Application timing for Eragon® Plus 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/eragon-guide**.

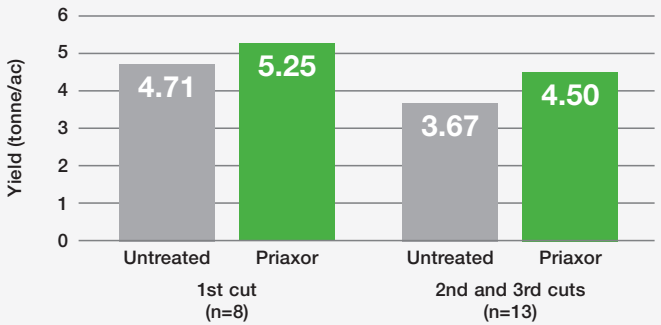
Priaxor®
Xemium® Fungicide

ALFALFA

Provides proven disease control to increase yield and quality potential in alfalfa.

- First cut application helps to improve disease control and yield potential due to increased leaf retention at the bottom of the plant[1]
- Second and third cut applications help to improve disease control, yield potential and protein levels for higher quality[1]

Increased alfalfa yield potential with Priaxor® fungicide



Source: Grower Applied Strip Trials, ON & QC, 2017-2019

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]

Disease controlled
Common leaf spot
(Pseudopeziza medicaginis)

Disease suppressed
Blossom blight
(Sclerotinia sclerotiorum)[3]

Application rate
One case treats 160 acres.

Priaxor	120 ml/ac (300 ml/ha)[3]

Pre-harvest interval
14 days.

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.

Better and faster regrowth 21 days after treatment

Source: Grower Applied Strip Trials, QC, 2017

Increased leaf retention

Source: Grower Applied Strip Trials, ON, 2018

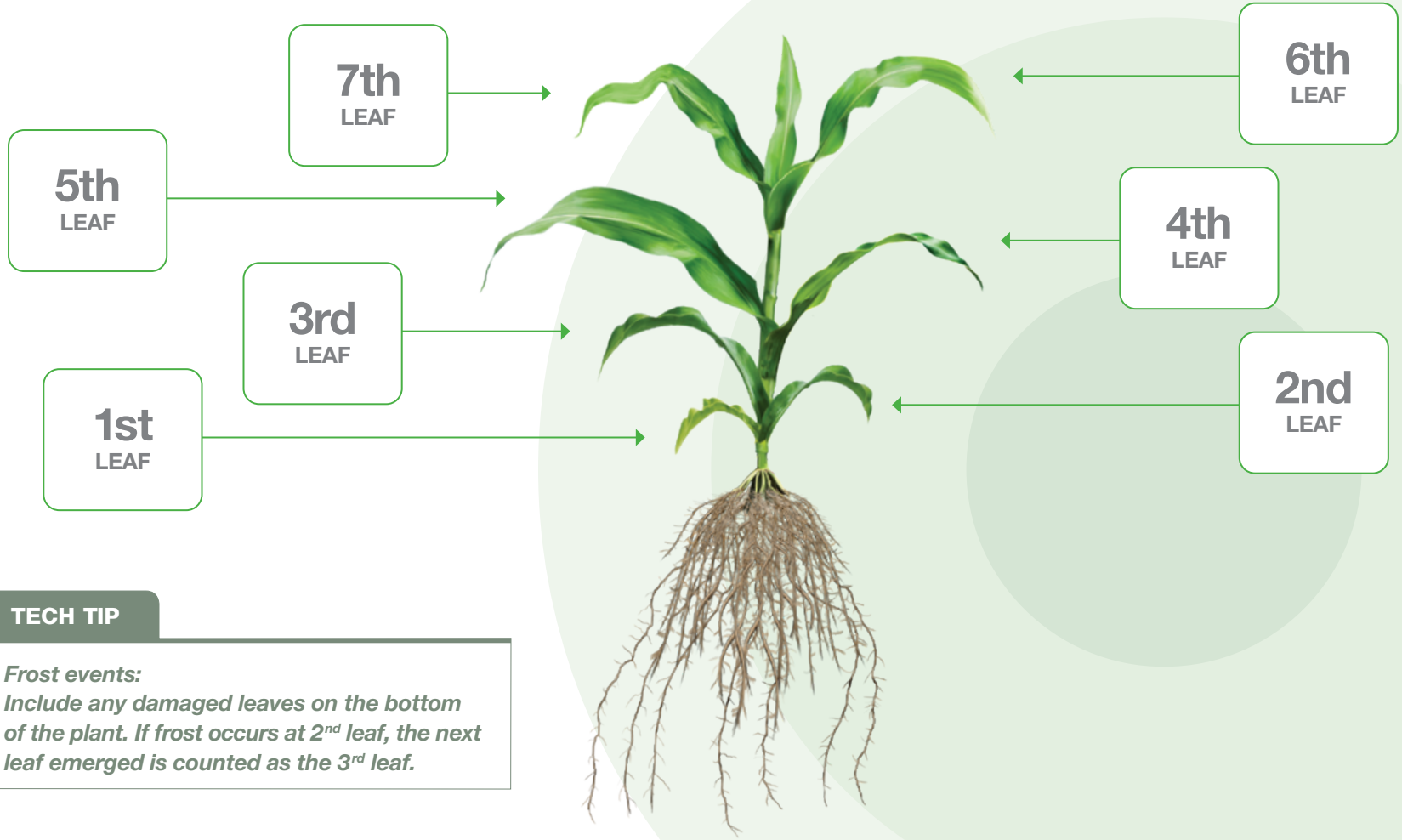
[1] All comparisons are to untreated, unless otherwise stated. [2] For alfalfa not for seed production, a maximum of two applications per season is permitted. [3] Apply Priaxor at the increased rate of 180 ml/ac for suppression of blossom blight.

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.

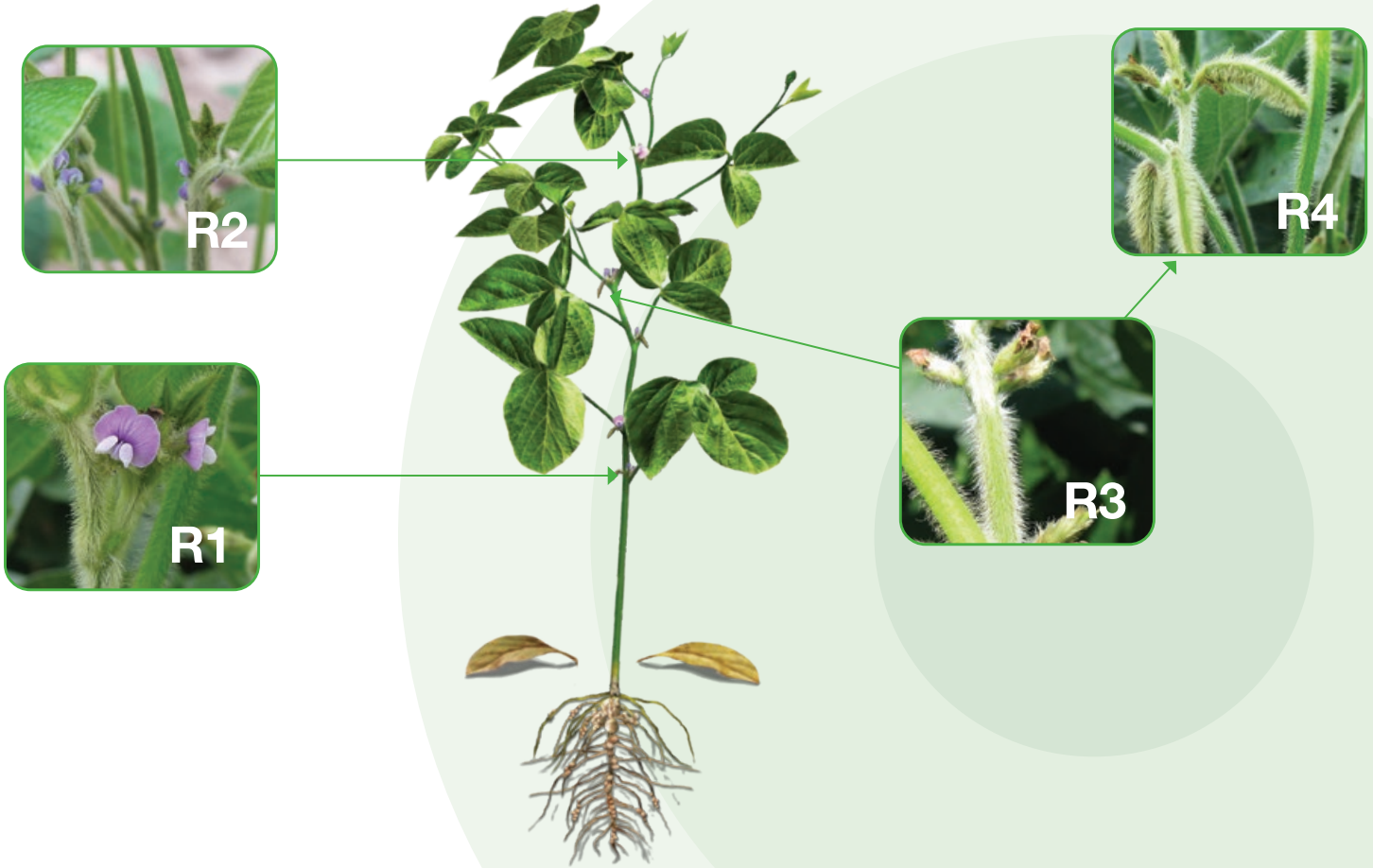
Identifying soybean stages.

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.

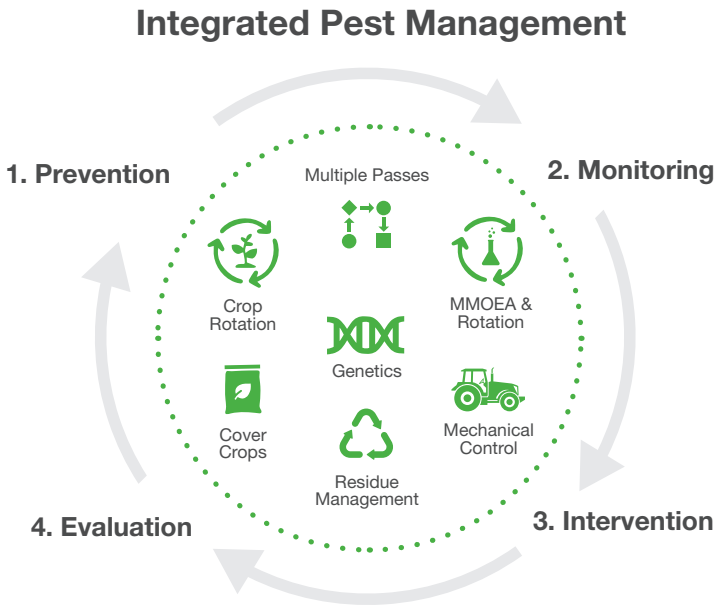
Integrated pest management (IPM) is a comprehensive approach to help reduce pest populations using a 4-step cycle.

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.

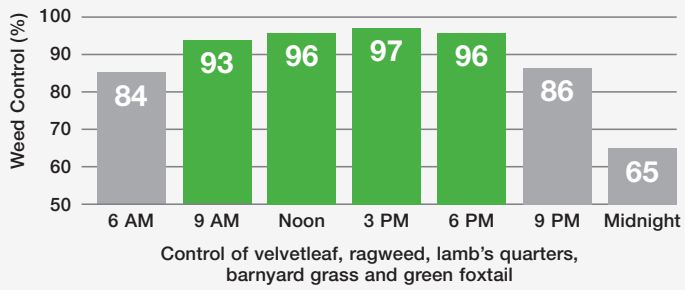
If you are adding AMS to your Liberty 200 SN tank mix, it's important to remember that AMS must always go in the tank first. The order should be as follows:

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 between 9 AM and 6 PM for optimal activity



Control of velvetleaf, ragweed, lamb's quarters, barnyard grass and green foxtail

Source: Stopps, G.J., Nurse, R.E., Sikkema, P.H., "The effect of time of day on the activity of postemergence soybean herbicides," 2013, Weed Technology, [online] 27(4), 690-695

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.[1]

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™ or XtendFlex® soybeans as part of a two-pass program following a strong residual program.

[1] See label for specific weeds.

Learn more about spraying Liberty 200 SN by visiting our online learning module at **agsolutions.ca/liberty200sn**.

Spray system hygiene.

Comprehensive cleaning is crucial.

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

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

Common contamination points.

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

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

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

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

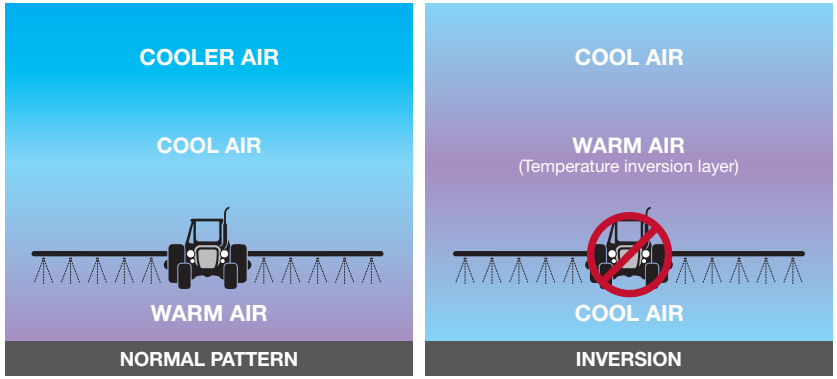
Group 4 herbicide injury on non-herbicide-tolerant soybeans

Basic procedure for spray system cleanout.

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

[1] Dispose of rinsate according to label requirements.

Recognizing temperature inversions.



How temperature inversions form.

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

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

Impact of temperature inversions on pesticide applications.

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

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

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

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

Conditions most likely to favour an inversion:

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

How to identify if an inversion exists:

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

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

Visit **agsolutions.ca/engenia** to learn more.

Waterhemp catching up to you? Here's how to stay ahead.

Waterhemp resistant to Group 2, 5, 9 (glyphosate) and post-applied Group 14 and 27, is found in Ontario and Quebec.[1,2] It's 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.[3,4]

How to identify waterhemp.

1. Often confused for pigweed, waterhemp has smooth, hairless stems (left) while pigweed has thick hairs (redroot) or thin hairs (smooth or green) on the stem (right).

Source: BASF, ON, 2017

2. The first true leaves of waterhemp are long, narrow and glossy (left). The other *Amaranthus* weeds (except Palmer amaranth) have hairy, egg-shaped leaves (right).

Source: BASF, ON, 2017

How to control waterhemp.

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

	Glyphosate-tolerant corn		Roundup Ready 2 Xtend® soybeans	XtendFlex® soybeans	Enlist E3™ soybeans	Conventional/ IP soybeans
Pre-plant/ Pre-emergence	Surtain™ herbicide[5,6] + Marksman® herbicide[5,6]	Integrity® herbicide	Zidua® SC herbicide + Engenia® herbicide + Eragon® Plus herbicide/Integrity[8]	Zidua SC + Engenia + Eragon Plus/ Integrity[8]	Zidua SC	Zidua SC (Check with your grain buyer.)[9]
	or	followed by				
Post-emergence	Marksman[6] + Armezon® PRO herbicide[7]/ Surtain[6]	Marksman	Engenia[7] (up to 2nd trifoliate)	Engenia[7] (up to 2nd trifoliate) or Liberty® 200 SN herbicide	Liberty 200 SN or Zidua SC	Zidua SC (Check with your grain buyer.)[9]
Post-harvest	–	–	Distinct® herbicide	Distinct	Distinct	Distinct

[1] "Waterhemp: biology and control," Field Crop News, https://fieldcropnews.com/2020/07/waterhemp-biology-and-control/. [2] Bulletin d'information malherbologie No 6 du RAP, 2022. [3] Biology and the management of waterhemp, 2017. [4] Sellers et al., 2017. [5] Marksman + Surtain can only be applied pre-emergence. [6] Can only be applied once per season. [7] In a tank mix with glyphosate. [8] In a tank mix with glyphosate + Merge® adjuvant.
[9] Talk to your grain buyer regarding maximum residue limits (MRLs) for markets around the world before applying to conventional or IP soybeans.

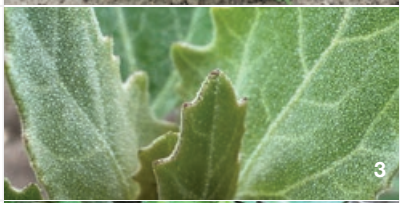
TECH TIP

Key management tips for waterhemp:

- ***Use at least two effective modes of action for consistent control***
- ***Apply when 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)***

Problem weeds: Consider these biological traits for weed management.

Scouting for problem weeds is vital, even late in the growing season. As soon as you've identified one, it's best to take action. Be sure to keep in mind that weeds are best controlled when small and actively growing. It's also good practice to apply the appropriate herbicide at the full rate with labelled adjuvants to improve absorption. Improve your coverage by increasing water volumes and selecting the proper nozzles.

Weed	Helpful information	Picture
Annual or rough stalk bluegrass	• Emerges in fall and early spring • Propagates through seeds or rhizomes • Consider a fall or early spring herbicide application to reduce late-season development or further spring establishment	
Common ragweed	• Herbicide resistance to Group 2, 5, 9, 14 in Ontario and Quebec, as well as Group 6 in Quebec • Ability to emerge late in growing season (large seed) • Select a residual herbicide and scout for late-season escapes to control when small • Lookalike weeds include biennial wormwood and wild carrot	
Lamb's quarters	• Waxy cuticle and mineral deposits prevent absorption of herbicide • Control at pre-emergence with an effective residual herbicide • Consider an adjuvant to increase herbicide penetration post-emergence • Can be confused with spreading atriplex and goosefoot species • Herbicide resistance to Group 9 in Quebec	
Perennial sow thistle	• Reproduces by seeds or underground roots • If left uncontrolled, becomes an extensive root system to manage • Consider a fall application for better herbicide uptake by the roots • Lookalike weeds are prickly lettuce and annual sow thistle	
Velvetleaf	• Fine hairs on the leaves and stem can prevent absorption of herbicide • Manage velvetleaf when small and actively growing • Consider an adjuvant to increase post-emergent herbicide penetration	

[1,2,3,4,5] Source: BASF.

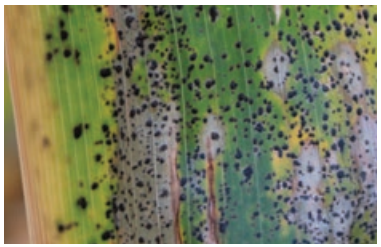
Tar spot, is it in your field?

Tar spot can reduce corn yields by up to 50 bu/ac under high infestations.[1] First documented in Indiana and Illinois in 2015, the pathogen continues to spread into other corn growing regions, such as Ontario, and requires active management. The infection and dispersal in corn growing regions is dependent on **three interacting variables**.

1. **The prevalence of corn in crop production means the disease has a HOST.**
   - Select tolerant hybrids, there are currently no resistant hybrids
   - Wind-dispersed spores allow the disease to spread in a region
   - Disease can overwinter on corn residue

2. **The second variable is the PATHOGEN you are managing. Here are a few tips to be able to identify tar spot:**
   - Raised, black spots spread across the leaf
   - Cannot be scraped off
   - Can be found on the husk

Click here for more on corn disease identification.



Tar spot can produce two types of lesions: black lesions (stroma) or fisheye lesions (tan to brown lesion with a dark border around the stroma).

3. **The final variable is the ENVIRONMENT and whether it is favourable for disease development. The following three factors are key for the development of tar spot:**
   - Prolonged leaf wetness (>7 hours)
   - Cool conditions (17-23°C)
   - High humidity (>75%)

Scouting should occur in areas conducive to these conditions. A preventative fungicide application with adequate coverage can be done at the VT/R1 stage with a product such as Veltyma® fungicide or Veltyma DLX.

To learn more about Veltyma **click here**.

To learn more about Veltyma DLX **click here**.

[1] "An overview of tar spot," Crop Protection Network, https://cropprotectionnetwork.org/publications/an-overview-of-tar-spot.

TECH TIP

When scouting for tar spot, look for leaves on the plant that are sitting flat horizontally where water can persist and spores may land.

Get the mode of action that's right for your operation.

Knowing all of your mode-of-action options allows you to use multiple modes of effective action for resistance management in your operation.

Herbicides

Group	Mode of Action	BASF Products
1	Acetyl CoA Carboxylase (ACCase) Inhibitors	Poast® Ultra and Select®
2	ALS (Acetolactate Synthase) Inhibitors	Pursuit®, component in Clean Sweep® and Conquest® LQ
3	Mitosis (Microtubule Assembly) Inhibitors	Prowl® H2O
4	Synthetic Auxins	Engenia®, component in Distinct® and Marksman®
5	Photosystem II Inhibitors (different binding site than 6 & 7)	Component in Conquest LQ and Marksman
6	Photosystem II Inhibitors (different binding site than 5 & 7)	Basagran® Forte, component in Clean Sweep
9	EPSP (5-enolpyruvylshikimate-3-phosphate) Synthase Inhibitor	Glyphosate[1]
10	Glutamine Synthetase Inhibitors	Liberty® 200 SN and Ignite®
14	Protoporphyrinogen Oxidase (PPO) Inhibitors	Component in Eragon® Plus, Integrity® and Surtain™
15	Mitosis (Very Long Chain Fatty Acids Synthesis) Inhibitors	Frontier® Max, Zidua® SC, component in Armezon® PRO, Integrity and Surtain
19	Inhibition of auxin transport	Component in Distinct
27	Carotenoid Biosynthesis (p-hydroxyphenyl pyruvate dioxygenase [HPPD]) Inhibitors	Armezon, component in Armezon PRO

Fungicides

Group	Mode of Action	BASF Products
3	Sterol Biosynthesis (Demethylation) Inhibitors	Cevya®, Sphaerex®, component in Cotegra®, Veltyma® and Veltyma DLX
7	Respiration (Complex II: Succinate-dehydrogenase) Inhibitors	Sercadis®, component in Cotegra and Priaxor®
11	Respiration (Complex III: Quinone Outside) Inhibitors	Headline®, component in Priaxor, Veltyma and Veltyma DLX
40	Cell Wall Biosynthesis (Cellulose Synthase)	Forum® and component in Zampro®
45	Respiration (Complex III: Quinone outside, stagmatellin binding type) Inhibitors	Component in Zampro
BM02	Biological (Microbial)	Serifel®

Insecticides

Group	Mode of Action	BASF Products
4	Nicotinic Acetylcholine Receptor Competitive Modulator	Titan®
9D	Chordotonal Organ TRPV Channel Modulator	Sefina®
30	GABA-Gated Chloride Channel Allosteric Modulator	Cimegra®

[1] Not a product of BASF.

Need product details? We've got them right here.

Key information to keep you moving.

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

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

Product	Armezon®	Armezon PRO	Basagran® Forte	Cevya®	Cimegra®
Active ingredient(s)	Topramezone	Dimethenamid-P, Topramezone	Bentazon	Mefentrifluconazole	Broflanilide
Concentration	336 g/L	630 g/L, 12.5 g/L	480 g/L	400 g/L	100 g/L
Type	H	H	H	F	I
Group	27	15, 27	6	3	30
Formulation	Liquid suspension	Emulsifiable concentrate	Liquid	Suspension concentrate	Suspension concentrate
WAMLEGS	L	E	L	L	L
Ground water volume L/ac, gal/ac[a]	40-80, 10-20	Minimum 40, 10	Minimum 40, 10	Minimum 40, 10	Minimum 20, 5 for in-furrow, 40-80, 10-20 for foliar
Aerial application	No	No	No	Yes	No
Rainfast (hours)	Dependent on the glyphosate used.	Dependent on the glyphosate used.	6	Avoid application if heavy rain is forecast.	Avoid application if heavy rain is forecast.
REI (hours)	12	24	12	12	N/A for in-furrow, 12 for foliar
Pre-harvest interval (days)	45 for corn harvest (silage, fodder or grain).	80 for corn; 45 for grazing or feeding treated corn forage, silage, fodder or grain to livestock.	Do not graze treated alfalfa or cut for hay within 20 days of application. See label for other crops.	7 for potatoes.	N/A for in-furrow, 14 for foliar.
Storage	Protect from freezing.	Protect from freezing.	Protect from freezing.	Protect from freezing.	Protect from freezing.
Bulk density (g/cm^3)	1.12	1.12	1.19	1.15	1.06

[a] Use higher water volumes to ensure adequate coverage.

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

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

Product	Clean Sweep®	Conquest® LQ	Cotegra®	Distinct®	Engenia®
Active ingredient(s)	Imazethapyr, Bentazon	Imazethapyr, Metribuzin	Prothioconazole, Boscalid	Dicamba, Diflufenzopyr	Dicamba
Concentration	240 g/L, 480 g/L	240 g/L, 480 g/L	150 g/L , 250 g/L	50% a.e., 20% a.e.	600 g/L
Type	H	H	F	H	H
Group	2, 6	2, 5	3, 7	4, 19	4
Formulation	Solution, Liquid	Solution, Suspension concentrate	Suspension concentrate	Wettable granule	Solution
WAMLEGS	L	L	L	W	L
Ground water volume L/ac, gal/ac[a]	80-120, 20-30	60-120, 15-32	Minimum 80, 20	40-80, 10-20	Minimum 40, 10 for soybeans
Aerial application	No	No	Yes	No	No
Rainfast (hours)	6	Avoid application if heavy rain is forecast.	3	4	4
REI (hours)	12	12	24	12	12
Pre-harvest interval (days)	100 for soybeans.	100 for soybeans.	21 for dry beans and soybeans; 36 for canola.	See label.	See label.
Storage	Protect from freezing.	Protect from freezing.	Protect from freezing.	Store in a cool, dry area.	Keep dry.
Bulk density (g/cm^3)	1.11, 1.19	1.11, 1.16	1.15	0.61	1.24

[a] Use higher water volumes to ensure adequate coverage.

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

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

Product	Eragon® LQ – pre-plant (component of Eragon Plus)	Eragon LQ – pre-harvest (component of Eragon Plus)	Forum®	Frontier® Max	Headline®
Active ingredient(s)	Saflufenacil	Saflufenacil	Dimethomorph	Dimethenamid-P	Pyraclostrobin
Concentration	342 g/L	342 g/L	500 g/L	720 g/L	250 g/L
Type	H	H	F	H	F
Group	14	14	40	15	11
Formulation	Water-based suspension concentrate	Water-based suspension concentrate	Suspension concentrate	Emulsifiable concentrate	Emulsifiable concentrate
WAMLEGS	L	L	L	E	E
Ground water volume L/ac, gal/ac[a]	40-80, 10-20	Minimum 80, 20	20-40, 5-10 for concentrate, 90-650, 24-172 for dilute	Minimum 70, 17	Minimum 40, 10 (For potatoes: minimum 80, 20)
Aerial application	No	No	Yes	No	Yes
Rainfast (hours)	Dependent on the glyphosate used.	Dependent on the glyphosate used.	2	N/A	Avoid application if heavy rain is forecast.
REI (hours)	12	12	12	24	12
Pre-harvest interval (days)	60 for barley, corn (field, sweet), soybeans, oats and wheat (spring, winter, durum).	2 for dry beans; 3 for soybeans. Do not graze or feed treated dry bean or soybean hay or straw to livestock. 3 for 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.	4 for potatoes.	40 for potatoes. See label for other crops.	3 for potatoes. See label for other crops.
Storage	Protect from freezing.	Protect from freezing.	Protect from freezing.	Store in a cool, dry area.	Protect from freezing.
Bulk density (g/cm^3)	1.15	1.15	1.15	1.13	1.06

[a] Use higher water volumes to ensure adequate coverage.

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

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

Product	Ignite®	ILEVO®	Integrity®	Insure® Cereal FX4 + Relenya®	
				Insure Cereal FX4	Relenya
Active ingredient(s)	Glufosinate ammonium	Fluopyram	Saflufenacil, Dimethenamid-P	Triticonazole, Metalaxyl, Fluxapyroxad, Pyraclostrobin	Mefentrifluconazole
Concentration	150 g/L	600 g/L	68 g/L, 600 g/L	16.7 g/L, 10 g/L, 8.35 g/L, 16.7 g/L	400 g/L
Type	H	ST	H	ST	ST
Group	10	7	14, 15	3, 4, 7, 11	3
Formulation	Solution	Suspension	Emulsifiable concentrate	Water-based suspension	Water-based suspension
WAMLEGS	L	N/A	E	N/A	N/A
Ground water volume L/ac, gal/ac[a]	Minimum 45, 12	Uniform distribution on the seed	40-80, 10-20	See label	See label
Aerial application	No	No	No	No	No
Rainfast (hours)	4	N/A	1	Avoid application if heavy rain is forecast	N/A
REI (hours)	12	N/A	12	N/A	N/A
Pre-harvest interval (days)	9 for dry beans.	N/A	100 for field corn; 60 for sweet corn and soybeans.	N/A	N/A
Storage	Protect from freezing.	Store in a cool, dry area.	Store in an unheated, dry area.	Store in a cool, dry area. Avoid freezing and temperatures above 30°C.	Protect from freezing.
Bulk density (g/cm^3)	1.11	1.24	1.09	1.07	1.15

[a] Use higher water volumes to ensure adequate coverage.

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

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

Product	Liberty® 200 SN	Marksman®	Optill®	Poast® Ultra	Priaxor®
Active ingredient(s)	Glufosinate ammonium	Dicamba, Atrazine	Imazethapyr, Saflufenacil	Sethoxydim	Fluxapyroxad, Pyraclostrobin
Concentration	200 g/L	132 g/L, 261 g/L	50.2%, 17.8%	450 g/L	167 g/L, 333 g/L
Type	H	H	H	H	F
Group	10	4, 5	2, 14	1	7, 11
Formulation	Solution	Suspension	Water dispersible granule	Emulsifiable concentrate	Liquid suspension
WAMLEGS	L	L	W	E	L
Ground water volume L/ac, gal/ac[a]	Minimum 80, 20	90-140, 25-35	40-80, 10-20	20-80, 5-20	40-80, 10-20
Aerial application	No	No	No	Yes	Yes
Rainfast (hours)	4	Avoid application if heavy rain is forecast.	3	1	1
REI (hours)	24	12	12	12	12
Pre-harvest interval (days)	86 for corn; 70 for soybeans; 60 for canola. 20 for grazing treated corn or soybean fields.	60 for corn. Do not graze or cut for fodder before crop maturity (ear emergence).	100 for soybeans.	70 for alfalfa and canola; 80 for dry beans, potatoes and soybeans.	21 for canola, corn and soybeans; 7 for sweet corn; 14 for alfalfa. See label for other crops.
Storage	Protect from freezing.	Store in a cool, dry area.	Store in a cool, dry area.	Store in a cool, dry area.	Protect from freezing.
Bulk density (g/cm^3)	1.10	1.17	0.51	1.00	1.16

[a] Use higher water volumes to ensure adequate coverage.

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

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

Product	Prowl® H20	Pursuit®	Sefina®	Select®	Sercadis®
Active ingredient(s)	Pendimethalin	Imazethapyr	Afidopyropen	Clethodim	Fluxapyroxad
Concentration	455 g/L	240 g/L	50 g/L	240 g/L	300 g/L
Type	H	H	I	H	F
Group	3	2	9D	1	7
Formulation	Microcapsule suspension	Solution	Emulsifiable concentrate	Emulsifiable concentrate	Suspension
WAMLEGS	M	L	E	E	L
Ground water volume L/ac, gal/ac[a]	40-80, 10-20	40-160, 10-40	Minimum 40-80, 10-20 for potatoes and soybeans	Minimum 60, 15	Minimum 40, 10
Aerial application	No	No	Yes	Yes	Yes
Rainfast (hours)	N/A	Avoid application if heavy rain is forecast	Avoid application if heavy rain is forecast	1	1
REI (hours)	12 for soybeans. See label for other crops.	12	12	12	12
Pre-harvest interval (days)	100 for soybeans. See label for other crops.	100 for dry beans, imazethapyr-tolerant corn and soybeans. Do not graze treated crops or cut for hay.	0 for crop Group 17 & 18 (alfalfa), 7 for potatoes and soybeans. See label for other crops.	60 for canola. See label for other crops.	7 for potatoes.
Storage	Protect from freezing.	Protect from freezing.	Store in a cool, dry area.	Store in a cool, dry area.	Protect from freezing.
Bulk density (g/cm^3)	1.18	1.11	1.03	0.96	N/A

[a] Use higher water volumes to ensure adequate coverage.

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

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

Product	Serifel®	Sphaerex®	Surtain™	Teraxxa® F4	Titan®
Active ingredient(s)	*Bacillus amyloliquefaciens* strain MBI 600	Metconazole, Prothioconazole	Saflufenacil, Pyroxasulfone	Broflanilide, Triticonazole, Metalaxyl, Fluxapyroxad, Pyraclostrobin	Clothianidin
Concentration	Not less than 5.5 x 10^{10} viable spores/g	112.5 g/L, 187.5 g/L	75 g/L, 120 g/L	16.7 g/L, 16.7 g/L, 10 g/L, 8.35 g/L, 16.7 g/L	600 g/L
Type	F	F	H	I, F	I
Group	BM02	3	14, 15	I: 30, F: 3, 4, 7, 11	4
Formulation	Wettable powder	Emulsifiable concentrate	Microcapsule suspension	Water-based suspension	Suspension
WAMLEGS	W	E	M	N/A	L
Ground water volume L/ac, gal/ac[a]	Minimum 20, 5	80, 20	Minimum 40, 10	See label	See label
Aerial application	No	Yes	No	No	No
Rainfast (hours)	Avoid application if heavy rain is forecast.	Avoid application if heavy rain is forecast.	Avoid application if heavy rain is forecast.	N/A	Avoid application if heavy rain is forecast.
REI (hours)	4	24	12[b]	N/A	12
Pre-harvest interval (days)	0 for all crops.	30 for barley, oats, rye, triticale and wheat.	60 for field corn.	N/A	N/A
Storage	Store between 5°C and 25°C.	Protect from freezing.	Store in a cool, dry area.	Protect from freezing.	Protect from freezing.
Bulk density (g/cm^3)	0.2-1.2	1.03	1.1	1.08	1.25

[a] Use higher water volumes to ensure adequate coverage. [b] Except for hand-set irrigation activities in corn (2 days).

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

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

Product	Veltyma®	Veltyma DLX	Zampro®	Zidua® SC
Active ingredient(s)	Mefentrifluconazole, Pyraclostrobin	Metconazole, Mefentrifluconazole, Pyraclostrobin	Dimethomorph, Ametoctradin	Pyroxasulfone
Concentration	200 g/L, 200 g/L	90 g/L, 200 g/L, 200 g/L	225 g/L, 300 g/L	500 g/L
Type	F	F	F	H
Group	3, 11	3, 11	40, 45	15
Formulation	Suspension concentrate	Liquid, Suspension concentrate	Suspension	Suspension concentrate
WAMLEGS	L	L	L	L
Ground water volume L/ac, gal/ac[a]	40-80, 10-20	Minimum 80, 20	Minimum 80, 20	Minimum 40, 10
Aerial application	Yes	Yes	Yes	No
Rainfast (hours)	Avoid application if heavy rain is forecast.	Avoid application if heavy rain is forecast.	2	N/A
REI (hours)	12	12[c]	12	12
Pre-harvest interval (days)	7 for potatoes, 21 for canola, corn, soybeans, sugar beets and wheat. See label for other crops.	21 for corn.	4 for potatoes.	Not specified. Follow the application timing for the crop on the label. Harvest can occur at crop maturity.
Storage	Protect from freezing.	Protect from freezing.	Protect from freezing.	Protect from freezing.
Bulk density (g/cm^3)	1.14	1.05, 1.14	1.11	1.21

[a] Use higher water volumes to ensure adequate coverage. [c] Except for hand harvesting corn (18 days) and hand-set irrigation in corn (3 days).

Quick reference guide for crop rotation.

Scan over your crop rotation options all in one place, so that you can be confident when planting next season.

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

Herbicide	Armezon®	Armezon PRO	Basagran® Forte	Clean Sweep®	Conquest® LQ	Distinct®	Engenia®[10]	Eragon® Plus (fall application)	Eragon Plus (spring application)	Frontier® Max	Ignite®
Alfalfa	FS[1]	FS	0 D[2]	B	B	30 D					0 D
Barley	B	B	< 1 M[2]	FS[4]	FS[4]	30 D		FS	CF[13]/FS	100 D[15]	70 D
Beans (kidney)	B	B		CF[5]/FS	CF[5]/FS	30 D			FS	0 D	0 D[17]
Beans (white)	FS[1]	FS	0 D[2]	CF[5]/FS	CF[5]/FS	30 D			FS	0 D	0 D[17]
Canola	FS	FS	< 1 M[2]	CF[5,6]/FS[6]	[8]	30 D		FS	FS		0 D
Corn (field)	CF/FS	CF/FS	0 D[2]	CF[5,7]/FS	CF[5,7]/FS	30 D		FS	CF[13]/FS	0 D	0 D
Corn (seed)	B	B	0 D[2]	B	B	30 D				0 D[16]	
Corn (sweet)	B	B		B	B	30 D		FS	CF[13]/FS	0 D	
Oats	B	B	< 1 M[2]	B	[9]	30 D		FS	CF[13]/FS	100 D[15]	70 D
Potatoes	FS[1]	FS		B	B	30 D				FS	0 D
Rye	B	B	<1 M[2,3]	B	[9]	30 D				100 D[15]	70 D
Soybeans	FS[1]	FS	0 D[2]	CF[5]/FS	CF[5]/FS	30 D	0 D[11]	FS	CF[13,14]/FS	0 D	0 D
Sugar beets	B	B	< 1 M[2]	B	[8]	30 D					
Wheat (spring)	FS	FS	< 1 M[2]	FS	FS[9]	30 D		FS	CF[13]/FS	100 D[15]	70 D
Wheat (winter)	4 M	4 M	< 1 M[2]	100 D[5]/FS	100 D[5,9]/FS	30 D		FS	CF[13]/FS	100 D[15]	70 D
Other crops	B	B		B	B	30 D	120 D	[12]		11 M[15]	120 D

FS = Can be planted the following season. CF = Can be planted in case of crop failure. D = Days M = Months
B = Conduct a field bioassay (a test strip grown to maturity) to confirm crop safety prior to seeding any rotational crops.

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

Herbicide	Integrity®	Liberty® 200 SN	Marksman®	Optill®	Poast® Ultra	Prowl® H20	Pursuit®	Select®	Surtain™	Zidua® SC (fall application)	Zidua SC (spring application)
Alfalfa			12 M[20]	B	0 D	B	B	0 D[22]	B	B	B
Barley	100 D	70 D	12 M[20]	FS[4]		B	FS[4]		FS[23]	B	11 M[24]
Beans (kidney)				FS		CF[13,21]/FS[21]	CF[5]/FS	0 D	B	B	B
Beans (white)			12 M[20]	FS		CF[13,21]/FS[21]	CF[5]/FS	0 D	B	B	B
Canola		0 D	22 M[2]	B	0 D	B	B	0 D	FS[23]	B	12 M[24]
Corn (field)	0 D	0 D		FS		CF[13,21]/FS	CF[5,7]/FS		0 D	FS	CF[13]/FS
Corn (seed)			4 M[2]	B		B	B		B	B	B
Corn (sweet)	0 D			B		B	B		B	B	B
Oats	100 D	70 D	12 M[20]	B		B	B		FS[23]	B	11 M[24]
Potatoes	11 M			B	0 D	B	B	0 D	B	FS	FS
Rye	100 D	70 D	12 M[3,20]	B		B	B		B	B	B
Soybeans		0 D	12 M[20]	CF[13]/FS	0 D	CF[13,21]/FS	CF[5]/FS		FS	FS	CF[13]/FS
Sugar beets	22 M[18]		22 M[2]	B	0 D	B	B		B	B	B
Wheat (spring)	100 D	70 D	12 M[20]	FS		B	FS		FS[23]	B	FS[24]
Wheat (winter)	100 D	70 D	12 M[20]	100 D[5,13]/FS			100 D[5]/FS		4 M	B	4 M
Other crops	11 M[19]	120 D		B	30 D	B	B	30 D	B	B	B

[1] If the maximum seasonal application rate was 37 ml/ha. [2] None listed on label. Information based on OMAFRA's 2021 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] Sensitive to a component of Conquest LQ (Conquest 480) and may be injured if planted in soil treated with Conquest LQ during the year of application or the following crop year. [9] Fall seeded or seeded as a cover crop can be injured when seeded within the same season as the application of a component of Conquest LQ (Conquest 480). [10] If using for perennial rosette control in summerfallow or perennial weed control in summerfallow and stubble, refer to the label for recropping restrictions. [11] Roundup Ready 2 Xtend® soybeans and XtendFlex® soybeans only. [12] All crops can be planted the second spring after application. [13] A second application of the product cannot be made in the rescue crop. [14] 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. [15] For mineral soil, if applied to muck soils, a field bioassay must be done. [16] Inbred lines grown in Southern Ontario only. [17] Not grown for seed. [18] 22 months at the 1.1 L/ha rate, 11 months for lower rates. [19] 22 months for peppers and onions at 1.1 L/ha and 0.73 L/ha rate. [20] Information obtained from labels of solo atrazine products available for purchase by growers as of the publication date of this guide. [21] See label for crop dependent restrictions. [22] Seedling alfalfa. [23] Can be planted the following season if the maximum rate of Surtain applied was 405 ml/ac (1.0 L/ha). [24] 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® herbicide, Optill® herbicide, Serifel® fungicide

Agitate[1], **A**nti-foaming compounds, buffers

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

Microcapsule suspension

Prowl® H2O herbicide, Surtain™ herbicide

Liquid and soluble

Armezon® herbicide, Basagran® Forte herbicide, Cevya® fungicide, Cimegra® insecticide, Clean Sweep® herbicide, Conquest® LQ herbicide, Cotegra® fungicide, Engenia® herbicide, Eragon® LQ herbicide (component of Eragon Plus), Forum® fungicide, Ignite® herbicide, Liberty® 200 SN herbicide, Marksman® herbicide, Priaxor® fungicide, Pursuit® herbicide, Sercadis® fungicide, Titan® insecticide, Veltyma® fungicide, Veltyma DLX fungicide, Zampro® fungicide, Zidua® SC herbicide

Emulsifiable concentrates

Armezon PRO herbicide, Frontier® Max herbicide, Headline® fungicide, Integrity® herbicide, Poast® Ultra herbicide, Sefina® insecticide, Select® herbicide, Sphaerex® fungicide

Glyphosate

(high load, containing adjuvant)

Surfactants

Merge® adjuvant

Always remember:

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

Always consult the label prior to mixing.

TECH TIP

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

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

***Click here** for details on rates.*

Big operation? Get it in bulk.

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

Totes:

Available products	Volume	Acres/tote
Eragon® Plus Powered by Kixor® Herbicide	4 x 7.39 L jugs (Eragon® LQ herbicide) 405 L (Merge® adjuvant)	500 to 1,000
Integrity® Powered by Kixor® Herbicide	450 L	1,010 to 1,525 (corn rate) 3,000 (soybean rate)
Liberty® 200 SN Herbicide	400 L	400[1]
Marksman® Herbicide	450 L	247 to 444
Merge® Surfactant	400 L	Rate will vary depending on tank mix
Prowl® H2O Herbicide	450 L	506 (soybean rate)

450 L Tote[2]

128 L Shuttle

[1] At the 1.0 L/ac (2.5 L/ha) rate.
[2] Image shown is not representative of the totes for Eragon Plus, Liberty® 200 SN herbicide and Merge.

Shuttles:

Available products	Volume	Acres/shuttle
Armezon® PRO Herbicide	121.5 L	300
Basagran® Forte Herbicide	130 L	145 to 185
Engenia® Herbicide	121.2 L	150 to 600
Sphaerex® Fungicide	138.24 L	640

Drums:

Available products	Volume	Acres/drum
Ignite® Herbicide	100 L	50 to 100
Teraxxa® F4 Seed Treatment	120 L	300 ml per 100 kg seed

Submit all bulk orders to BASF retailers by December 1, 2024.

For more information about products available in totes, shuttles and drums, or if you have full/partial totes left over at the end of the season, contact your BASF **AgSolutions®** Retail Representative or call **AgSolutions** Customer Care at 1-877-371-BASF (2273).

BASF Ag Rewards

2025 Eastern Canada Grower Program

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

BASF Ag Rewards

Offer Period:
October 1, 2024 – September 30, 2025

To be eligible for the Baseline and Bonus Rewards, growers must purchase at least $5,000 of BASF Products.[1] Purchases must include products from at least two segments, with a minimum of 40 acres from each segment.

		Segment 1			Segment 2		Segment 3			Segment 4
		Titan® insecticide	Integrity® herbicide	Eragon® Plus herbicide	Engenia®, Liberty® 200 SN and Marksman® herbicides	Basagran® Forte, Conquest® LQ, and Pursuit® herbicides and Sefina® insecticide	NEW Surtain™ herbicide	Cimegra® insecticide	Armezon® PRO, Frontier® Max, Prowl® H20 and Zidua® SC herbicides	Cevya®, Priaxor®, Veltyma® and Veltyma DLX, Cotegra®, Sercadis®, Serifel® Sphaerex®, Forum® and Zampro® fungicides
Baseline Rewards	Purchase from 4 Segments	11%	17%	11%	11%	11%	11%	11%	11%	13%
	Purchase from 3 Segments	5%	11%	5%	5%	5%	5%	5%	5%	9%
	Purchase from 2 Segments	3%	3%	3%	3%	3%	3%	3%	3%	3%
Bonus Rewards	**Multiple Modes of Effective Action Offer**[2] Purchase a minimum of 40 acres of any product or product combination from a minimum of two of the three segments. Segment 1 – Integrity / Eragon Plus Segment 2 – Engenia / Liberty 200 SN / Marksman Segment 3 – Surtain, Armezon PRO, Frontier Max, Prowl H2O, Zidua SC		Add 3%	Add 3%	Add 3%		Add 3%		Add 3%	
	Potato Protection Offer[2] Purchase a minimum of 118 matching acres of Titan and Cimegra insecticides	Add 3%						Add 3%		
MAXIMUM TOTAL SAVINGS		14%	20%	14%	14%	11%	14%	14%	14%	13%

Elite Bonus
Purchase $100,000 or more of BASF Products (including InVigor® hybrid canola) and qualify for the Baseline Reward to receive a 1% reward on all BASF Products (excluding InVigor).

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

[1] BASF Products include but are not limited to InVigor hybrid canola. See Official Terms and Conditions for a complete list of qualifying BASF Products. In order for InVigor hybrid canola 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.

1. **Offer Period:** The 2025 Grower Rewards Program (Eastern Canada) (the "**Offer**") is administered by BASF Canada Inc. o/a BASF Canada ("**BASF**") and begins on October 1, 2024 at 7:00 a.m. Eastern Time ("**ET**") and ends on September 30, 2025 at 11:59 p.m. ET (the "**Offer Period**").

2. **Eligibility:** The Offer is open to Canadian growers who: (i) reside in Ontario, New Brunswick, Nova Scotia, Newfoundland and Labrador, Prince Edward Island, British Columbia (excluding the Peace River Region of British Columbia) and Quebec (each, an "**Eligible Territory**"); (ii) are the owner, operator or designated representative of a farm located in an Eligible Territory (the "**Farm**"); and (iii) have reached the legal age of majority in their province of residence (each, an "**Eligible Participant**"). These Official Terms and Conditions (the "**Terms**") govern this Offer and must be followed by all Eligible Participants at all times. By agreeing to participate in the Offer, each Eligible Participant is signifying his/her agreement to unconditionally comply with, and be legally bound by, these Terms. This Offer is not available to buying groups, relationship groups (including but not limited to any BASF reward group) or any individual or entity other than an Eligible Participant as defined above.

   Note: BASF will grandfather in 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, step mother, father, step father, grandparent, step grandparent, sister, half-sister, step sister, brother, half-brother, step brother or children, step children, grandchildren, step grandchildren).

3. **How to Qualify for the Offer:** To qualify for the Offer, an Eligible Participant must fully comply with these Terms (as determined by BASF in its sole and absolute discretion) and must, during the Offer Period, make purchases from an authorized retailer located in an Eligible Territory that consists of $5,000 CAD or more (exclusive of fees and taxes, calculated using the Suggested Retail Price ("**SRP**"), of the following BASF Products (the "**BASF Product(s)**"):
   - **Herbicides:** ARMEZON®, ARMEZON PRO, BASAGRAN®, BASAGRAN FORTE, CLEAN SWEEP®, CONQUEST® LQ, DISTINCT®, ENGENIA®, ERAGON® LQ, ERAGON PLUS, FRONTIER® MAX, INTEGRITY®, LIBERTY® 200 SN, MARKSMAN®, OPTILL®, POAST® ULTRA, PROWL® H2O, PURSUIT®, SELECT®, SURTAIN® and ZIDUA® SC
   - **Fungicides:** CANTUS®, CEVYA®, COTEGRA®, FORUM®, HEADLINE® AMP, PRIAXOR®, SERCADIS®, SERIFEL®, SPHAEREX®, VELTYMA®, VELTYMA DLX and ZAMPRO®
   - **Seed:** INVIGOR® HYBRID CANOLA
   - **Insecticides:** CIMEGRA®, SEFINA® and TITAN®

   For information on the SRP of the BASF Products listed in these Terms, please contact your authorized retailer located in an Eligible Territory. To confirm whether a retailer is an authorized retailer of BASF products, please call us toll-free at 1-877-371-BASF (2273).

   All decisions regarding whether or not an Eligible Participant has qualified for the Offer will be made by BASF in its sole and absolute discretion and shall be considered to be final and binding without right of appeal. Additionally, Eligible Participants must earn a minimum Total Reward (as defined by Section 8 below) of $50 CAD to qualify for the Offer.

4. **How to Qualify for a Baseline Reward:** To be eligible to earn a Baseline Reward (a "**Baseline Reward**"), an Eligible Participant must: (i) qualify for the Offer in accordance with Section 3; and (ii) purchase (from an authorized retailer located in an Eligible Territory) a minimum of forty (40) acres (unless otherwise specified herein) of qualifying reward products (each a "**Qualifying Reward Product**") in any two (2) or more of the four (4) BASF segments (each, a "**Segment**") as set-out below. The percentage of the Baseline Reward that an Eligible Participant is eligible to receive off the SRP, exclusive of taxes, will be determined as follows:

	Segment 1			Segment 2		Segment 3			Segment 4
(See details for minimum purchase threshold)	Titan insecticide	Integrity herbicide	Eragon Plus** herbicide	Engenia, Liberty 200 SN and Marksman herbicides	Basagran Forte, Conquest LQ, and Pursuit* herbicides and Sefina insecticide	Surtain herbicide	Cimegra insecticide	Armezon PRO, Frontier Max, Prowl H20 and Zidua SC herbicides	Cevya, Priaxor, Veltyma** and Veltyma DLX Cotegra, Sercadis, Serifel, Sphaerex**, Forum and Zampro fungicides
Purchase from 4 Segments	11%	17%	11%	11%	11%	11%	11%	11%	13%
Purchase from 3 Segments	5%	11%	5%	5%	5%	5%	5%	5%	9%
Purchase from 2 Segments	3%	3%	3%	3%	3%	3%	3%	3%	3%

* A minimum purchase of 39 acres of Pursuit herbicide will satisfy the minimum purchase threshold of Qualifying Reward Products for Segment 2 for the Baseline Reward.

** The following table shows the BASF brand to which each Qualifying Reward Product belongs. Each Qualifying Reward Product shown in this table will each count as one (1) Qualifying Reward Product for the purposes of this Offer:

BASF Brands	Qualifying Reward Product
Eragon LQ, Eragon Plus, Optill	ERAGON PLUS
Headline, Headline AMP, Veltyma	VELTYMA
Caramba, Sphaerex	SPHAEREX

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:

Bonus Reward	Requirements to Qualify: NOTE: All orders/purchases outlined herein must be made through an authorized retailer located in an Eligible Territory. All Bonus Rewards are calculated using the SRP.
Multiple Modes of Effective Action Reward	To qualify, during the Offer Period an Eligible Participant must purchase a minimum of forty (40) acres of: (i) an eligible Qualifying Reward Product from Segment 1, 2 or 3 or (ii) any combination of eligible Qualifying Reward Products from a minimum of 2 Segments in Segments 1, 2 or 3. For the avoidance of doubt, purchases of eligible Qualifying Reward Products from Segments 1, 2 or 3 to qualify for the Baseline Reward will also count towards the forty (40) acre minimum purchase requirement to qualify for the Multiple Modes of Effective Action Reward. The percentage of the Multiple Modes of Effective Action Reward that an Eligible Participant is eligible to receive off the SRP, exclusive of taxes, is set out in the chart on page 3.

Bonus Reward	Requirements to Qualify: NOTE: All orders/purchases outlined herein must be made through an authorized retailer located in an Eligible Territory. All Bonus Rewards are calculated using the SRP.
Potato Protection Reward	To qualify, during the Offer Period an Eligible Participant must purchase a minimum of one hundred and eighteen (118) acres of each of Titan and Cimegra. For the avoidance of doubt, purchases of Titan and Cimegra to qualify for the Baseline Reward will also count towards the one hundred and eighteen (118) acre minimum purchase requirement to qualify for the Potato Protection Reward. The percentage of the Potato Protection Reward that an Eligible Participant is eligible to receive off the SRP, exclusive of taxes, is set out in the chart on page 3.

IMPORTANT NOTE REGARDING INVIGOR

In order for InVigor hybrid canola to qualify as a BASF Product, the Eligible Participant must sign, have in full force and effect and continuously comply with the Liberty and Trait Agreement (the "**LTA**") respecting the purchase and use of LibertyLink® seed (as those terms are defined in the LTA). This Offer is void on all products if any products are used on seed, or plants grown from seed, derived from certified InVigor hybrid canola seed or if InVigor is used contrary to the LTA.

To obtain information about the LTA, and/or to complete an LTA, Eligible Participants should call **AgSolutions®** Customer Care at 1-877-371-BASF (2273) or email basf@basf-agsolutions.ca. A signed LTA must be promptly submitted by the Eligible Participant's authorized retailer located in an Eligible Territory either by mail, fax or online via BASF's Secure Retail Website.

The percentage of the Bonus Reward(s), if any, that will be added to an Eligible Participant's Baseline Reward will be determined as follows:

		Segment 1			Segment 2		Segment 3			Segment 4
	(See details for minimum purchase threshold)	Titan insecticide	Integrity herbicide	Eragon Plus** herbicide	Engenia, Liberty 200 SN and Marksman herbicides	Basagran Forte, Conquest LQ, and Pursuit* herbicides and Sefina insecticide	Surtain herbicide	Cimegra insecticide	Armezon PRO, Frontier Max, Prowl H20 and Zidua SC herbicides	Cevya, Priaxor, Veltyma** and Veltyma DLX Cotegra, Sercadis, Serifel, Sphaerex**, Forum and Zampro fungicides
Baseline Rewards	Purchase from 4 Segments	11%	17%	11%	11%	11%	11%	11%	11%	13%
	Purchase from 3 Segments	5%	11%	5%	5%	5%	5%	5%	5%	9%
	Purchase from 2 Segments	3%	3%	3%	3%	3%	3%	3%	3%	3%
Bonus Rewards	Multiple Modes of Effective Action Reward		3%	3%	3%		3%		3%	
	Potato Protection Reward	3%						3%		
	Max Total Savings	**14%**	**20%**	**14%**	**14%**	**11%**	**14%**	**14%**	**14%**	**13%**

By way of example only: If an Eligible Participant qualifies for the Offer in accordance with Section 3 and purchased 100 acres of Integrity + 100 acres of Marksman + 200 acres of Veltyma DLX, the Eligible Participant would be eligible for:

- Baseline Reward of 11% on Integrity, 5% on Marksman and 9% on Veltyma DLX; and
- 3% Multiple Mode of Effective Action Reward on Integrity and Marksman.

By way of example only: If an Eligible Participant qualifies for the Offer in accordance with Section 3 and purchased 200 acres of Titan + 100 acres of Engenia + 300 acres of Cimegra + 200 acres of Surtain + 300 acres of Sphaerex, the Eligible Participant would be eligible for:

- Baseline Reward of 11% on each of Titan, Engenia, Cimegra, Surtain and 13% on Sphaerex;
- 3% Multiple Mode of Effective Action Reward on Engenia and Surtain; and
- 3% Potato Protection Reward on 200 acres of Titan and 300 acres of Cimegra.

6. **How to Qualify for an Elite Reward:** An Eligible Participant who (i) qualifies for the Offer in accordance with Section 3; (ii) qualifies for a Baseline Reward in accordance with Section 4; and (iii) makes purchases during the Offer Period from an authorized retailer located in an Eligible Territory that consist of $100,000 CAD or more (exclusive of fees and taxes, calculated using the SRP) of BASF Products is eligible to earn an additional reward related to all Elite Qualifying Products (as defined below) purchased by the Eligible Participant from an authorized retailer located in an Eligible Territory during the Offer Period (the "**Elite Reward**"). The value of the Elite Reward is calculated as 1% of the SRP (exclusive of fees and taxes) of the Elite

Qualifying Products purchases which qualify for the Elite Reward (the "**Elite Reward Percentage Value**"). The following are each an Elite Qualifying Product (the "**Elite Qualifying Products**"):

a. **Herbicides:** ARMEZON, ARMEZON PRO, BASAGRAN, BASAGRAN FORTE, CLEAN SWEEP, CONQUEST LQ, DISTINCT, ENGENIA, ERAGON PLUS, FRONTIER MAX, INTEGRITY, LIBERTY 200 SN, MARKSMAN, OPTILL, OUTLOOK, POAST ULTRA, PROWL H2O, PURSUIT, SELECT, SURTAIN and ZIDUA SC

b. **Fungicides:** CANTUS®, CARAMBA, CEVYA, COTEGRA, FORUM, HEADLINE, HEADLINE AMP, PRIAXOR, SERCADIS, SERIFEL, SPHAEREX, VELTYMA, VELTYMA DLX and ZAMPRO

c. **Insecticides:** CIMEGRA, SEFINA and TITAN

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

8. The calculation of Total Reward on Qualifying Reward Products and the Total Reward on Elite Qualifying Products (collectively, the "**Total Reward**") will be based on SRP in the 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. Retailers have complete autonomy to determine the resale pricing for the products described herein and may choose to sell such products at prices which are different from those suggested by BASF. Total Rewards will be calculated on a per acre basis, using all Qualifying Reward Products and Elite Qualifying Products purchased, including partial cases.

   Prior to qualifying for the Offer, the Eligible Participant will be required to accept and agree to be legally bound by these Terms. In addition, the Eligible Participant will have the opportunity to agree to the terms and conditions contained within the BASF Grower Privacy Consent and the BASF Commercial Electronic Messages Consent (collectively, the "**Consent Forms**"). Copies of the Consent Forms can be obtained by contacting **AgSolutions** Customer Care at 1-877-371-BASF (2273). An Eligible Participant may subsequently withdraw his/her consent to receive electronic communications at anytime without affecting their eligibility for this Offer.

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

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

Qualifying Product	Unit Size	Acres/ Unit
ARMEZON	Case	160
ARMEZON PRO	Case	40
BASAGRAN	Case	26
BASAGRAN FORTE	Case	29
BANVEL II	Case	40
CANTUS	Case	160
CEVYA	Case	80
CIMEGRA	Case	60
CLEAN SWEEP	Case	20
CONQUEST LQ	Case	40

Qualifying Product	Unit Size	Acres/ Unit
COTEGRA	Case	70
DISTINCT	Case	80
ENGENIA	Case	40
ERAGON	Case	120
ERAGON LQ	Case	160
ERAGON PLUS	Case	40
FORUM	Case	50
FRONTIER MAX	Case	60
HEADLINE AMP	Case	40
INTEGRITY	Case	60

Qualifying Product	Unit Size	Acres/ Unit
INVIGOR HYBID CANOLA†	Bag	-
LIBERTY 200 SN	Case	20
MARKSMAN	Case	20
OPTILL	Case	120
POAST ULTRA	Case	80
PRIAXOR	Case	160
PROWL H20	Case	20
PURSUIT	Case	39
SEFINA	Case	80
SELECT	Case	60

Qualifying Product	Unit Size	Acres/ Unit
SERCADIS (2 X 1.35 L)	Case	20
SERCADIS (2 X 4.05 L)	Case	60
SERIFEL	Case	60
SURTAIN	Case	40
SPHAEREX	Case	80
TITAN	Case	44
VELTYMA	Case	80
VELTYMA DLX	Case	20
ZAMPRO	Case	51
ZIDUA SC	Case	80

† Seeding rate varies depending on variety and are subject to change, please visit **agsolutions.ca** for updates.

10. **Verification:** BASF reserves the right, in its sole and absolute discretion, to require proof of identity and/or eligibility (in a form acceptable to BASF): (i) for the purposes of verifying an Eligible Participant's eligibility to participate in this Offer; (ii) for the purposes of verifying the legitimacy of any Data (as defined below in Section 12b), BASF Products/Qualifying Reward Products/Elite Qualifying Products and/or other information; and/or (iii) for any other reason BASF deems necessary, in its sole and absolute discretion, for the purposes of administering this Offer in accordance with BASF's interpretation of the letter and spirit of these Terms. Failure of an Eligible Participant to provide such proof of compliance with these Terms in writing to the complete satisfaction of BASF may result in disqualification in the sole and absolute discretion of BASF. All determinations regarding whether or not an Eligible Participant is eligible to earn a Total Reward in accordance with these Terms (and, if so, the amount of such Total Reward) will be made by BASF in its sole and absolute discretion. If it is discovered by BASF that any Eligible Participant (or any person or entity purporting to be an Eligible Participant) has attempted to use multiple names, multiple identities and/or any other means not expressly sanctioned by these Terms to participate in or disrupt this Offer, then he/she may be disqualified from the Offer in the sole and absolute discretion of BASF.

11. **Notification and Confirmation:** If an Eligible Participant has been deemed by BASF, in its sole and absolute discretion, to be eligible to qualify for the Offer and to receive a Total Reward, then the Eligible Participant may be notified by a representative of BASF. If an Eligible Participant: (i) cannot accept (or is unwilling to accept) the Total Reward for any reason; and/or (ii) is determined to be in violation of BASF's interpretation of the letter and/or spirit of these Terms (all as determined by BASF in its sole and absolute discretion); then the Total Reward shall, in the sole and absolute discretion of BASF, be forfeited in its entirety and the Eligible Participant will be disqualified from participating in the Offer.

12. **Additional Conditions:**

a. This Offer does not apply to any Elite Qualifying Products and/or Qualifying Reward Products and/or BASF Products that are returned for any reason whatsoever or for any Elite Qualifying Products and/or Qualifying Reward Products and/or BASF Products purchased for resale.

b. Retailers are required to submit customer transactional data relating to orders and purchase transactions (the "**Data**") on behalf of Eligible Participants to BASF. Offer eligibility will be determined by BASF, in its sole and absolute discretion, using this Data. All Data must be submitted by the retailer to BASF by no later than **October 9, 2025** in order for such Data to be eligible for the purposes of this Offer.

c. Any overpayment under the program will be refunded to BASF by the Eligible Participant or will be deducted from the Eligible Participant's future year's program reward(s) at the election and direction of BASF. If an Eligible Participant who has earned a Total Reward pursuant to this Offer returns any BASF Products/Qualifying Reward Products/Elite Qualifying Products to a retailer after September 30, 2025, then the Eligible Participant shall be required to promptly return or repay the value of the Total Reward (or the applicable portion of the Total Reward) by contacting **AgSolutions** Customer Care at 1-877-371-BASF (2273). Failure to do so will result in a deduction from the Eligible Participant's future year's program reward(s). BASF also reserves the right to seek remedies and damages to the fullest extent permitted by law.

13. **General Conditions:** Please allow a minimum of eight (8) weeks for the Total Reward to be received from the time the Data is sent to BASF by a retailer. All Data is subject to verification and will be considered void if it cannot be verified to the complete satisfaction of BASF. The Total Reward must be accepted as awarded and is not transferable or assignable. BASF reserves the right, in its sole and absolute discretion, to substitute the Total Reward or a component thereof with a reward of equal or greater retail value.

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

15. BASF, its parent companies, associated and affiliated companies, agent suppliers, advertising/promotion agencies and any other entity involved in the development, production, administration or fulfillment of the Offer, and each of their respective officers, directors, employees, agents, representatives, successors and assigns (collectively, the "**Released Parties**") will not be liable for: (i) any late, lost, misdirected, delayed, incomplete, incompatible or misdirected Data and/or other information (all of which is void); (ii) any failure(s), malfunction(s) or other problem(s) of any nature whatsoever; (iii) the failure of any order, purchase transaction, Data and/or other element(s) of this Offer to be received, captured or recorded for any reason whatsoever; (iv) anyone being incorrectly and/or mistakenly identified as an Eligible Participant, a Total Reward recipient or eligible Total Reward recipient; and/or (v) any combination of the above.

16. BASF reserves the right, in its sole and absolute discretion, to withdraw, suspend or amend this Offer in any way, or to amend these Terms in any way, without prior notice or obligation, in the event of: (i) any cause beyond the reasonable control of BASF that interferes with the proper conduct of this Offer as contemplated by these Terms, including, without limitation, any error, problem, tampering, unauthorized intervention, fraud or failure of any kind whatsoever; (ii) any accident, printing, administrative, or other error of any kind; and/or (iii) for any other reason that BASF deems necessary, in its sole and absolute discretion, to ensure that this Offer is conducted in accordance with BASF's interpretation of the letter and spirit of these Terms. Any attempt to undermine the legitimate operation of this Offer in any way (as determined by BASF in its sole and absolute discretion) may be a violation of criminal and civil laws and should such an attempt be made, BASF reserves the right to seek remedies and damages to the fullest extent permitted by law.

17. BASF reserves the right to require that an Eligible Participant sign BASF's form of declaration and release form prior to being confirmed as the recipient of the Total Reward.

18. By participating in this Offer and accepting the Total Reward, each Eligible Participant (i) confirms compliance with these Terms; (ii) acknowledges acceptance of the Reward (as awarded); and (iii) releases the Released Parties from any and all liability in connection with this Offer, the Eligible Participant's participation herein and/or the awarding and use/misuse of the Total Reward or any portion thereof.

19. If an Eligible Participant who is eligible to receive a Total Reward is deemed to be in violation of these Terms (as determined by BASF in its sole and absolute discretion), then the Eligible Participant may, in the sole and absolute discretion of BASF, be disqualified (and, if disqualified, will forfeit all rights to the Total Reward).

20. BASF reserves the right, in its sole and absolute discretion, to adjust any of the dates, timeframes and/or other Offer mechanics stipulated in these Terms, to the extent deemed necessary by BASF, for purposes of verifying compliance by any Eligible Participant or other information with these Terms, or as a result of any problems, or in light of any other circumstances which, in the opinion of BASF, in its sole and absolute discretion, affect the proper administration of the Offer as contemplated in these Terms, or for any other reason.

21. In the event of any discrepancy or inconsistency between the terms and conditions of these Terms and disclosures or other statements contained in any Offer-related materials and/or any instructions or interpretations of these Terms given by any representative of BASF, the terms and conditions of these Terms shall prevail, govern and control to the fullest extent permitted by law.

22. By participating in this Offer, each Eligible Participant expressly consents to BASF, its agents and/or representatives, storing, collecting, sharing and using any personal information submitted for the purpose of administering the Offer, managing, fulfilling and improving the offer and in accordance with BASF's privacy policy (**https://products.basf.com/global/en/legal/data-protection**). This section does not limit any other consent(s) that an individual may provide to BASF or others in relation to the collection, use and/or disclosure of their personal information.

23. BASF reserves the right, in its sole and absolute discretion, to take whatever measures or actions it deems necessary to help ensure that the Offer is administered in accordance with BASF's interpretation of the letter and spirit of these Terms. **ANY INDIVIDUAL OR ENTITY DEEMED BY BASF AT ANY TIME TO BE IN VIOLATION OF BASF'S INTERPRETATION OF THE LETTER AND/OR SPIRIT OF THESE TERMS FOR ANY REASON WHATSOEVER IS SUBJECT TO DISQUALIFICATION IN THE SOLE DISCRETION OF BASF**.

24. The invalidity or unenforceability of any provision of these Terms shall not affect the validity or enforceability of any other provision. In the event that any provision is determined to be invalid or otherwise unenforceable or illegal, these Terms shall otherwise remain in effect and shall be construed in accordance with the terms as if the invalid or illegal provision were not contained herein.

25. To the fullest extent permitted by applicable law, all issues and questions concerning the construction, validity, interpretation and enforceability of these Terms or the rights and obligations of Eligible Participants, BASF or any of the other Released Parties in connection with the Offer will be governed by and construed in accordance with the domestic laws of the Province of Ontario and the federal laws of Canada applicable therein, without giving effect to any choice of law or conflict of law rules or provisions that would cause the application of any other jurisdiction's laws. The parties hereby consent to the exclusive jurisdiction and venue of the courts located in Ontario in any action to enforce (or otherwise relating to) these Terms or relating to this Offer.

26. BASF reserves the right to assign some or all of its rights, duties, liabilities and obligations under this Offer to any other person(s) or entity(ies) without prior consent from an individual and/or entity who is eligible to participate in and/or qualify for this Offer; however, such person or entity shall not be permitted to assign, by operation of law or otherwise, this Offer to any other individual or entity, in whole or in part, without the express prior written consent of BASF, which consent can be withheld in the unfettered discretion of BASF.

27. After having been presented with a French version of these Terms, and having had the opportunity to review same, the Parties affirm having expressly requested to receive, execute and be bound by the English version of these Terms and all ancillary documents relating thereto. Après avoir reçu une version française des présentes Modalités, et avoir eu l'occasion de consulter celle-ci adéquatement, les Parties affirment avoir expressément demandé à recevoir, de signer, et d'être liées par la version anglaise de ces Modalités et de tout document y afférent.

Always read and follow label directions.

AgSolutions, ARMEZON, BASAGRAN, BIOSTACKED, CANTUS, CARAMBA, CEVYA, CIMEGRA, CLEAN SWEEP, Clearfield, CONQUEST, COTEGRA, DISTINCT, ENGENIA, ERAGON, FORUM, FRONTIER, HEADLINE, IGNITE, ILEVO, INSCALIS, INSURE, INTEGRITY, INVIGOR, KIXOR, LIBERTY, LIBERTYLINK, MARKSMAN, MERGE, NODULATOR, OPTILL, OUTLOOK, POAST, PRIAXOR, PROWL, PURSUIT, RELENYA, REVYSOL, SEFINA, SELECT, SERCADIS, SERIFEL, SPHAEREX, TERAXXA, TITAN, VELONDIS, VELTYMA, XEMIUM, ZAMPRO and ZIDUA are registered trademarks of BASF; and SURTAIN is a trademark of BASF; all used under license by BASF Canada Inc. INSURE CEREAL FX4, RELENYA and/or TERAXXA F4 seed treatments, and CANTUS, CARAMBA, CEVYA, COTEGRA, FORUM, HEADLINE, HEADLINE AMP, PRIAXOR, SERCADIS, SERIFEL, SPHAEREX, VELONDIS PLUS, VELTYMA, VELTYMA DLX and/or ZAMPRO fungicides should be used in a preventative disease control program.

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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 LABELED 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 contains 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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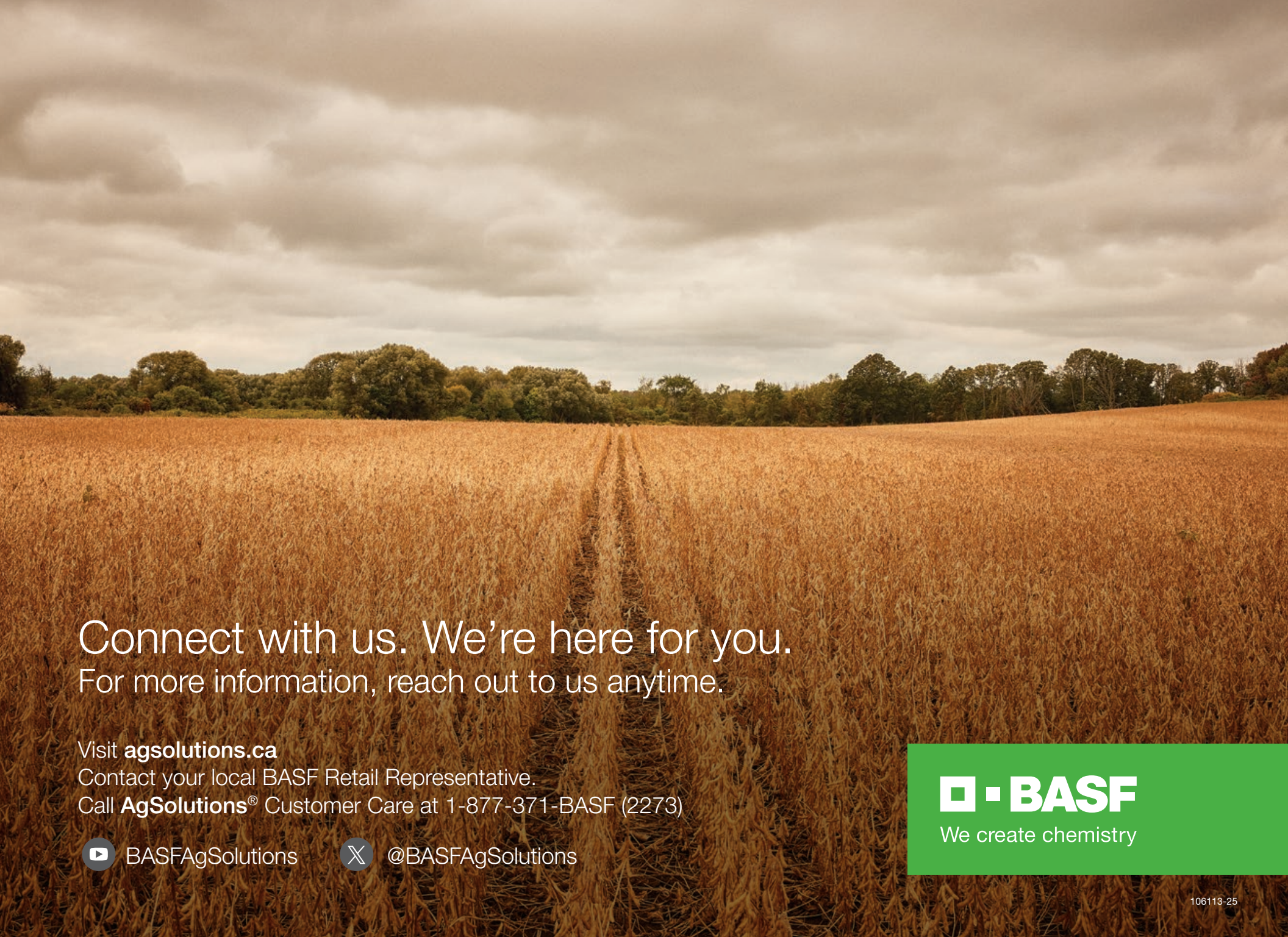
Smaller weeds are easier to kill.

Aim to spray when weeds are less than 2″/5 cm in size.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