PRODUCT GUIDE

EASTERN CANADA | 2026

ADAMA

ALL IN ON YOUR SUCCESS

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VANTANA™

Protect your potatoes, soybeans, apples, blueberries, and more with a powerful fungicide that manages disease resistance and delivers broad, protective coverage. Stay ahead of disease. Grow with confidence.

- Resistance management tool
- Broad-spectrum disease control
- Can be used on multiple crops
- Multiple rates for precise control
- Controls Late Blight and White Mould in Potatoes
- Controls Cedar Apple Rust in Apples
- White Mould control in Soybeans and Dry Beans
- Suppression of Mummy Berry, Phomopsis Fruit Rots and Fruit Anthracnose in Blueberries

CLICK HERE

Learn more about VANTANA™ and its use on other crops on page 117, or scan to visit our website.

ADAMA

When we first embraced the idea of Formulation Mastery, it was a challenge we set for ourselves — to think differently, dig deeper, and deliver more. Two years later, it's no longer just a guiding principle. It's how we operate.

At ADAMA, we've turned mastery into momentum.

Armed with one of the most expansive active ingredient portfolios in the world, we're not just creating products — we're building smarter, more adaptable solutions rooted in real field insight.
We're taking what we hear from you — the patterns, the pain points, the pressure — and using it to push formulation science further.

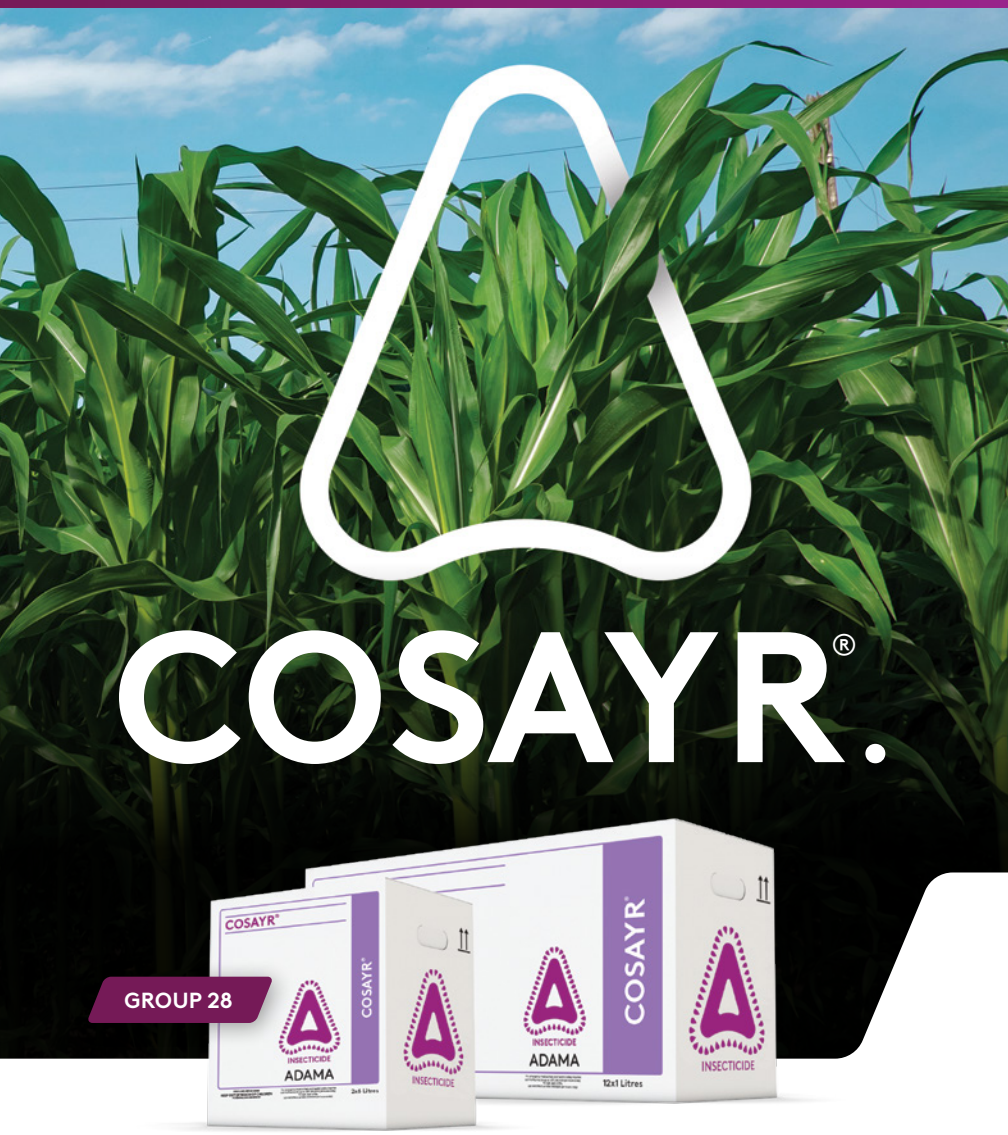
But Formulation Mastery doesn't stop in the lab. It shows up where it matters most: in your results. We're delivering better tools for you to take control — over weeds, pests, resistance, and your time.

This year's guide reflects a company that's no longer trying to prove it belongs — you've told us we do. With value-driven innovation, practical reformulations, and boots-on-the-ground experience across Eastern Canada, we're developing solutions that go beyond expectations.

We're not here to follow the market. We're here to help shape it. Welcome to what comes next.

Cornie Thiessen
General Manager, Canada at ADAMA Agricultural Solutions

Q: Do you have an insecticide with residual control?



GROUP 28

Deliver powerful, residual control, designed to protect a wide range of crops from damaging pests. Its long-lasting action means consistent performance when it matters most.

Active Ingredient: **Chlorantraniliprole**

CLICK HERE

Learn more about COSAYR® on page 71 or scan to visit our website.

WE ARE

All In on you

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ADAMA

HERBICIDE

WEED CONTROL

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LOADING...

For new products that were not registered prior to the printing of this guide, as well as label updates, please scan here to discover more details.

HERBICIDE

HERBICIDE
PRE-PLANT, IN-CROP & POST-HARVEST · BROADLEAF

GROUP 4

2,4-D ESTER 700

Provides reliable post-emergent control of broadleaf weeds and great tank-mix flexibility in wheat, barley, rye, and corn.

ACTIVE INGREDIENT

2,4-D Ester 660 g/L = EC

PACKAGING & ACRES TREATED

Case: 2 x 10 L = 17–50 ac/jug
Drum: 120 L = 200–600 acres
Tote: 500 L = 850–2500 ac/tote
Tote Max: 1000 L = 1665–5000 ac/tote

WATER VOLUME

Ground: 20–60 L/ac (5–15 US gal/ac)
Aerial: Minimum 12 L/ac (3 US gal/ac)

APPLICATION RATES

Rate: 200–600 ml/ac

RAINFASTNESS

2 hours

REGISTERED CROPS

- Barley
- Field Corn
- Rye (spring, fall)
- Wheat (spring, winter)

WEEDS CONTROLLED

Susceptible weeds	Rate
Annual Sow-Thistle[1], Bluebur, Burdock[1], Cocklebur, Daisy Fleabane, False Flax, False Ragweed, Flixweed, Giant Ragweed, Goat's-Beard, Kochia, Lamb's Quarters, Mustards (except dog and tansy), Narrow-Leaved Hawk's-Beard (in fall, and at the 1–2 leaf stage in spring), Plantain, Prickly Lettuce, Ragweed, Redroot Pigweed, Russian Pigweed, Russian Thistle, Shepherd's Purse, Stinging Nettle, Stinkweed, Sweet Clover (seedling), Thyme-Leaved Spurge, Volunteer Canola, Wild Radish, Wild (prairie) Sunflower	Small seedlings (2–4 leaf), growing rapidly, good growing conditions: 202–324 ml/ac (0.5–0.8 L/ha) Large weeds, dry or cold weather, heavy infestations: 324 ml/ac (0.8 L/ha)
Harder-to-control weeds	**Rate**
Curled Dock[1], Dog Mustard, Field Peppergrass, Flixweed (if treated before bolting in spring), Groundsel, Hairy Galinsoga, Hawkweed, Heal-All, Knotweed[1], Narrow-Leaved Hawk's-Beard (if treated before bolting in spring), Oak-Leaved Goosefoot, Pineapple Weed, Prostrate Pigweed, Purslane, Sheep Sorrel, Tansy Mustard, Tumble Pigweed, Velvetleaf, Volunteer Canola (all types, 4–6 leaf)	Small seedlings (2–4 leaf), growing rapidly, good growing conditions: 364–526 ml/ac (0.9–1.3 L/ha) Large weeds, dry or cold weather, heavy infestations: 526 ml/ac (1.3 L/ha)

[1] All types

2,4-D ESTER 700

WEEDS CONTROLLED (CONT'D)

Very-Hard-to-Control Weeds	Rate
Biennial Wormwood, Blue Lettuce, Bull Thistle, Burdock, Buttercup, Canada Thistle, Chicory, Curled Dock, Dandelion, Field Bindweed, Field Chickweed[2], Field Horsetail[2], Gumweed, Hedge Bindweed, Hemp-Nettle[2] (if treated before the 4-leaf stage), Hoary Cress, Lady's Thumb[2], Leafy Spurge, Mouse-Eared Chickweed[2], Perennial Sow Thistle, Russian Knapweed, Scentless Mayweed, Smartweed[2], Tartary Buckwheat, Teasel, Volunteer Sunflower, Wild Buckwheat[2], Yellow Rocket[1]	**Top growth only control to be expected.** Small seedlings (2–4 leaf), growing rapidly, good growing conditions: 445–526 ml/ac (1.1–1.3 L/ha) Large weeds, dry or cold weather, heavy infestations: 526 ml/ac (1.3 L/ha)

[1] 1–3 leaf stage

[2] Use highest listed rate for suppression.

CROP STAGING

Crop	Timing	Rate
Barley, Rye, Wheat (spring, winter)	Pre-plant or pre-emergent	200–500 ml/ac
Barley, Rye, Wheat (spring, winter)	4-leaf to flag leaf	Up to 500 ml/ac
Winter Wheat, Fall Rye	Pre-plant or pre-emergent	200–500 ml/ac
Winter Wheat, Fall Rye	In spring, from full tillering to shot blade stage. Do not apply during and after flag leaf stage. Do not apply to seedling cereals in fall.	Up to 300 ml/ac
Field Corn	Before the 6-leaf stage. Application at later stages will damage corn. If applying at later stage, use a shielded spray, keep spray off corn foliage. Do not apply within 2 weeks of silking and tasseling.	
Established grasses for forage and seed production	In spring, up to shot blade of grasses or in fall after harvest. Application during flower or pollination development will reduce seed yield.	Seed production: Up to 300 ml/ac Hay and pasture crops: Up to 600 ml/ac

2,4-D ESTER 700

REGISTERED AND SUPPORTED TANK MIXES†

Herbicides:

- BISON® 400 L
- BROMOTRIL® 240 EC
- Glyphosate
- INVOLVE® 50 WDG

Fungicide:

- BUMPER® 432 EC

† Refer to page 125 for PMRA tank-mixing directives.

MIXING INSTRUCTIONS

1. Fill sprayer tank ½ full of water.
2. Start sprayer tank agitation.
3. Add the required amount of 2,4-D ESTER 700 into the sprayer.
4. Agitate until the herbicide is thoroughly mixed.
5. Continue agitation while adding any required adjuvants or surfactants for tank-mix partners.
6. Complete filling the tank with water as agitation continues.

NOTE: If tank-mixing, please reference the label of the partner for specific mixing order or follow WAMLEGS or WALES for proper mixing protocol (detailed on page 124 of this guide).

CROP ROTATIONS

No restrictions

PRE-HARVEST INTERVAL

90 days

RE-ENTRY INTERVAL (REI)

N/A

GRAZING RESTRICTIONS

30 days

STORAGE

May be stored at any temperature.
Shake well before using.

QUICK TIPS:

Avoid spray drift to any off-target vegetation. Coarse sprays are less likely to drift. Do not spray during periods of high winds.

HERBICIDE
PRE-HARVEST · HARVEST AID

GROUP 22

ARMORY® 240 & ARMORY®

Provides fast drydown of crops, protecting yield and grade, and reducing disease transmission late in the season.

ACTIVE INGREDIENT

Diquat 240 g/L = SL

PACKAGING & ACRES TREATED

Case: 2 x 10 L jugs
Bulk: 5 x 120 L drums
Tote: 450 L
Tote Max: 1000 L

Acres Treated: 7–28 ac/jug; 83–333 ac/drum; 320–1250 ac/tote
700–2775 ac/tote max

APPLICATION RATES

Ground: 360–1860 ml/ac
Aerial: 690–1090 ml/ac

Potatoes:
- Ground: 510–1420 ml/ac
- Aerial: 690–930 ml/ac

Vegetables:
- Ground: 930–1860 ml/ac
- Aerial: Do not apply by air.

Beans, Canola, Chickpeas, Lentils, Field Peas, Sunflowers:
- Ground: 500–690 ml/ac
- Aerial: 690–930 ml/ac

Legumes:
- Ground: 690–1090 ml/ac
- Aerial: 690–1090 ml/ac

Oats:
- Ground: 360–510 ml/ac
- Aerial: Do not apply by air.

WATER VOLUME

Ground: 90–200 L/ac (24–53 US gal/ac)
Aerial: Minimum 18 L/ac (5 US gal/ac)

RAINFASTNESS

30 minutes

REGISTERED CROPS

This is only a partial list of crops registered for use with ARMORY® 240 & ARMORY®. For the full list, please refer to the ARMORY® 240 & ARMORY® label.

- Alfalfa
- Beans (white and red kidney, adzuki)
- Birdsfoot Trefoil
- Canola
- Chickpeas
- Lentils
- Peas (field and dry)
- Potatoes
- Red and White Clover
- Soybeans
- Sunflowers

⚠ Always read and follow pesticide label directions.

GO TO: HERBICIDES INSECTICIDES FUNGICIDES

ARMORY® 240 & ARMORY®

OTHER USES AND WEEDS CONTROLLED

- Potato Vines
- Corn Spurry in oats
- Desiccation for beans, and legume forage seed crops
- Weeds in stale seedbeds (vegetables and field crops)
- Weeds in vegetables (inter-row directed)
- Suppression of Perennial Grasses under apple trees

HOW IT WORKS

ARMORY® 240 & ARMORY® works on contact to disrupt plant cells and is rainfast in 30 minutes, leading to more rapid drydown of plants and weeds when compared to systemic herbicides. Harvesting can typically begin within 4–10 days, depending on crop and weather conditions.

REGISTERED AND SUPPORTED TANK MIXES†

- Agral® 90, LI 700®, Liberate® and other non-ionic surfactants
- Carfentrazone

† Refer to page 125 for PMRA tank-mixing directives.

MIXING INSTRUCTIONS

1. Fill sprayer tank ¾ full with water.
2. Add the required amount of ARMORY® 240 & ARMORY® into the sprayer.
3. Agitate until the herbicide is thoroughly mixed.
4. Continue agitation while adding the required amount of registered surfactant at the recommended rate.
5. Complete filling the tank with water as agitation continues.

NOTE: If tank-mixing, please reference the label of the partner for specific mixing order or follow WAMLEGS or WALES for proper mixing protocol (detailed on page 124 of this guide).

ADJUVANT RATE

- LI 700® @ 0.25% v/v
- Non-ionic surfactant (NIS) @ 0.10% v/v

RE-ENTRY INTERVAL (REI)

24 hours

GRAZING RESTRICTIONS

Crop waste remaining after harvest may be used as a feed supplement for livestock.

STORAGE

Do not freeze.

QUICK TIPS:

Best results under cloudy conditions or in the evening. Suggested conditions for aerial applications are a temperature below 25°C, humidity above 50% and wind speed below 9 km/hr at flying height.

GROUP 1

ARROW ALL IN®

Convenient and easy to use, ARROW ALL IN® delivers effective Volunteer Corn control, including PowerCore® Enlist™ trait varieties, while also providing reliable grassy weed control across a wide range of row and specialty crops.

ACTIVE INGREDIENT

Clethodim 120 g/L = EC

PACKAGING & ACRES TREATED

Case: 2 x 6 L jugs
Drum: 96 L
Tote: 450 L
Acres Treated: 20–60 ac/jug
320–960 ac/drum
1500–4500 ac/tote

WATER VOLUME

Ground: 40 L/ac (10 US gal/ac)
Aerial: Do not apply by air.

APPLICATION RATES

Rate: 100–300 ml/ac

RAINFASTNESS

1 hour

REGISTERED CROPS

- Alfalfa, seedling
- Beans, dry (pinto, black, great northern, red, pink, navy)
- Canola
- Carnations
- Chickpeas (desi, kabuli)
- Coriander
- Cranberries
- Fenugreek
- Field peas
- Highbush Blueberries
- Lentils
- Onions, dry
- Potatoes
- Soybeans
- Spinach
- Sunflowers

WEEDS CONTROLLED

Grassy Weeds	Leaf Stage	Application Rate
Foxtail (green, yellow), Wild Oats, Volunteer Cereals (wheat, barley, oats)	2–4	100 ml/ac*
Barnyard Grass, Fall Panicum, Proso Millet, Volunteer Corn, Volunteer Canarygrass, Witchgrass	2–6	
Crabgrass (smooth, large), Foxtail (green, yellow), Persian Darnel, Volunteer Cereals (wheat, barley, oats), Wild Oats Quackgrass (suppression)		150 ml/ac
Quackgrass (control)		300 ml/ac

*ARROW ALL IN® applied at 100 ml/ac for the control of weeds listed in this section of the table should only be applied under the following conditions: good crop stand, early application (prior to tillering), light to moderate weed infestation, adequate moisture and fertility, absence of stress, good growing conditions. Do not apply to Volunteer Winter Cereals. If any one of the above is not present at the time of application, apply the 150 ml/ac rate of ARROW ALL IN®.

⚠ Always read and follow pesticide label directions.

GO TO: HERBICIDES INSECTICIDES FUNGICIDES

ARROW ALL IN®

HOW IT WORKS

The active ingredient is translocated from the treated foliage to the growing points of the leaves, shoots and roots. Leaf foliage will first change from green to yellowish, then purplish and finally brown. Newest leaf of affected plant pulls out easily in 3–5 days. Time required for complete control is normally 7–21 days following treatment, depending on growing conditions and crop competition.

CROP STAGING

- Most crops are tolerant at all stages, so target applications at the optimal weed stage.
- Always adhere to the pre-harvest interval for each crop.

REGISTERED AND SUPPORTED TANK MIXES†

- Glyphosate-Tolerant Soybeans: Glyphosate
- Soybeans, Edible Beans: DAVAI® 80 SL
- Canola: Lontrel™ XC or Muster®
- Clearfield® Canola only: PHANTOM® 240 SL
- LibertyLink® Canola only: ADAMA GLUFOSINATE 150 SL
- Field Peas: DAVAI® 80 SL, PHANTOM® 240 SL

† Refer to page 125 for PMRA tank-mixing directives.

MIXING INSTRUCTIONS

1. Fill clean tank ½ full with water and agitation on.
2. Add the required amount of tank-mix partner.
3. Add ARROW ALL IN® and agitate.
4. OPTIONAL: For use of ARROW ALL IN® alone (not in a tank mixture), add the correct amount of adjuvant.
5. Complete filling the tank with water as agitation continues.
6. Agitate thoroughly after prolonged pauses.

*When mixing with glufosinate, first add ARROW ALL IN®, followed by glufosinate.

NOTE: If tank-mixing, please reference the label of the partner for specific mixing order or follow WAMLEGS or WALES for proper mixing protocol (detailed on page 124 of this guide).

PRE-HARVEST INTERVALS

- Highbush Blueberries, Spinach: 14 days
- Alfalfa (seedling), Cranberries, Fenugreek: 30 days
- Onions, dry: 45 days
- Canola, Chickpeas (desi, kabuli), Coriander, Dry Beans (pinto, black, great northern, red, pink, navy), Lentils, Potatoes: 60 days
- Sunflowers: 72 days
- Field Peas, Soybeans: 75 days

ARROW ALL IN®

ADJUVANT RATE

An optional additional adjuvant may be used under circumstances of heavy weed pressure or when environmental conditions (e.g., drought) are not ideal for weed control.

- 30% phosphate Ester surfactant @ 0.5% v/v
- Methylated Seed Oil (MSO) @ 0.5% v/v
- Non-ionic surfactant (NIS) @ 0.25% v/v

CROP ROTATIONS

No restrictions

GRAZING RESTRICTIONS

Do not cut treated crops for feed or graze until 60 days after application.

STORAGE

Do not freeze.

RE-ENTRY INTERVAL (REI)

12 hours

QUICK TIPS:

Most effective control is achieved when application is made prior to tillering when annual grasses are small and actively growing.

HERBICIDE
IN-CROP · BROADLEAF

GROUPS 4 & 6

BADGE®

Get proven control of almost 30 broadleaf weeds in cereals and corn with easy-to-use tank-mix options for one-shot weed control.

ACTIVE INGREDIENT

Bromoxynil 225 g/L and
MCPA 2 EH Ester 600 225 g/L = EC

PACKAGING & ACRES TREATED

Case: 2 x 10 L jugs
Bulk: 120 L
Tote: 450 L
Acres Treated: 20 ac/jug; 240 ac/drum; 900 ac/tote

APPLICATION RATES

Rate: 500 ml/ac

WATER VOLUME

Ground: Cereals: 20–40 L/ac (5–10 US gal/ac)
Corn: 80–120 L/ac (20–30 US gal/ac)
Forages: 60 L/ac (15 US gal/ac)
Aerial: 8–20 L/ac (2–5 US gal/ac)

RAINFASTNESS

1 hour

REGISTERED CROPS

- Barley
- Corn
- Fall Rye
- Oats
- Wheat (spring, winter)

WEEDS CONTROLLED

- American Nightshade
- Ball Mustard
- Bluebur
- Canada Thistle[1]
- Cocklebur
- Common Buckwheat
- Common Groundsel
- Common Ragweed
- Cow Cockle[2]
- Flixweed
- Green Smartweed
- Kochia[3]
- Lady's Thumb
- Lamb's Quarters
- Night-Flowering Catchfly
- Pale Smartweed
- Perennial Sow Thistle[1]
- Redroot Pigweed
- Russian Thistle[3]
- Scentless Chamomile[4]
- Shepherd's Purse
- Stinkweed
- Tartary Buckwheat
- Velvetleaf[5]
- Volunteer Canola (all types)
- Volunteer Sunflower
- Wild Buckwheat
- Wild Mustard
- Wild Tomato
- Wormseed Mustard

[1] Top growth control
[2] Up to 4-leaf stage
[3] When sprayed before plants are 2 inches high
[4] Spring annual only
[5] When sprayed before plants are 3 inches high

BADGE®

HOW IT WORKS

A combination of systemic and contact activity with weeds yellowing within 2–4 days and exhibiting abnormal growth (twisting and cupping of leaves) in 2–10 days.

CROP STAGING

Crop	Timing
Barley, Oats, Spring Wheat	2-leaf to early flag
Corn	4–6 leaf
Fall Rye	When growth commences in spring to early flag leaf
Timothy (established for seed production)	Prior to shot blade in the seed production year
Winter Wheat (includes underseeded with red clover)	2–4 leaf stage in the fall or after growth resumes up to early flag leaf

REGISTERED AND SUPPORTED TANK MIXES†

- **Corn:** Atrazine
- **Oats:** MCPA ESTER 600
- **Spring Wheat and Barley:** BISON® 400 L, MCPA ESTER 600, Refine® SG
- **Winter Wheat:** MCPA ESTER 600, Refine® SG

† Refer to page 125 for PMRA tank-mixing directives.

MIXING INSTRUCTIONS

1. Fill sprayer tank ½ full of water.
2. Start sprayer tank agitation.
3. Add the required amount of BADGE®.
4. If necessary, add any required adjuvants or surfactants for tank-mix partners.
5. Complete filling the tank with water as agitation continues.

NOTE: If tank-mixing, please reference the label of the partner for specific mixing order or follow WAMLEGS or WALES for proper mixing protocol (detailed on page 124 of this guide).

CROP ROTATIONS

No re-cropping restrictions the year after treatment

PRE-HARVEST INTERVAL

30 days for feed. Refer to tank-mix partner label.

STORAGE

Do not freeze.

GRAZING RESTRICTIONS

Do not graze treated grain or established timothy crops or cut for feed within 30 days of application.

RE-ENTRY INTERVAL (REI)

24 hours

QUICK TIPS:

BADGE® herbicide is well known for being gentle on the crop. Avoid spraying if temperatures are above 25°C.

HERBICIDE
IN-CROP · BROADLEAF

GROUP 1

BISON® 400 L

Get a wide window of application and excellent control of annual grasses in cereals and seedling forage grasses grown for seed.

ACTIVE INGREDIENT

Tralkoxydim 400 g/L = SC

PACKAGING & ACRES TREATED

One case includes:
- 1 x 8 L jug of BISON® 400 L
- 1 x 8 L jug of Addit® adjuvant

Acres Treated: 40 ac/case

APPLICATION RATES

Rate: 200 ml/ac

WATER VOLUME

Ground: 20–40 L/ac (5–10 US gal/ac)
Aerial: 12–18 L/ac (3–5 US gal/ac)

RAINFASTNESS

1 hour

REGISTERED CROPS

Field crops:
- Barley
- Rye (spring, winter)
- Triticale
- Wheat (spring, winter)

Cereal crops underseeded to forage legumes:
- Alfalfa
- Birdsfoot Trefoil
- Clovers
- Sainfoin

WEEDS CONTROLLED

Weed	Stage
Wild Oats	1–6 leaf

HOW IT WORKS

A systemic post-emergent herbicide that translocates the active ingredient to the growing point. Yellowing of the growing point in 1–3 weeks. The newest leaf pulls out easily in 3–5 days.

CROP STAGING

Generally there are no restrictions. Always read the label for tank-mixing instructions and additional restrictions.

BISON® 400 L

REGISTERED AND SUPPORTED TANK MIXES†

Do not apply any broadleaf herbicide tank mixes to underseeded forage legumes.

Herbicides:

- 2,4-D ESTER 700
- Attain®
- BADGE®
- BROMOTRIL® 240 EC
- Bromoxynil + 2,4-D ESTER 700
- Dichlorprop + 2,4-D ESTER 700
- ESTEEM ALL IN®
- FORCEFIGHTER ALL IN®
- Infinity®
- Lontrel™ XC
- MCPA ESTER 600
- Pixxaro™
- Prominex™
- RUSH 24 ALL IN®
- Trophy®

Insecticides:

- Decis®
- SILENCER® 120 EC
- ZIVATA®

Fungicides:

- BUMPER®432 EC

† Refer to page 125 for PMRA tank-mixing directives.

MIXING INSTRUCTIONS

1. Begin to fill spray tank or pre-mix tank with clean water, and engage agitator.
2. Agitation must be continued throughout the entire mixing and spraying procedure.
3. When the spray tank or pre-mix tank is ¾ full of water, add BISON® 400 L. If more than one (1) case of BISON® 400 L is to be used, add the BISON® 400 L from all cases prior to adding tank-mixed products or Addit® adjuvant.
4. Add Addit® adjuvant.
5. Complete filling the tank with water as agitation continues.

NOTE: If tank-mixing, please reference the label of the partner for specific mixing order or follow WAMLEGS or WALES for proper mixing protocol (detailed on page 124 of this guide).

ADJUVANT RATE

Addit® adjuvant @ 0.5% v/v

CROP ROTATIONS

Do not replant treated areas to tame oats or corn for at least 4 weeks after application.

PRE-HARVEST INTERVAL

60 days

RE-ENTRY INTERVAL (REI)

12 hours

GRAZING RESTRICTIONS

- Immature cereal crops may be grazed or cut for hay 16 days after treatment.
- Mature straw may be fed to livestock.
- Do not feed or graze underseeded forage crops in the year of treatment.

STORAGE

- Shake well before use.
- Do not freeze.

QUICK TIPS:

For optimal crop safety, spray in warm weather with moist soil. Avoid stressful growing conditions, and avoid applying within 2–3 days of temperatures at 4°C or below.

GO TO: HERBICIDES INSECTICIDES FUNGICIDES

HERBICIDE
PRE-PLANT & IN-CROP · BROADLEAF

GROUP 6

BROMOTRIL® 240 EC

Tough broadleaf weed control with tank-mix flexibility and excellent crop safety.

ACTIVE INGREDIENT

Bromoxynil Octanoate Ester 240 g/L = EC

PACKAGING & ACRES TREATED

Case: 2 x 9.7 L jugs
Drum: 116.4 L
Pre-Plant Acres Treated: 20 ac/jug; 200-240 ac/drum
In-Crop Broadleaf Acres Treated: 17–20 ac/jug; 200-240 ac/drum

APPLICATION RATES

Pre-Plant:
· **Rate:** 490 ml/ac

In-Crop Broadleaf:
· **Rate:** 490–570 ml/ac

WATER VOLUME

Ground: 20–80 L/ac (5–20 US gal/ac)
Aerial (in-crop only): 8–16 L/ac (3–5 US gal/ac)

Wheat and Barley only
Do not apply pre-plant

RAINFASTNESS

30 minutes

REGISTERED CROPS

Crop	Timing
Barley, Canola, Oats, Wheat	Pre-plant burn-off with glyphosate

Crop	Crop Stage
Alfalfa (seedling)	2–6 trifoliate
Alfalfa (established for seed production only)	**Spring:** before the crop begins to shield the weeds
Barley, Oats, Triticale, Wheat (spring)	2-leaf to early flag
Winter Wheat	**Fall:** 2–4 leaf **Spring:** first growth to early flag
Corn (field, sweet)	4–8 leaf (beyond 8-leaf requires drop pipes)
Fall Rye	**Spring**: from first growth to early flag
Forage Millet, Sorghum	4-leaf to 8 inches

BROMOTRIL® 240 EC

WEEDS CONTROLLED

Seedling up to 4-leaf stage:

- American Nightshade
- Bluebur
- Cocklebur
- Common Ragweed
- Cow Cockle[1]
- Green Smartweed
- Kochia[2]
- Lady's Thumb
- Pale Smartweed
- Pigweed[1]
- Russian Thistle[2]
- Stinkweed[1]
- Velvetleaf[3]
- Wild Mustard[1]

Seedling up to 8-leaf stage:

- Common Buckwheat
- Common Groundsel
- Lamb's Quarters
- Tartary Buckwheat
- Wild Buckwheat

[1] In normal conditions, it will be controlled up to 4-leaf stage. Plants beyond this stage are unlikely to be controlled; the higher rate generally gives better results.

[2] Spray before plants are 2 inches high.

[3] Spray before plants are 3 inches high.

HOW IT WORKS

BROMOTRIL® 240 EC is a contact herbicide which controls Group 2- and Group 9 resistant biotypes. Leaves will yellow in 2–4 days with complete control in 7–14 days.

REGISTERED AND SUPPORTED TANK MIXES†

Post-emergent herbicides:

- Barley, Wheat (spring, winter): 2,4-D ESTER 700, BISON® 400, MCPA ESTER 600, Liquid Achieve™ SC
- Oats, Fall Rye: MCPA ESTER 600
- Corn: Accent® 75 DF , Atrazine, Banvel® (dicamba), Banvel® II

Pre-plant herbicide:

- Glyphosate

Fungicide:

- BUMPER® 432 EC

† Refer to page 125 for PMRA tank-mixing directives.

MIXING INSTRUCTIONS

1. Fill sprayer tank ½ full of water.
2. Start sprayer tank agitation.
3. Add the required amount of BROMOTRIL® 240 EC.
4. If necessary, add any required adjuvants or surfactants for tank-mix partners.
5. Complete filling the tank with water as agitation continues.

NOTE: If tank-mixing, please reference the label of the partner for specific mixing order or follow WAMLEGS or WALES for proper mixing protocol (detailed on page 124 of this guide).

GO TO: HERBICIDES INSECTICIDES FUNGICIDES

BROMOTRIL® 240 EC

CROP ROTATIONS

No crop rotation restrictions

PRE-HARVEST INTERVAL

30 days

RE-ENTRY INTERVAL (REI)

24 hours

GRAZING RESTRICTIONS

- Do not use treated crops for grazing of livestock or green feed until 30 days after application.
- Do not cut treated crops for forage until 30 days after application.

STORAGE

Do not freeze.

QUICK TIPS:

Avoid spraying if temperatures are above 25°C. Leaf scorching may occur in corn if applied during or after adverse growing conditions, such as cool and wet or hot (above 27°C) and humid weather. For best results, spray when weeds are in the seedling stage.

GROUP 2

DAVAI® 80 SL

Broadleaf and grassy weed control in a convenient package that allows for flexible tank-mix options in soybeans, dry beans and field peas.

ACTIVE INGREDIENTS

Imazamox 80 g/L = SL

PACKAGING & ACRES TREATED

Case: 2 × 8 L jugs
Acres treated: 80 ac/jug

APPLICATION RATE

Rate: 100 ml/ac

WATER VOLUME

Ground: 40 L/ac (10 US gal/ac)
Aerial: Do not apply by air.

RAINFASTNESS

3 hours

REGISTERED CROPS

- Dry Beans
- Field Peas
- Soybeans

WEEDS CONTROLLED AND APPLICATION TIMING

Unless otherwise noted below, apply to young and actively growing weeds.

BROADLEAF WEEDS

Cotyledon–4 leaf:

- Cleavers[S]
- Cow Cockle
- Flixweed
- Green Smartweed
- Lamb's Quarters
- Redroot Pigweed
- Shepherd's Purse
- Stinkweed
- Stork's Bill
- Volunteer Canola[2]
- Wild Buckwheat[S]
- Wild Mustard

GRASSY WEEDS

1–4 true leaf:

- Barnyard Grass
- Green Foxtail[1]
- Japanese Bromegrass[S]
- Persian Darnel
- Volunteer Cereals (barley, oats, wheat)
- Volunteer Canary Seed
- Wild Oats[1]
- Yellow Foxtail

[S] Suppression only

[1] Including Group 1-resistant weeds. DAVAI® 80 SL will NOT control weed biotypes that are multiple-resistant to both Group-1 and Group-2 herbicides.

[2] Non imidazolinone-tolerant varieties

⚠ Always read and follow pesticide label directions.

GO TO: HERBICIDES INSECTICIDES FUNGICIDES

DAVAI® 80 SL

HOW IT WORKS

DAVAI® 80 SL is readily absorbed through both leaf and root uptake, and it is translocated in the plant to inhibit amino acid production and cell division. Plant growth is inhibited, and a few days after application, chlorosis and terminal bud injury become evident. Leaves and stems become yellow and purple, and root growth may be inhibited. Crop competition is quickly reduced, although complete plant death is relatively slow.

CROP STAGING

- Dry Beans, Soybeans: Emergence to 3-expanded trifoliate leaves
- Field Peas: 1–6 true-leaf stage

REGISTERED AND SUPPORTED TANK MIXES†

- ARROW® 240 EC
- ARROW ALL IN®
- Basagran® Forté
- Broadloom®
- LEOPARD®
- PHANTOM® 240 SL

†Refer to page 125 for PMRA tank-mixing directives.

MIXING INSTRUCTIONS

1. Fill sprayer tank ½ full of water.
2. Start sprayer tank agitation.
3. Add the required amount of DAVAI® 80 SL.
4. Add any required adjuvants or surfactants for tank-mix partners.
5. Complete filling tank with water as agitation continues.

NOTE: If tank-mixing, please reference the label of the partner for specific mixing order or follow WAMLEGS or WALES for proper mixing protocol (detailed on page 124 of this guide).

ADJUVANT RATE

- Methylated Seed Oil (MSO) such as Merge®, NORAC MSO, Hasten NT Ultra® @ 0.50% v/v
- ADAMA Adjuvant 80, Agral® 90, Sentry™ @ 0.25% v/v

CROP ROTATIONS

(Can be seeded the following year)

- Barley
- Canola
- Canary Seed
- Corn
- Field Peas
- Imidazolinone-Tolerant Sunflowers
- Oats
- Soybeans
- Wheat (spring)

DAVAI® 80 SL

PRE-HARVEST INTERVALS

- Field Peas: 60 days
- Dry Beans: 75 days
- Soybeans: 85 days

RE-ENTRY INTERVAL (REI)

12 hours

GRAZING RESTRICTIONS

- Field Peas: 30 days
- All other treated crops: Do not graze.

STORAGE

Do not freeze.

RECROPPING RESTRICTIONS

There are several factors that affect the recropping following an imidazolinone application. If you are planning to use DAVAI® 80 SL, DAVAI® A PLUS, DAVAI® Q PLUS or PYTHON®, please consult the recropping restrictions and guidelines on page 61.

QUICK TIPS:

Cool weather conditions or drought will delay herbicidal activity and if prolonged, may result in poor weed control. Use of DAVAI® 80 SL herbicide in hot, humid weather may result in temporary leaf yellowing, leaf flecking, bronzing or burning. The crop usually outgrows this condition within 10 days. When weeds are stressed due to drought, flooding, hot or prolonged cool temperatures (15° C or less), control can be reduced or delayed since weeds are not actively growing. Weeds escapes or regrowth may occur under prolonged stress conditions or low fertility. Do not make applications to weeds stressed longer than 20 days due to lack of moisture, as unsatisfactory control can result.

HERBICIDE
IN-CROP · BROADLEAF

GROUPS 1 & 2

DAVAI® A PLUS

Dual mode option offering broad spectrum weed control in dry beans, peas and soybeans.

ACTIVE INGREDIENTS

Imazamox 80 g/L = SL
Clethodim 120 g/L = EC

PACKAGING & ACRES TREATED

Co-pack includes: 1 x 4 L jug of DAVAI® 80 SL
1 x 6 L jug of ARROW ALL IN®
Acres Treated: 40 ac/case

APPLICATION RATE

Rate: DAVAI® 80 SL: 100 ml/ac
ARROW ALL IN®: 150 ml/ac

WATER VOLUME

Ground: 40 L/ac (10 US gal/ac)
Aerial: Do not apply by air.

RAINFASTNESS

3 hours

REGISTERED CROPS

- Dry beans
- Field Peas
- Soybeans

WEEDS CONTROLLED AND APPLICATION TIMING

BROADLEAF WEEDS

Cotyledon–4 leaf:

- Cleavers[S]
- Cow Cockle
- Flixweed
- Green Smartweed
- Lamb's Quarters
- Redroot Pigweed
- Shepherd's Purse
- Stinkweed
- Stork's Bill
- Volunteer Canola[4]
- Wild Buckwheat[S]
- Wild Mustard

GRASSY WEEDS

1–6 true leaf:

- Barnyard Grass
- Crabgrass (smooth, large)[2]
- Fall Panicum
- Green Foxtail[1]
- Japanese Brome Grass[S]
- Persian Darnel
- Proso Millet
- Quackgrass[S]
- Volunteer Canary Grass
- Volunteer Canary Seed[3]
- Volunteer Cereals (barley, oats, wheat)
- Volunteer Corn[2]
- Wild Oats[1]
- Witchgrass
- Yellow Foxtail

[S] Suppression

[1] Including Group 1-resistant weeds. DAVAI® A PLUS will NOT control weed biotypes that are multiple-resistant to both Group 1 and Group 2 herbicides.

[2] 2–6 leaf

[3] 1–4 leaf

[4] Non imidazolinone-tolerant varieties

HERBICIDE

DAVAI® A PLUS

HOW IT WORKS

DAVAI® A PLUS combines two (2) actives to tackle broadleaf and grassy weeds. See DAVAI® 80 SL and ARROW ALL IN® for more information.

CROP STAGING

- Dry Beans, Soybeans: Emergence to 3 expanded trifoliate leaves
- Field Peas: 1–6 true leaf

REGISTERED AND SUPPORTED TANK MIXES

None registered

MIXING INSTRUCTIONS

1. Fill clean tank ½ to ¾ full of clean water and turn agitation on.
2. Start sprayer tank agitation.
3. Add the required amount of DAVAI® 80 SL herbicide and continue to agitate.
4. Add the required amount of ARROW ALL IN® herbicide and continue to agitate.
5. If necessary, add any required adjuvants or surfactants for tank-mix partners.
6. Complete filling the tank with water as agitation continues.

NOTE: If tank-mixing, please reference the label of the partner for specific mixing order or follow WAMLEGS or WALES for proper mixing protocol (detailed on page 124 of this guide).

ADJUVANT RATE

No adjuvant required

CROP ROTATIONS

(Can be seeded the following year)

- Barley
- Canary Seed
- Canola
- Corn
- Field Peas
- Oats
- Soybeans
- Imidazolinone-Tolerant Sunflowers
- Wheat (spring)

RECROPPING RESTRICTIONS

There are several factors that affect the recropping following an imidazolinone application. If you are planning to use DAVAI® 80 SL, DAVAI® A PLUS, DAVAI® Q PLUS or PYTHON®, please consult the recropping restrictions and guidelines on page 61.

PRE-HARVEST INTERVALS

- Field Peas: 60 days
- Dry Beans: 75 days
- Soybeans: 85 days

RE-ENTRY INTERVAL (REI)

12 hours

GRAZING RESTRICTIONS

- Field Peas: 30 days
- All other crops: Do not graze.

STORAGE

Do not freeze.

QUICK TIPS:

For best results, apply DAVAI® A PLUS to actively growing weeds. If the plants are under environmental stress, expect to see temporary yellowing or burning on the leaves.

GO TO: HERBICIDES INSECTICIDES FUNGICIDES

HERBICIDE
IN-CROP · BROADLEAF

GROUPS 1 & 2

DAVAI® Q PLUS

Two modes of action that offer control of tough clumping grasses, like barnyard grass and volunteer corn, proven control of broadleaf weeds and rotational freedom for dry beans, soybeans and field peas.

ACTIVE INGREDIENTS

Imazamox 80 g/L = SL
Quizalofop-P-ethyl 100 g/L = EC

PACKAGING & ACRES TREATED

Co-pack includes: 1 x 4 L jug of DAVAI® 80 SL
1 x 7.8 L jug of ADAMA Quizalofop
1 x 8 L jug of ADAMA MSO Adjuvant

Acres treated: 40 ac/co-pack

APPLICATION RATE

Rates: DAVAI® 80 SL: 100 ml/ac
ADAMA Quizalofop 195 ml/ac
ADAMA MSO Adjuvant: 0.5% v/v

WATER VOLUME

- **Ground:** 40 L/ac (10 US gal/ac)
- **Aerial:** Do not apply by air.

RAINFASTNESS

3 hours

REGISTERED CROPS

- Dry beans
- Field Peas
- Soybeans

WEEDS CONTROLLED AND APPLICATION TIMING

Unless otherwise noted below, apply to young and actively growing weeds.

BROADLEAF WEEDS

Cotyledon–4 leaf:

- Cleavers[S]
- Cow Cockle
- Flixweed
- Green Smartweed
- Lamb's Quarters
- Redroot Pigweed
- Shepherd's Purse
- Stinkweed
- Stork's Bill
- Volunteer Canola[1]
- Wild Buckwheat[S]
- Wild Mustard

[S] Suppression
[1] Non imidazolinone-tolerant varieties

DAVAI® Q PLUS

WEEDS CONTROLLED AND APPLICATION TIMING (CONT'D)

GRASSY WEEDS

1–4 leaf:
- Persian Darnel
- Volunteer Canary Grass
- Volunteer Canary Seed

1–5 leaf to early tillering:
- Wild Oats [1,2]

2–4 leaf + 3 tillers:
- Foxtail Barley

2-leaf to early tillering:
- Barnyard Grass
- Fall Panicum
- Green Foxtail[1]
- Proso Millet

2–5 leaf:
- Downy Brome
- Japanese Brome Grass

2–6 leaf:
- Quackgrass[5]
- Volunteer Corn
- Volunteer Barley, Oats[2], Wheat
- Witchgrass
- Yellow Foxtail

[5] Suppression

[1] Including Group 1-resistant weeds. DAVAI® Q PLUS will NOT control weed biotypes that are multiple-resistant to both Group-1 and Group-2 herbicides.

[2] Best results on Volunteer/Wild Oats if application is made before tillering begins.

HOW IT WORKS

DAVAI® Q PLUS combines two actives to tackle broadleaf and grassy weeds. See the labels for DAVAI® 80 SL and ADAMA Quizalofop for more information.

CROP STAGING

- Dry Beans, Soybeans: Emergence to 3-expanded trifoliate leaves
- Field Peas: 1–6 true-leaf stage

REGISTERED AND SUPPORTED TANK MIXES

None registered

MIXING INSTRUCTIONS

1. Fill clean tank ½ to ¾ full of clean water and turn agitation on.
2. Start sprayer tank agitation.
3. Add required amount of DAVAI® 80 SL herbicide and continue agitating.
4. Add the required amount of ADAMA Quizalofop herbicide and continue to agitate.
5. Add ADAMA MSO Adjuvant while agitating.
6. Complete filling the tank with water as agitation continues.

NOTE: If tank-mixing, please reference the label of the partner for specific mixing order or follow WAMLEGS or WALES for proper mixing protocol (detailed on page 124 of this guide).

DAVAI® Q PLUS

ADJUVANT RATE

ADAMA MSO Adjuvant @ 0.5% v/v

CROP ROTATIONS

(Can be seeded the following year)

- Barley
- Canary Seed
- Canola
- Corn
- Field Peas
- Oats
- Soybeans
- Imidazolinone-Tolerant Sunflowers
- Soybeans
- Wheat (spring)

PRE-HARVEST INTERVALS

- Field Peas: 60 days
- Dry Beans: 75 days
- Soybeans: 85 days

RECROPPING RESTRICTIONS

There are several factors that affect the recropping following an imidazolinone application. If you are planning to use DAVAI® 80 SL, DAVAI® A PLUS, DAVAI® Q PLUS or PYTHON®, please consult the recropping restrictions and guidelines on page 61.

RE-ENTRY INTERVAL (REI)

12 hours

GRAZING RESTRICTIONS

Do not cut treated crops for hay.

STORAGE

Do not freeze.

QUICK TIPS:

For best results when targeting Wild Oats apply prior to tillering. Application when plants are actively growing will lead to best results. Application at cooler temperatures or in drought conditions can result in reduced efficacy.

GROUPS 6 & 14

EMPHASIS® MAX

Take pre-plant to the next level with EMPHASIS® MAX. Powered by it's dual mode of action and an increased rate of carfentrazone, it delivers enhanced knockdown.

ACTIVE INGREDIENTS

Carfentrazone-ethyl at 240 g/L as an EC = EMPHASIS® A, Bromoxynil Octanoate Ester at 240 g/L as an EC = BROMOTRIL® 240 EC

PACKAGING

Co-pack includes: 2 × 1.2 L EMPHASIS® A +
2 × 9.7 L BROMOTRIL® 240 EC

WATER VOLUME

Ground: 40 L/ac (10 US gal/ac)
Aerial: Do not apply by air.

RAINFASTNESS

6 hours

REGISTERED CROPS

· Barley · Oats · Wheat

HOW IT WORKS

EMPHASIS® MAX is a multi mode contact herbicide that controls broadleaf weeds including Group 2 and 9 resistant biotypes. Within a few hours following application, the foliage of susceptible weeds shows signs of desiccation, and in subsequent days, necrosis and death of the plant occur.

MIXING INSTRUCTIONS

1. Fill spray tank with ½ of the volume of clean water needed.
2. With agitator running add the required amount of EMPHASIS® A to spray tank.
3. Next add the required amount of BROMOTRIL® 240 EC.
4. Add more water, then add glyphosate.
5. Complete filling the tank to desired level.

NOTE: If tank-mixing, please reference the label of the partner for specific mixing order or follow WAMLEGS or WALES for proper mixing protocol (detailed on page 124 of this guide).

CROP ROTATIONS

No restrictions

STAGING

Pre-plant burn-off with glyphosate.

STORAGE

Do not freeze.

ADJUVANT RATE

No adjuvant required.

EMPHASIS® MAX

WEEDS CONTROLLED

When used as directed, EMPHASIS® MAX will provide control of the listed weeds up to ten (10) cm in height, or as specified. See the individual labels of each tank-mix partner for specific rates and weed staging and always follow the directions for use of the most stringent label. Good spray coverage is essential for optimal weed control.

Weeds Controlled	Rates by Product	
	EMPHASIS® A Rate	BROMOTRIL® 240 EC Rate
EMPHASIS® MAX alone:	**80 ac/case - Pre-Plant Canola**	
Black Nightshade (up to 5 cm), Kochia, Lamb's Quarters (up to 7.5 cm), Redroot Pigweed, Round-Leaved Mallow, Russian Thistle (up to 5cm), Shepherd's Purse, Stinkweed, Tall Waterhemp (up to 5 cm), Volunteer Canola	30 ml/ac	236 ml/ac
American Nightshade, Bluebur, Carpetweed, Common Buckwheat, Common Groundsel, Common Purslane, Common Waterhemp, Hairy Nightshade, Jimsonweed, Pale Smartweed, Tansy Mustard, Tartary Buckwheat, Tumble Pigweed	**40 ac/case - Pre-Seed Wheat, Barley & Oats**	
	30 ml/ac 1 jug of EMPHASIS® A will remain	472 ml/ac
EMPHASIS® MAX + Glyphosate	**Glyphosate REL/ac**	**Glyphosate Grams of a.i./ac**
Weeds listed above by rate + Cocklebur, Cow Cockle, Green Foxtail, Green Smartweed, Lady's Thumb, Smooth Pigweed, Volunteer Barley, Volunteer Wheat, Wild Mustard, Wild Oats	0.5 REL/ac	180 g a.i./ac

Continued on next page

EMPHASIS® MAX

Weeds Controlled	Rates by Product	
	Glyphosate REL/ac	Glyphosate Grams of a.i./ac
EMPHASIS® MAX + Glyphosate		
Weeds Listed Above + Common Ragweed, Wild Buckwheat, Canada Fleabane, Cleavers, Downy Brome, Flixweed, Giant Foxtail, Hemp-Nettle, Persian Darnel, Russian Thistle, Stinkweed, Volunteer Flax, NarrowLeaved Hawk's Beard	0.75 REL/ac	277 g a.i./ac
Weeds Listed Above + Annual Bluegrass, Annual Sow Thistle, Canada Thistle (rosette stage, summerfallow), Crabgrass, Dandelion (less than 15 cm), Kochia, Narrow-Leaved Vetch, Prickly Lettuce, Quackgrass (light to moderate infestations, 3 – 4 green leaves or more), Shepherd's Purse	1 REL/ac	360 g a.i./ac

*Refer to the glyphosate label for the complete list of weeds controlled at each rate; the EMPHASIS® MAX + glyphosate combination controls ~70 weeds, not all listed here.

QUICK TIPS:

Wait at least 1 day after application before seeding. Allow adequate time for weed control. Avoid overnight storage of spray mixtures when possible. Check weather conditions in advance. Premixing EMPHASIS® MAX spray solutions in nurse tanks is not recommended. Use a water volume of at least 40 L/ac (10 US gal/ac) for adequate coverage.

HERBICIDE
IN-CROP · BROADLEAF

GROUP 4

ESTEEM ALL IN®

Superior control of hard-to-kill broadleaf weeds like thistles, dandelions and cleavers, in a convenient formulation with flexible use rates in cereal crops!

ACTIVE INGREDIENTS

Fluroxypyr 59.7 g/L + Clopyralid 40 g/L + MCPA 2 EH Ester 240.5 g/L = EC

PACKAGING & ACRES TREATED

Case: 2 × 10.93 L jugs
Drum: 116.5 L
Acres Treated: 11–15 ac/jug; 120–160 ac/drum

APPLICATION RATE

Low rate: 730 ml/ac
High rate: 970 ml/ac

WATER VOLUME

Ground: minimum 20–40 L/ac (5–10 US gal/ac)
Aerial: 12–20 L/ac (3–5 US gal/ac)

RAINFASTNESS

4 hours

REGISTERED CROPS

- Barley
- Oats
- Wheat (spring, winter)

KEY WEEDS CONTROLLED*

At the low rate of 730 ml/ac:

- Burdock
- Canada Thistle (low infestations)
- Cleavers
- Cocklebur
- Field Horsetail (top growth)
- Flixweed
- Kochia
- Lamb's Quarters
- Plantain (top growth)
- Prickly Lettuce
- Ragweed
- Shepherd's Purse
- Stinkweed
- Stork's Bill
- Wild Buckwheat
- Wild Mustard
- Vetch

At the high rate of 970 ml/ac, the above weeds plus:

- Annual Sow Thistle
- Canada Thistle (medium to high infestations; season-long control)
- Chickweed
- Common Groundsel
- Dandelion (spring rosettes only)
- Hemp-Nettle
- Perennial Sow Thistle (season-long control)
- Redroot Pigweed
- Russian Pigweed
- Scentless Chamomile
- Smartweed
- Tartary Buckwheat
- Volunteer Canola

* For complete list of weeds controlled, refer to the label.

ESTEEM ALL IN®

HOW IT WORKS

ESTEEM ALL IN® moves within the plant to control exposed and underground plant tissues. It mimics naturally occurring plant hormones which control weeds by disrupting normal plant growth patterns. Symptoms of effect include epinasty (twisting of the stems) and swollen nodes.

MIXING INSTRUCTIONS

1. Fill sprayer tank ½ full of water.
2. Start sprayer tank agitation.
3. Add the required amount of ESTEEM ALL IN®.
4. If necessary, add any required adjuvants or surfactants for tank-mix partners.
5. Complete filling tank with water.

NOTE: If tank-mixing, please reference the label of the partner for specific mixing order or follow WAMLEGS or WALES for proper mixing protocol (detailed on page 124 of this guide).

SUPPORTED TANK MIXES†

- BISON® 400 L
- Liquid Achieve™ SC [1]
- Puma® Advance
- Traxos®
- Varro®

[1] Tank mixes with Liquid Achieve™ SC may cause temporary injury if applied before the 4-leaf stage, however, yield will not normally be affected.

† Refer to page 125 for PMRA tank-mixing directives.

PRE-HARVEST INTERVALS

- Forage: 7 days
- Wheat, Barley, Oats: 60 days

ADJUVANT RATE

Adjuvant only required, if tank-mixing with Liquid Achieve™ SC:
Turbocharge® @ 0.5% v/v

CROP ROTATIONS

Fields previously treated with ESTEEM ALL IN® can be seeded to wheat, barley, oats and rye (not underseeded to forage legumes, clover or alfalfa), canola, field peas, flax, forage grasses, mustard, or summer-fallowed.

For Field Peas a rainfall of 140 mm (5.5") between herbicide application and August 31 (in the year of application), as well as an annual precipitation greater than 175 mm (6.9") is required.

GRAZING RESTRICTIONS

- Do not cut or graze treated fields of Wheat, Barley or Oats within 7 days after application.
- Withdraw meat animals from treated fields at least 3 days before slaughter.

RE-ENTRY INTERVAL (REI)

12 hours

STORAGE

Do not freeze.

QUICK TIPS:

Flexible rates — choose what works best for you:

- **730 ml/ac:** standard weed pressure OR hard-to-control weeds;
- **970 ml/ac:** heavy weed pressure

GROUPS 4 & 6

FORCEFIGHTER ALL IN®

FORCEFIGHTER ALL IN® provides three active ingredients and two modes of action for post-emergent control of annual and perennial broadleaf weeds in wheat (spring) and barley.

ACTIVE INGREDIENTS

Bromoxynil + Fluroxypyr + MCPA Ester = EC

PACKAGING & ACRES TREATED

Case: 2 x 11.37 L jugs
Drum: 90.9 L
Tote: 455 L
Acres treated: 20 ac/jug; 160 ac/drum; 802 ac/tote

APPLICATION RATE

Rate: 567 ml/ac

WATER VOLUME

Ground: 20–40 L/ac (5–10 US gal/ac)
Aerial: Do not apply by air.

RAINFASTNESS

1 hour

REGISTERED CROPS

- Barley
- Wheat (spring)

WEEDS CONTROLLED

Top growth control only:

- American Nightshade
- Canada Thistle
- Cocklebur
- Perennial Sow Thistle

Up to 4-leaf:

- Bluebur
- Cow Cockle
- Flixweed
- Lady's Thumb
- Night-Flowering Catchfly
- Redroot Pigweed
- Shepherd's Purse
- Smartweed (green, pale)
- Volunteer Canola
- Volunteer Sunflower

Up to 8-leaf:

- Common Groundsel
- Lamb's Quarters
- Stinkweed
- Wild Buckwheat
- Wild Mustard[1]
- Wormseed Mustard

Other:

- Cleavers (up to 4 whorls)[1]
- Kochia (up to 5 cm)[2]
- Russian Thistle (up to 5 cm)
- Wild Radish

[1] Including Group 2-resistant biotypes
[2] Including Group 2- and glyphosate-resistant biotypes

FORCEFIGHTER ALL IN®

CROP STAGING

2-leaf to early flag leaf

HOW IT WORKS

Quickly causes plants to stop growing. This convenient all in one formulation controls a wide range of weeds, including glyphosate-resistant and Group 2-resistant Kochia, Group 2-resistant Cleavers and Group 2-resistant Wild Mustard.

MIXING INSTRUCTIONS

1. Fill sprayer tank ½ full of water.
2. Start sprayer tank agitation.
3. Add the required amount of FORCEFIGHTER ALL IN®.
4. If necessary, add any required adjuvants or surfactants for tank-mix partners.
5. Complete filling tank with water.

NOTE: If tank-mixing, please reference the label of the partner for specific mixing order or follow WAMLEGS or WALES for proper mixing protocol (detailed on page 124 of this guide).

REGISTERED AND SUPPORTED TANK MIXES†

Spring wheat:
- BISON® 400 L
- Traxos® Herbicide

Barley:
- BISON® 400 L

† Refer to page 125 for PMRA tank-mixing directives.

CROP ROTATIONS

Can be seeded the following year to:

- Barley
- Canola
- Flax
- Forage Grasses
- Lentils
- Oats
- Peas
- Rye
- Wheat

Or fields can be summerfallowed.

STORAGE

Do not freeze.

PRE-HARVEST INTERVAL

60 days

GRAZING RESTRICTIONS

30 days

RE-ENTRY INTERVAL (REI)

24 hours

STORAGE

Do not freeze.

QUICK TIPS:

Do not apply before the 2-leaf stage as crop injury may occur.

Use 40 L/ac application volume when there is a heavy canopy or when most weeds are at an advanced stage of growth.

Activity is influenced by weather conditions. Optimal application temperature is 12–24° C. Avoid application 3 days before or after frost.

HERBICIDE
IN-CROP · BROADLEAF

GROUP 10

ADAMA GLUFOSINATE 150 SL

Reliable formulation for post-emergent control of almost 30 broadleaf and grassy weeds for use in glufosinate-ammonium-tolerant canola and soybeans.

ACTIVE INGREDIENT

Glufosinate ammonium 150 g/L = SL

PACKAGING & ACRES TREATED

Case: 2 x 13.5 L jugs
Drum: 108 L
Tote: 432 L
Tote Max: 1000 L
Acres Treated: 8–17 ac/jug; 67–135 ac/drum; 267–540 ac/tote; 617–1250 ac/tote max

APPLICATION RATES

Rate: 0.8–1.62 L/ac

WATER VOLUME

Ground: 45 L/ac (12 US gal/ac)
Aerial: 23 L/ac (6 US gal/ac)

RAINFASTNESS

4 hours

REGISTERED CROPS

- Glufosinate-Ammonium-Tolerant Canola
- Glufosinate-Ammonium-Tolerant Soybeans

Crop	Timing	Recommended Rate
Glufosinate-Tolerant Canola	Apply from the cotyledon stage up until, but prior to, the early bolting stage of canola.	**One (1) pass:** 1.35–1.62 L/ac **Two (2) passes:** 1.35 L/ac followed by 1.35 L/ac (and up to 1.62 L/ac) OR 1.62 L/ac followed by 1.35 L/ac *NOTE: Do not apply more than a total of 2.97 L/ac in one season.*
Glufosinate-Tolerant Soybeans	Apply from the cotyledon to the flowering stage of the crop.	0.8–1.35 L/ac

NOTE: Please refer to label for additional rates.

ADAMA GLUFOSINATE 150 SL

WEEDS CONTROLLED

Broadleaf Weeds:

- Canada Thistle[1]
- Cleavers
- Common Chickweed
- Cow Cockle
- Dandelion
- Flixweed
- Hemp-Nettle
- Kochia
- Lady's Thumb
- Lamb's Quarters
- Perennial Sow Thistle
- Redroot Pigweed
- Round-Leaved Mallow
- Russian Thistle
- Scentless Chamomile
- Shepherd's Purse
- Smartweed
- Stinkweed
- Stork's Bill
- Volunteer Flax
- Wild Buckwheat
- Wild Mustard

Grasses:

- Barnyard Grass
- Green Foxtail
- Quackgrass[2]
- Volunteer Barley[5]
- Volunteer Wheat
- Wild Oats

[5] Suppression only

[1] Top growth suppression only

[2] Season-long control for heavy populations at 1.62 L/ac

HOW IT WORKS

ADAMA GLUFOSINATE 150 SL is a non-selective herbicide that provides control of a broad spectrum of grassy and broadleaf weeds in canola and soybean varieties and hybrids that are specially developed to be tolerant to glufosinate ammonium.

ADAMA GLUFOSINATE 150 SL is a contact herbicide with limited translocation within the plant. Control is best when weeds are actively growing and not under stress.

CROP STAGING

- Pre-plant, Post-harvest, Summerfallow

REGISTERED AND SUPPORTED TANK MIXES†

- Facet® L
- ARROW ALL IN®
- LEOPARD®

† Refer to page 125 for PMRA tank-mixing directives.

SUPPORTED ADJUVANTS

- Agral 90®
- Not all tank mixes require an adjuvant, see label for details.

ADAMA GLUFOSINATE 150 SL

MIXING INSTRUCTIONS

1. Fill the tank ¾ full with clean water.
2. Start sprayer tank agitation.
3. Add the required amount of ADAMA GLUFOSINATE 150 SL.
4. If necessary, add any required adjuvants or surfactants for tank-mix partners.
5. Complete filling tank with water.

NOTE: If tank-mixing, please reference the label of the partner for specific mixing order or follow WAMLEGS or WALES for proper mixing protocol (detailed on page 124 of this guide).

CROP ROTATIONS

- Buckwheat, Barley, Millet, Oats, Rye, Sorghum, Triticale: 70 days
- All other crops (except alfalfa, canola, carrots, dry common beans not grown for seed, field corn, lettuce, onion, potatoes, and soybeans): 120 days

PRE-HARVEST INTERVAL

Canola: 60 days
Soybeans: 70 days

GRAZING RESTRICTIONS

Canola:

- Grain and meal from treated crop can be fed to livestock.
- Do not graze the treated crop or cut for hay; sufficient data is not available to support such use.

Soybeans: 20 days

RE-ENTRY INTERVAL (REI)

24 hours

STORAGE

Do not freeze.

QUICK TIPS:

ADAMA GLUFOSINATE 150 SL can be weak on some annual grasses. If these species are not adequately controlled with a residual herbicide, it may be advantageous to include a grass herbicide such as LEOPARD® or ARROW ALL IN® with the post-emergent glufosinate application.

ADAMA GLUFOSINATE 150 SL activity is maximized in warm, sunny weather.

ADAMA GLUFOSINATE 150 SL, as with all ADAMA products, is fully supported by a sales, service and agronomic teams across all Eastern Canadian provinces.

HERBICIDE
PRE-PLANT & POST-HARVEST · BROADLEAF

GROUP 2

INVOLVE® 50 WDG

ADAMA's pre-plant or post-harvest Group 2 herbicide for control of the toughest broadleaf weeds.
NOW REGISTERED on lowbush blueberries!

ACTIVE INGREDIENT

50% Tribenuron-methyl = WDG

PACKAGING & ACRES TREATED

Case: 10 x 480 g bottles/case
Acres Treated (Row crops and dry beans): 80 ac/bottle; 800 ac/case
Acres Treated (Lowbush blueberries only): 18 ac/bottle; 185 ac/case

APPLICATION RATES

Row crops and dry beans
Rate: 6 g/ac

Lowbush blueberries only
Rate: 24 g/ac

WATER VOLUME

Ground:
- Row Crops/Dry Beans: 22–44 L/ac (5–12 US gal/ac)
- Lowbush Blueberries: 60–100 L/ac (15–26 US gal/ac)

Aerial: Do not apply by air.

RAINFASTNESS

4-6 hours

REGISTERED CROPS

- Alfalfa
- Alsike Clover
- Blueberries (lowbush)
- Dry beans
- Faba Beans
- Field Peas
- Oats
- Red Clover
- Soybeans
- Spring Barley
- Timothy
- Wheat (spring, winter)

WEEDS CONTROLLED (ROW CROPS/DRY BEANS ONLY)

INVOLVE® 50 WDG plus 0.5 REL/ac glyphosate equivalent will control the following weeds:

Broadleaf Weeds:
- Canada Fleabane[1]
- Canada Thistle[S]
- Common Ragweed
- Cow Cockle
- Dandelion
- Flixweed
- Hemp-Nettle
- Kochia
- Lamb's Quarters
- Lady's Thumb
- Narrow-Leaved Hawk's Beard
- Redroot Pigweed
- Russian Thistle
- Scentless Chamomile[S]
- Stinkweed
- Volunteer Canola[2]
- White Cockle[S]
- Wild Mustard
- Wild Buckwheat

Grasses:
- Downy Brome
- Foxtail (giant, green)
- Persian Darnel
- Volunteer Barley
- Volunteer Wheat
- Wild Oats

[S] Suppression only
[1] Excluding Group 2- and Group 9-resistant Fleabane
[2] Including glyphosate-tolerant varieties

⚠ Always read and follow pesticide label directions.

GO TO: HERBICIDES INSECTICIDES FUNGICIDES

INVOLVE® 50 WDG

CROP STAGING (ROW CROPS/DRY BEANS ONLY)

Pre-plant, Post-harvest, Summerfallow

WEEDS CONTROLLED AND TIMING (LOWBUSH BLUEBERRIES)

INVOLVE® 50 WDG plus AGRAL® 90 @ 0.2 % v/v will control the following weeds in lowbush blueberries.

Weed	Timing	Year
Bracken Fern Yellow Loosestrife	Use as a spot treatment in mid-summer	Sprout
Speckled Alder Wild Rose	Use as a spot treatment in early fall	Sprout
Bunchberry	Post-harvest	Fruiting
	Spring*	Sprout

* Make only one application per crop cycle (2 or 3 years) in the sprout year.

HOW IT WORKS

INVOLVE® 50 WDG inhibits the production of the ALS enzyme, quickly causing plants to stop growing and become discoloured (red, yellow, purple) at the growing point and spreading to the entire plant within 1–3 weeks.

REGISTERED AND SUPPORTED TANK MIXES (ROW CROPS/DRY BEANS ONLY)†

- 2,4-D ESTER 700
- AIM® EC
- Authority® 480
- Dicamba products
- Glyphosate

† Refer to page 125 for PMRA tank-mixing directives.

SUPPORTED ADJUVANTS AND RATES

- Agral 90® @ 0.2–0.35% v/v
- Not all tank mixes require an adjuvant, see label for rates and details.

INVOLVE® 50 WDG

MIXING INSTRUCTIONS

1. Fill clean spray tank ½ full of clean water, and start agitation.
2. Add the required amount of INVOLVE® 50 WDG and agitate until product is completely dispersed.
3. Add the required amount of glyphosate.
4. Add the required amount of surfactant, then fill tank with remaining water with agitation on.
5. For repeat tank loads, empty the spray tank completely to avoid INVOLVE® 50 WDG from not dispersing or add to tank as a pre-slurry in 5–10 L of water.

NOTE: If tank-mixing, please reference the label of the partner for specific mixing order or follow WAMLEGS or WALES for proper mixing protocol (detailed on page 124 of this guide).

CROP ROTATIONS

- Alfalfa, Bean Crops (including dry beans, faba beans, field peas and soybeans), Oats, Red Clover Or Alsike Clover, Timothy, Spring Barley, Spring Wheat And Winter Wheat: 24 hours after application
- Canola and Lentils: 60 days after application

Post-harvest application in the fall may be summerfallowed or seeded in the spring to:

- Alfalfa, Canola, Field Corn or Bean Crops (including dry beans, faba beans, field peas and soybeans), Lentils, Red Clover or Alsike Clover, Spring Wheat, Spring Barley, Oats and Timothy.

STORAGE

May be stored at any temperature.

RE-ENTRY INTERVAL (REI)

12 hours

QUICK TIPS:

Degree of control and duration of effect depend on weed sensitivity, weed size, spray coverage and growing conditions. Activity of the herbicide mixture may be delayed by cold, dry conditions after application.

Injury to pulse crops may occur on coarse-textured soils, low in organic matter (less than 3%), or in fields with variable soils, gravely areas, sandy areas or eroded knolls. Avoid planting pulse crops in soils containing more than 50% sand.

HERBICIDE
IN-CROP · GRASS

GROUP 1

LEOPARD®

A powerful grass control solution designed to tackle tough grassy weeds like Quackgrass, Barnyard Grass, and Volunteer Corn in soybeans, dry beans, and a wide range of specialty crops. Fast-acting, convenient, and effective control.

ACTIVE INGREDIENT

Quizalofop-P-ethyl 100 g/L = EC

PACKAGING & ACRES TREATED

Case: 2 x 7.8 L jugs
Drum: 93.6 L
Tote: 487.5 L
Acres Treated: 30–50 ac/jug (standard rate: 40 ac/jug)
480 ac/drum;
2500 ac/tote

APPLICATION RATES

Rate: 150–290 ml/ac (standard rate: 195 ml/ac)

WATER VOLUME

Ground: 40 L/ac (10 US gal/ac)
Aerial: 10 L/ac (2.5 US gal/ac)

RAINFASTNESS

Avoid application when heavy rain is forecast.

REGISTERED CROPS

- Alfalfa, seed
- Beans (dry & snap)
- Canola
- Chickpeas
- Cucurbit Vegetables
- Lentils
- Lima, Adzuki & Mung Beans (Ontario)
- Peas (field & processing)
- Rutabagas (Ontario & Quebec)
- Soybeans
- Sugarbeets

WEEDS CONTROLLED

Key Weeds Controlled by LEOPARD®		
GRASS SPECIES	**LEAF STAGE**	**RATE**
Green Foxtail, Volunteer Cereals (wheat, barley, oats)	2 to early tillering	150 ml/ac
Wild Oats	1–5	
Volunteer Corn	2–6	
Barnyard Grass, Fall Panicum, Yellow Foxtail, Proso Millet, Witchgrass	2-early tillering	195 ml/ac
Wild Oats	1–5 + 2 tillers	
Downy Brome, Japanese Brome	2–5	
Foxtail Barley	2–4 + 3 tillers	
Quackgrass (suppression)	2–6	
Quackgrass (control)	2–6	290 ml/ac

LEOPARD®

HOW IT WORKS

LEOPARD® is a selective post-emergent herbicide for the control of annual and perennial grasses. LEOPARD® is a systemic herbicide which is rapidly absorbed and readily translocated for the treated foliage to the root systems and growing points of the plant. Treated plants show a reduction in growth and a loss of competitiveness. An early yellowing and browning of the younger plant tissues is followed by a progressive collapse of the remaining foliage. These symptoms will generally be observed in 1–3 weeks depending on the grass species treated and the environmental conditions. This product does not control sedges or broadleaf weeds.

CROP STAGING

- Most crops are tolerant at all stages, so target applications at the optimal weed stage.
- Always adhere to the pre-harvest interval for each crop.

REGISTERED AND SUPPORTED TANK MIXES†

- Basagran®
- DAVAI® 80 SL
- ADAMA GLUFOSINATE 150 SL
- Glyphosate
- PHANTOM® 240 SL
- PYTHON®

† Refer to page 125 for PMRA tank-mixing directives.

MIXING INSTRUCTIONS

1. Thoroughly clean the sprayer by flushing the system with water containing detergent.
2. Fill clean spray tank ½ full with water. Start agitation.
3. If tank-mixing LEOPARD® with another pesticide, add tank-mix partner followed by the adjuvant.
4. Add the rest of the required water to the tank with agitation on. Mix well before applying to the crop.

On repeat tank loads, ensure that the amount of spray solution left in the tank from the previous load is less than 10% of volume about to be mixed.

Do not mix, load or clean spray equipment where there is a potential to contaminate wells or aquatic systems.

When mixing with Glufosinate:
Glufosinate + LEOPARD® + surfactant

NOTE: If tank-mixing, please reference the label of the partner for specific mixing order or follow WAMLEGS or WALES for proper mixing protocol (detailed on page 124 of this guide).

LEOPARD®

ADJUVANT RATES

LEOPARD® is not packaged with, but requires, an adjuvant such as:

- Merge® @ 0.5–1% v/v
- LI 700® @ 0.25–0.5% v/v
- Liberate™ adjuvant @ 0.5% v/v
- Other non-ionic surfactants (NIS) or methylated seed oil (MSO) adjuvants

CROP ROTATIONS

No restrictions

PRE-HARVEST INTERVAL

- Beans (dry and snap), Cucurbits, Rutabagas: 30 days
- Sugarbeets: 60–80 days
- Canola: 64 days
- Peas, Small Red Beans: 65 days
- Soybeans: 80 days

RE-ENTRY INTERVAL (REI)

12 hours

GRAZING RESTRICTIONS

Do not cut treated crops for hay.

STORAGE

Do not freeze.

QUICK TIPS:

LEOPARD® is safe on the crop at all stages. Rates are dependent on weed stages.

Use the higher adjuvant rate when targeting Quackgrass, or when conditions are not conducive to good growth.

HERBICIDE
IN-CROP · BROADLEAF

GROUP 4

MCPA ESTER 600

Provides reliable post-emergent control of broadleaf weeds and great tank-mix flexibility in wheat, barley, rye, oats, and pasture areas.

ACTIVE INGREDIENT

MCPA 2 EH Ester 600 g/L = EC

PACKAGING & ACRES TREATED

Case: 2 × 10 L jugs
Drum: 116.4 L
Tote: 500 L
Acres Treated: 24–35 ac/jug; 270–404 ac/drum; 1250–1750 ac/tote

APPLICATION RATES

Rate: 285–425 ml/ac

WATER VOLUME

Ground: 37–75 L/ac
(10–20 US gal/ac)
Aerial: 11 L/ac (3 US gal/ac)*

* Please refer to label as aerial application is crop-specific.

RAINFASTNESS

Avoid applying when rain is forecast.

REGISTERED CROPS

Crop	Timing[1]	Rate
Oats (not underseeded with legumes)	From the 1-leaf expanded to the early flag-leaf stage	Up to 365 ml/ac
Spring Wheat, Barley, Rye	From the 3-leaf expanded to the early flag-leaf stage. From milk stage to maturity	Up to 425 ml/ac
Winter Wheat, Fall Rye	In spring, from full tillering to the shot blade stage Do not apply during and after the flag-leaf stage. Do not apply to seedling winter cereals in the fall. GROUND APPLICATION ONLY.	

[1] Do not apply more than one treatment per year

GO TO: HERBICIDES INSECTICIDES FUNGICIDES

MCPA ESTER 600

WEEDS CONTROLLED

Susceptible weeds[2]:

- Annual Sunflower
- Burdock[4]
- Cocklebur
- Flixweed[1]
- Lamb's Quarters
- Mustard (except dog and tansy)
- Plantain
- Prickly Lettuce
- Ragweed
- Russian Pigweed[1]
- Shepherd's Purse[1]
- Stinkweed
- Vetch
- Wild Radish

Harder-to-control weeds[3]:

- Annual Sow Thistle
- Biennial Wormwood
- Canada Thistle[1]
- Corn Spurry[1]
- Curled Dock
- Dandelion
- Dog Mustard
- Field Bindweed[1]
- Field Horsetail[1]
- Field Peppergrass
- Goat's Beard
- Hairy Galinsoga
- Hedge Bindweed[1]
- Hemp-Nettle[4]
- Kochia
- Lady's Thumb[1]
- Leafy Spurge[1]
- Oak-Leaved Goosefoot
- Perennial Sow Thistle[1]
- Purslane
- Redroot Pigweed
- Russian Knapweed[1]
- Russian Thistle
- Smartweed[1]
- Sweet Clover[5]
- Tansy Mustard
- Tartary Buckwheat

[1] Use highest listed rate.

[2] Small seedlings (2–4 leaf), growing rapidly, good growing conditions: 235 ml/ac Large weeds, dry or cold weather, heavy infestations: 365 ml/ac; Susceptibility decreases with age.

[3] Small seedlings (2–4 leaf), growing rapidly, good growing conditions: 425 ml/ac Large weeds, dry or cold weather, heavy infestations: 610 ml/ac; Susceptibility decreases with age.

[4] Before 4-leaf stage

[5] Seedlings

HOW IT WORKS

Systemic post-emergence phenoxy herbicide that acts as a plant growth regulator to control broadleaf weeds by stimulating nucleic acid and protein synthesis, which impacts the cell division and respiration causing malformed leaves, stems and roots.

CROP STAGING

- Most crops are tolerant at all stages, so target applications at the optimal weed stage.
- Always adhere to the pre-harvest interval for each crop.

REGISTERED AND SUPPORTED TANK MIXES†

Herbicides:

- BADGE®
- Barricade® SG
- BISON® 400 L
- BROMOTRIL® 240 EC

Fungicides:

- BUMPER® 432 EC

† Refer to page 125 for PMRA tank-mixing directives.

MCPA ESTER 600

MIXING INSTRUCTIONS

1. Fill sprayer tank ½ full of water.
2. Start sprayer tank agitation.
3. Add the required amount of ADAMA MCPA ESTER 600.
4. If necessary, add any required adjuvants or surfactants for tank-mix partners.
5. Complete filling tank with water with agitation on.

NOTE: If tank-mixing, please reference the label of the partner for specific mixing order or follow WAMLEGS or WALES for proper mixing protocol (detailed on page 124 of this guide).

CROP ROTATIONS

No restrictions

PRE-HARVEST INTERVAL

7 days

RE-ENTRY INTERVAL (REI)

12 hours

GRAZING RESTRICTIONS

7 days

STORAGE

May be stored at any temperature.

QUICK TIPS:

If product is exposed to temperatures below -20°C, it should be warmed to at least 5°C and mixed thoroughly before using.

Always read and follow registered product label instructions. It is an offence under the Pest Control Products Act to use this product in a way that is inconsistent with the directions on the label.

HERBICIDE
PRE-PLANT & IN-CROP · BROAD-SPECTRUM

GROUP 2

PHANTOM® 240 SL

Flexible application timing options this broadleaf and grassy weed control for soybeans and dry beans provides residual control to eliminate early season weed competition.

ACTIVE INGREDIENT

Imazethapyr 240 g/L = SL

PACKAGING & ACRES TREATED

Case: 2 x 3.3 L jugs
Acres Treated: 19–39 ac/jug

APPLICATION RATES

Rate: 85–170 ml/ac

WATER VOLUME

Ground: 40 L/ac (10 US gal/ac)
Aerial: Do not apply by air.

RAINFASTNESS

3 hours

REGISTERED CROPS

Crop	Application timing			
	Pre-plant	Pre-plant incorporated	Pre-emergent	Post-emergent
Adzuki Beans		•	•	
Alfalfa (grown for seed)		•	•	
Dry Common Beans (black, cranberry, Dutch brown, kidney, white, yellow eye)		Cranberry Kidney White	•	
Lima Beans (Ontario only)			•	
Processing Peas		•	•	
Snap Beans		•	•	
Snow Peas		•	•	
Soybeans	•	•	•	•

WEEDS CONTROLLED

Check label as weeds controlled vary by crop and application timing.

Broadleaf weeds (up to and including the 4-leaf stage):

- Cocklebur
- Eastern Black Nightshade[1]
- Lady's Thumb
- Lamb's Quarters
- Ragweed (common, giant)[1]
- Redroot Pigweed[1]
- Smartweed
- Velvetleaf
- Wild Buckwheat
- Wild Mustard

[1] Excluding Group 2-resistant weeds

PHANTOM® 240 SL

WEEDS CONTROLLED (CONT'D)

Grasses:

- Barnyard Grass
- Crabgrass
- Foxtail (green, yellow)
- Proso Millet
- Witchgrass
- Yellow Nutsedge[S]

[S] Suppression

HOW IT WORKS

PHANTOM® 240 SL is a selective herbicide that can be applied as an early pre-plant, pre-plant incorporated, pre-emergent or post-emergent treatment in various crops. The application method depends upon the crop, anticipated weed spectrum and the preference of the applicator. With early pre-plant and pre-emergent treatments, susceptible weeds emerge, are present as stunted plants and then die. When PHANTOM® 240 SL is applied post-emergence, absorption may occur through both the roots and foliage. Susceptible weeds stop growing and eventually die.

CROP STAGING

PHANTOM® 240 SL can be applied early pre-plant, pre-plant incorporated, pre-emergent or post-emergent depending on the crop.

REGISTERED AND SUPPORTED TANK MIXES†

Tank-mix option	Application timing			
	Early Pre-plant	Pre-plant incorporated	Pre-emergent	Post-emergent
Glyphosate	•			•[1]
Glyphosate + FirstRate®	•			
Trifluralin		•		
Edge®		•		
Lorox®/Linuron			•	
Basagran®				•
Basagran® Forte				•
ARROW® 240 EC, ARROW ALL IN®				•
LEOPARD®				•
SQUADRON®		•	•	•

[1] Glyphosate-tolerant soybeans only (i.e. varieties with the Roundup Ready®).

† Refer to page 125 for PMRA tank-mixing directives.

PHANTOM® 240 SL

MIXING INSTRUCTIONS

1. Fill sprayer tank ½ full of water.
2. Start sprayer tank agitation.
3. Add the required amount of PHANTOM® 240 SL.
4. If necessary, add any required adjuvants or surfactants for tank-mix partners.
5. Complete filling tank with water with agitation on.

NOTE: If tank-mixing, please reference the label of the partner for specific mixing order or follow WAMLEGS or WALES for proper mixing protocol (detailed on page 124 of this guide).

CROP ROTATIONS

These crops may be planted the season following a PHANTOM® 240 SL application:

- Adzuki Beans
- Black Beans
- Cranberry Beans
- Dutch Brown Beans
- Field Corn
- Clearfield® Canola And Corn
- Kidney Beans
- Lima Beans
- Processing Peas
- Soybeans
- Spring Barley
- Spring Wheat
- White Beans
- Winter Wheat
- Yellow-Eyed Beans

PRE-HARVEST INTERVALS

- Snap Beans: 40 days
- Processing Peas: 50 days
- Snow Peas: 60 days
- Lima Beans: 90 days
- Dry Beans[1], Soybeans: 100 days

[1] Kidney, adzuki, Dutch brown, black, yellow eye, white and cranberry beans.

RE-ENTRY INTERVAL (REI)

12 hours

GRAZING RESTRICTIONS

Do not graze treated crops or cut for hay.

STORAGE

Do not freeze.

QUICK TIPS:

PHANTOM® 240 SL requires moisture for activation. Soil-applied PHANTOM® 240 SL requires sufficient water within 7 days of application to moisten the soil to a depth of 2 inches for activation. If adequate moisture is not received within 7–10 days of application, perform a shallow inter-row cultivation 2–3" deep using a roller or S-tine cultivator to control escaped weeds until the field receives adequate moisture.

For early pre-plant applications (soybeans only), if more than 7–10 days elapse before the receipt of adequate precipitation to activate the herbicide and reduce the risk of weed escapes.

HERBICIDE
IN-CROP · BROAD-SPECTRUM

GROUPS 2 & 6

PYTHON®

Proven co-pack alternative,providing broad-spectrum weed control in soybeans and peas with two modes of action to combat weed resistance.

ACTIVE INGREDIENT

Imazamox 80 g/L and Bentazon 480 g/L = SL

PACKAGING & ACRES TREATED

Case includes:
- PYTHON® A: 1 × 4 L jug
- PYTHON® B: 2 × 7.26 L jugs

Acres Treated: 40 acres/case

APPLICATION RATES

Rate:
- PYTHON® A: 100 ml/ac
- PYTHON® B: 363 ml/ac

NOTE: Requires UAN 28% @ 0.810 L/ac (NOT included in the co-pack)

WATER VOLUME

Ground: Minimum 40 L/ac (10 US gal/ac)
Aerial: Do not apply by air.

RAINFASTNESS

6 hours

REGISTERED CROPS

- Dry Beans
- Field Peas
- Soybeans

WEEDS CONTROLLED (APPLICATION TIMING)

Unless otherwise noted below, apply to young and actively growing weeds.

Broadleaf weeds (cotyledon to 4-leaf):

- Cleavers[5]
- Cow Cockle
- Flixweed
- Green Smartweed
- Lamb's Quarters[1]
- Redroot Pigweed[1]
- Prostrate Pigweed[1]
- Shepherd's Purse
- Stinkweed
- Stork's Bill
- Volunteer Canola[2]
- Wild Buckwheat[5]
- Wild Mustard

[5] Suppression only

[1] PYTHON® A + PYTHON® B will provide more consistent control of Prostrate Pigweed, Redroot Pigweed and Lamb's Quarters including Group 2-resistant biotypes.

[2] Non imidazolinone-tolerant varieties

⚠ Always read and follow pesticide label directions.

GO TO: HERBICIDES INSECTICIDES FUNGICIDES

PYTHON®

WEEDS CONTROLLED (CONT'D)

Grassy weeds (1–4 leaf or early tillering):

- Barnyard Grass
- Green Foxtail[3]
- Japanese Brome Grass[S]
- Persian Darnel
- Volunteer Barley
- Yellow Foxtail
- Volunteer Canary Seed
- Volunteer Wheat
- Wild Oats[3]

[S] Suppression only

[3] Including Group-1-resistant weeds. PYTHON® A will not control weed biotypes that are multiple-resistant to both Group 1 and Group 2 herbicides.

HOW IT WORKS

The PYTHON® co-pack combines two powerful actives. PYTHON® A (imazamox) is systemic, readily absorbed through both leaf and root uptake. PYTHON® B (bentazon) is a contact herbicide. Good coverage and early application will give the best results.

CROP STAGING

- **Dry Beans:** After 1st trifoliate leaf has fully expanded up to 2nd trifoliate leaf
- **Soybeans:** Cotyledon to the 4-leaf stage
- **Peas:** 3 to 6 above-ground nodes

REGISTERED AND SUPPORTED TANK MIXES†

- ARROW® 240 EC
- ARROW ALL IN®
- LEOPARD®
- Glyphosate

† Refer to page 125 for PMRA tank-mixing directives.

MIXING INSTRUCTIONS

1. Fill clean spray tank ½ full with water.
2. Start sprayer tank agitation.
3. Add the required amount of PYTHON® A.
4. Add the correct amount of PYTHON® B.
5. Add the required amount of UAN 28%.
6. Add required adjuvants or surfactants.
7. Complete filling tank with water with agitation on.

NOTE: If tank-mixing, please reference the label of the partner for specific mixing order or follow WAMLEGS or WALES for proper mixing protocol (detailed on page 124 of this guide).

PYTHON®

ADJUVANT RATES

- Agral® 90 @ 0.25% v/v
- Hasten® NT Ultra @ 0.5% v/v
- Merge® @ 0.5% v/v
- NORAC Methylated Seed Oil (MSO) @ 0.5% v/v

RE-ENTRY INTERVAL (REI)

12 hours

PRE-HARVEST INTERVALS

- Peas: 60 days
- Dry Beans: 75 days
- Soybeans: 85 days

GRAZING RESTRICTIONS

Do not graze treated crop. Peas may be fed to livestock 30 days after application.

CROP ROTATIONS

(Can be seeded the following year)

- Barley
- Canola
- Field Corn
- Field Peas
- Oats
- Soybeans
- Imidazolinone-Tolerant Sunflowers
- Wheat (spring)

RECROPPING RESTRICTIONS

There are several factors that affect the recropping following an imidazolinone application. If you are planning to use PYTHON®, DAVAI® 80 SL, DAVAI® A PLUS, or DAVAI® Q PLUS or, please consult the recropping restrictions and guidelines on page 61.

STORAGE

Do not freeze.

QUICK TIPS:

UAN 28% and an adjuvant are NOT included in the case, but are REQUIRED (a reduction in weed control can be observed without the addition of a nitrogen source).

Do not apply PYTHON® to any crops that have been subjected to stress from conditions—such as hail, flooding, hot/humid weather, drought, widely fluctuating temperature conditions, prolonged cold weather, or injury from prior herbicide applications—as crop injury may result.

HERBICIDE
IN-CROP · BROAD-SPECTRUM

GROUP 4

RUSH 24 ALL IN®

Controls a wide spectrum of broadleaf weeds, like cleavers, with excellent grassy weed herbicide compatibility for wheat and barley.

ACTIVE INGREDIENT

Fluroxypyr 90 g/L and
2,4-D Ester 360 g/L as an EC

PACKAGING & ACRES TREATED

Case: 2 x 8.9 L jugs
Drum: 106.8 L
Tote: 427.2 L
Acres Treated: 20 ac/jug; 240 ac/drum; 960 ac/tote

APPLICATION RATES

Rate: 445 ml/ac

WATER VOLUME

Ground: 12–40 L/ac (3–10 US gal/ac)
Aerial: 12–20 L/ac (5–10 US gal/ac)

RAINFASTNESS

1 hour

REGISTERED CROPS

- Barley
- Wheat (spring, winter)

WEEDS CONTROLLED

Control		Suppression
At labelled rate of 445 ml/ac		
• Buckwheat (1–6 leaf) • Bluebur • Burdock • Canola (volunteer) • Cleavers (1-8 whorls) • Clovers (sweet) • Cocklebur • Flixweed • Field Horsetail[1] • Goat's-Beard • Hemp-Nettle (2–6 leaf) • Hoary Cress[1] • Kochia[2] • Lamb's Quarters	• Mustards (except green tansy, dog & grey tansy) • Plantain • Prickly Lettuce • Ragweed • Round-Leaved Mallow (1–6 leaf) • Shepherd's Purse • Stork's Bill (1–8 leaf) • Stinkweed • Sunflower (annual) • Vetch • Wild Buckwheat (1–6 leaf) • Wild Radish • Volunteer Flax (1-12 cm)	• Common Chickweed[2] (up to 8 cm) • Redroot Pigweed • Sow Thistle (perennial)[1]

RUSH 24 ALL IN®

WEEDS CONTROLLED (CONT'D)

Control		Suppression
Additional weeds controlled/suppressed with addition of 81 ml/ac (2 oz/ac) of 2,4-D ESTER 700:		
· Blue Lettuce[1] · Dandelion (spring rosettes) · Docks · Field Bindweed[1] · Field Peppergrass · Gumweed · Hairy Galinsoga · Hedge Bindweed	· Lady's Thumb · Leafy Spurge[1] · Mustard (dog, tansy) · Oak-Leaved Goosefoot · Redroot Pigweed · Russian Thistle · Smartweed · Tartary Buckwheat	· Common Chickweed[2] (up to 8 cm) · Canada Thistle[1] · Sow Thistle (perennial[1], annual)

[1] Top growth control only

[2] Including biotypes resistant to Group 2 herbicides that inhibit the ALS enzyme

HOW IT WORKS

Group 4 herbicides disrupt normal plant growth, resulting in twisting and cupping of leaves, epinasty and death of susceptible plants in 2–10 days.

CROP STAGING

4-leaf to just prior to flag leaf emergence.

REGISTERED AND SUPPORTED TANK MIXES†

Wheat only:

· Traxos®

Wheat and barley:

· BISON® 400 L
· Puma® Advance

† Refer to page 125 for PMRA tank-mixing directives.

MIXING INSTRUCTIONS

1. Fill sprayer tank ½ full of water.
2. Start sprayer tank agitation.
3. Add the required amount of RUSH 24 ALL IN®.
4. If necessary, add the required amount of additional 2,4-D ESTER 700 herbicide.
5. If necessary, add any required adjuvants of surfactants for tank-mix partners.
6. Complete filling tank with water with agitation on.

NOTE: If tank-mixing, please reference the label of the partner for specific mixing order or follow WAMLEGS or WALES for proper mixing protocol (detailed on page 124 of this guide).

RUSH 24 ALL IN®

CROP ROTATIONS

The following crops may be grown one (1) year after application:

- Barley
- Canola
- Forage Grass
- Oats
- Field Peas
- Rye
- Wheat

PRE-HARVEST INTERVALS

Barley, Wheat (spring): 60 days

GRAZING RESTRICTIONS

- Do not permit lactating dairy animals to graze fields within seven (7) days after application.
- Do not harvest forage or cut hay within 30 days after application.
- Withdraw meat animals from treated fields at least three (3) days before slaughter.

RE-ENTRY INTERVAL (REI)

12 hours

STORAGE

Do not freeze.

QUICK TIPS:

RUSH 24 ALL IN® activity is influenced by weather conditions. Optimum activity requires active crop and weed growth.

The temperature range for optimum activity is 12°C to 24°C. Reduced activity will occur when temperatures are below 8°C or above 27°C.

Frost before application (3 days) or shortly after (3 days) may reduce weed control and crop tolerance. Weed control may be reduced during stress conditions, for example drought, heat or cold stress, or if weeds have initiated flowering, or if heavy infestations exist.

HERBICIDE
IN-CROP · BROADLEAF

GROUP 5

SQUADRON®

Broad-spectrum herbicide registered for grassy and broadleaf weed control in a wide range of crops, most notably soybeans and potatoes. It can work alone or in combination with recommended tank mixes.

ACTIVE INGREDIENT

Metribuzin

PACKAGING & ACRES TREATED

Case: 4 x 5 kg jugs
Acres Treated: 15–60 acres/jug

APPLICATION RATES

Rate: Please refer to the label for application rates as these vary based on crop, soil type and application methods.

RAINFASTNESS

6 hours after foliar application

REGISTERED CROPS

- Asparagus (established)
- Fruit Trees (newly planted and established)
- Highbush Blueberries (newly planted)
- Potatoes
- Processing Carrots
- Soybeans[1]
- Transplanted Tomatoes (grown for processing)

[1] Do not use Squadron® on AC Brant, Apache, Baron, Emosa, Maple Amber, Maple Ridge, IA 1003 or S-240 varieties.

WEEDS CONTROLLED

Broadleaf weeds:

- Carpetweed[1]
- Cocklebur
- Common Chickweed
- Common Ragweed
- Corn Spurry[2]
- Dandelion (seedling)
- Green Smartweed
- Hemp-Nettle[2]
- Jimsonweed[1]
- Lady's Thumb
- Lamb's Quarters
- Prickly Mallow
- Prostrate Pigweed
- Redroot Pigweed
- Russian Thistle
- Shepherd's Purse
- Stinkweed[3]
- Velvetleaf
- Wild Buckwheat[3]
- Wild Mustard
- Wild Potato Vine
- Yellow Woodsorrel[1]

Grassy weeds:

- Barnyard Grass
- Cheat Grass
- Crabgrass
- Fall Panicum
- Giant Foxtail
- Green Foxtail
- Johnson grass (seedling)
- Witch Grass
- Yellow Foxtail

[1] Pre-emergence only

[2] Suppression with multiple post-emergent applications of 81 g/ac

[3] Post-emergent applications only

NOTE: When using SQUADRON® alone: Annual weeds less than 4 cm in height and residual control of annual weeds, use the higher rate for the control of grass weeds or when broadleaf weeds are dense. The rate of SQUADRON® depends on soil organic matter levels. See rates for SQUADRON® alone.

GO TO: HERBICIDES INSECTICIDES FUNGICIDES

SQUADRON®

HOW IT WORKS

Metribuzin inhibits the photosynthesis of grassy and broadleaf weeds. Used pre-emergent, susceptible weeds and crop seedlings emerge through treated soil, but 2–5 days later the weeds show chlorosis and necrosis. Plants treated post-emergent show chlorosis and necrosis between leaf veins, followed by wilting and death.

SOIL TYPES AND RESTRICTIONS

The recommended use rates of SQUADRON® are dependent upon soil texture and the organic matter content of the soil being treated: coarse, medium and fine.

The following chart outlines the soil textures included in each of the soil texture groupings:

Coarse	Medium	Fine
Loamy sand, Sandy loam	Loam, Silt loam, Silt, Sandy clay loam, Sandy clay	Silty clay loam, Silty clay, Clay loam, Clay

- On variable soils with coarse sandy areas, some crop injury may occur on the sandy areas if the rate used is for the finer soil type.
- Sandy loam and silty clay loam soils are transitional soils and may be classified as medium-textured soils in some regions.
- Do not use this product on muck soils. If SQUADRON® is applied to muck soils, subsequent crops may be injured.
- Do not use on coarse soils with less than 2% organic matter.

PRE-HARVEST INTERVALS

- Asparagus: 14 days
- Potatoes, Tomatoes: 60 days
- Newly Planted Blueberries: 2 years

RE-ENTRY INTERVAL (REI)

12 hours

GRAZING RESTRICTIONS

Grazing restrictions are crop-specific. Please refer to the label.

CROP ROTATIONS

Rotational crops such as onions, celery, peppers, cole crops, lettuce, spinach, sugar beets, table beets, turnips, pumpkins, squash, cucumbers, melons, tobacco and non-triazine-tolerant canola (rapeseed) are sensitive to SQUADRON® and may be injured if planted in soil treated during the year of application or the following crop year.

Fall planted or cover crops such as wheat, oats and rye may be injured when planted within the same season.

STORAGE

To prevent contamination, store this product away from food or feed.

SQUADRON®

MIXING INSTRUCTIONS

1. Fill the spray tank or nurse tank ¼ full with water.
2. Start recirculation and agitation system and continue throughout mixing and application.
3. Add recommended amount of SQUADRON® and agitate until product is completely dispersed.
4. If tank mixing with wettable powders or other dry flowable products refer to these product labels for specific mixing instructions.
5. Fill spray tank with water to the desired level with agitation on.
6. If tank mixing with emulsifiable concentrates or soluble products, add these products near end of filling the spray tank.
7. Continue agitation during transport and application until the spray tank is empty.

NOTE: If tank-mixing, please reference the label of the partner for specific mixing order or follow WAMLEGS or WALES for proper mixing protocol (detailed on page 124 of this guide).

REGISTERED AND SUPPORTED TANK MIXES AND APPLICATION TIMING†

Crop	Application Method	Products
Soybeans	Pre-plant incorporated	SQUADRON® plus Treflan™ E.C., Dual II Magnum®, Frontier® or Axiom® DF
	Pre-emergence following pre-plant incorporated (PPI) application of other herbicides	Treflan™ E.C. followed by SQUADRON®; Dual II Magnum® followed by SQUADRON®
	Pre-plant surface or burn-off application	SQUADRON® alone or with PHANTOM® 240 SL (Pursuit®), Glyphosate, Axiom® DF, Lorox® DF, Dual II Magnum®
	Pre-emergence	SQUADRON® alone or with PHANTOM® 240 SL (Pursuit®), Glyphosate, Axiom® DF, Lorox® DF, Dual II Magnum®, Frontier®, Linuron 50%, Linuron 480, Broadstrike™ Dual

SQUADRON®

REGISTERED AND SUPPORTED TANK MIXES AND APPLICATION TIMING (CONT'D)

Crop	Application Method	Products
Potatoes	Pre-emergence	SQUADRON® alone or with Dual II Magnum®, Linuron 50%, Linuron 480 g/L
	Early post-emergence	SQUADRON® alone or with Venture® L
	Pre-emergence or early post-emergence or pre-plant incorporated	SQUADRON® plus Dual II Magnum® or Eptam® 8-E
	Split application (pre- and post-emergence)	SQUADRON® alone
Transplanted Tomatoes (grown for processing only)	Pre-plant incorporated	SQUADRON® plus Treflan™ E.C., Dual II Magnum®
	Post-emergence	SQUADRON® alone
Asparagus (established)	Pre-emergence	SQUADRON® alone
Processing Carrots	Post-emergence	SQUADRON® alone
Highbush Blueberries (newly planted)	Pre-emergence to weeds	SQUADRON® alone

† Refer to page 125 for PMRA tank-mixing directives.

QUICK TIPS:

Spray equipment must be thoroughly cleaned to remove remaining traces of Squadron herbicide that might injure other crops. A heavy-duty detergent at the rate of 250 ml/100 L of water is recommended to aid in the cleanout.

NOTES

RE-CROPPING RESTRICTIONS FOR DAVAI® 80 SL, DAVAI® A PLUS, DAVAI® Q PLUS, PHANTOM® 240 SL AND PYTHON®

There are several factors that effect the re-cropping following an Imidazolinone application. These include in order of importance:

1. Product: With imazethapyr for example being more persistent than imazamox.
2. Soil moisture: Need > 125 mm (5") of rain between herbicide application and Aug. 31 in the year of application.
3. Organic matter: Brown soil zone (< 3% organic matter) are more susceptible to carry over crop injury the year after application.
4. Rate: Depending on the crop and rates, soil residues can be an issue.
5. Soil pH: Persists longer in a pH < 5.5 – 6.

Depending on the following crop the level of sensitivity will vary.
Please contact your local ADAMA Area Business Manager for more details.

CLICK HERE

Scan here to make a comment, ask a question or request more information from your local ADAMA Area Business Manager. We'd love to hear from you.

INSECTICIDE

PEST CONTROL

CLICK BELOW TO NAVIGATE

Herbicide
PAGE 04

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CLICK HERE

LOADING...

For new products that were not registered prior to the printing of this guide, as well as label updates, please scan here to discover more details.

INSECTICIDES

INSECTICIDE

GROUPS 4 & 15

CORMORAN®

Multiple modes of action for Codling Moth control in apples and Colorado Potato Beetle control in potatoes as well as a wide range of other insects in specialty crops.

ACTIVE INGREDIENT

Novaluron 100 g/L and Acetamiprid 80 g/L = EC

PACKAGING & ACRES TREATED

Case: 2 x 10.08 L jugs
Acres Treated: 12–56 ac/jug

APPLICATION RATES

Rate: 180–840 ml/ac

WATER VOLUME

Ground: 80–400 L/ac
(20–105 US gal/ac)
Aerial: Do not apply by air.

RAINFASTNESS

Avoid application when heavy rain is forecast.

REGISTERED CROPS

- Alfalfa (grown for seed)
- Apples
- Brassica Leafy Greens (crop sub-group 4-13b)
- Bushberries (crop sub-group 13-07b)
- Head And Stem Brassica Vegetable Crops (crop group 5-13)
- Peppers (bell and non-bell)
- Potatoes
- Strawberries
- Stone Fruits (crop group 12-09)
- Sweet Corn

KEY INSECTS CONTROLLED

- Alfalfa Looper
- Alfalfa Plant Bug
- Aphids
- Apple Maggot
- Armyworm
- Blueberry Flea Beetle
- Blueberry Gall Midge (Cranberry Tip Worm)
- Blueberry Maggot Fly
- Blueberry Spanworm
- Cabbage Looper
- Cherry Fruit Fly (suppression)
- Cherry Fruitworm
- Codling Moth
- Colorado Potato Beetle
- Cranberry Fruitworm
- Diamondback Moth
- Dogwood Borer
- European Apple Sawfly
- European Corn Borer
- Green Fruitworm
- Gypsy Moth
- Imported Cabbageworm
- Japanese Beetle
- Leafhopper
- Leafroller
- Lesser Appleworm
- Lygus Bug
- Mullein Bug
- Oriental Fruit Moth
- Plum Curculio
- Spotted Wing Drosophila
- Strawberry Clipper Weevil
- Strawberry Rootworm
- Swede Midge
- Tarnished Plant Bug
- Tentiform Leafminer
- Thrips

CORMORAN®

HOW IT WORKS

CORMORAN® kills insect eggs by contact and larvae by ingestion. Containing two modes of action, CORMORAN® provides both rapid knockdown and residual control of insect pests.

CROP STAGING AND RATES

Crop	Insects Controlled	Rate	Application Instructions
Alfalfa (grown for seed)	Alfalfa Plant Bug, Lygus Bug	300–360 ml/ac	Applications per season: 2 Apply prior to bloom up to when 50% of seed pods are ripe. Do not exceed more than 720 ml/ac per season. Do not apply more than once in 7 days. Use higher rate for heavier infestations.
FRUITS			
Apples	Leafhopper, Tentiform Leafminer	280 ml/ac	Do not apply more than 2800 ml/ac per season. Apply in minimum finished spray volume of 400 L/ac by ground. Repeat applications if needed to maintain control but do not make applications < 12 days apart.
	Aphids	280–420 ml/ac	
	Gypsy Moth, Japanese Beetle, Mullein Bug	340–500 ml/ac	
	Green Fruitworm	420 ml/ac	
	Apple Maggot, Codling Moth, European Apple Sawfly, Oriental Fruit Moth, Plum Curculio	420–500 ml/ac	
	Lesser Appleworm, Tarnished Plant Bug	500 ml/ac	
	Dogwood Borer	600 ml/ac	

GO TO: HERBICIDES INSECTICIDES FUNGICIDES

CORMORAN®

Crop	Insects Controlled	Rate	Application Instructions
FRUITS (CONT'D)			
Stone Fruit (Crop group 12-09) American Plum, Apricot, Beach Plum, Black Cherry, Canada Plum, Cherry Plum, Chicksaw Plum, Chinese Jujube, Damson Plum, Japanese Apricot, Japanese Plum, Klamath Plum, Nanking Cherry, Nectarine, Peach, Plum, Prune Plum, Plumcot, Sloe, Sweet Cherry, Tart Cherry and cultivars, varieties and/or hybrids of these commodities.	Oriental Fruit Moth (Ontario only)	580–840 ml/ac	Applications per season: 4 Apply in minimum finished spray volume of 405 L/ac. Use the high rate under heavy pest pressure. Do not apply during bloom. Minimum re-application interval of 10 days.
	Cherry Fruit Fly (suppression, cherry only), Plum Curculio (under high pressure, suppression only)	840 ml/ac	
Strawberries	Aphids, Leafhopper	200–300 ml/ac	Applications per season: 3 Do not apply more than once every 10–14 days. Apply in a min. application volume of 80 L/ac by ground. Do not apply during bloom.
	Strawberry Clipper Weevil, Tarnished Plant Bug	360 ml/ac	

CROP STAGING AND RATES (CONT'D)

Crop	Insects Controlled	Rate	Application Instructions
Bushberries (crop sub-group 13-07b): Aronia Berry, Blueberry (lowbush, highbush), Chilean Guava, Cranberry (highbush), Currant (black, buffalo, red), Elderberry, European Barberry, Gooseberry, Honeysuckle (edible), Huckleberry, Jostaberry, Juneberry (saskatoon berry), Lingonberry, Native Currant, Salal, Sea Buckthorn and cultivars, varieties and/or hybrids of these commodities.	Aphids, Blueberry Gall Midge (Cranberry Tipworm)	200 ml/ac	Applications per season: 3 Apply in a finished spray volume of 80 L/ac by ground. Do not apply more than once every 10–14 days.
	Japanese Beetle	280 ml/ac	
	Blueberry Maggot Fly	300–560 ml/ac	
	Blueberry Flea Beetle, Blueberry Spanworm, Strawberry Rootworm, Cherry Fruitworm, Cranberry Fruitworm, Spotted Wing Drosophila, Thrips	560 ml/ac	
VEGETABLES			
Brassica (cole) Leafy Vegetables (crop group 5-13): Broccoli, Chinese Broccoli, Broccoli Raab (rapini), Brussels Sprouts, Cabbage, Chinese Cabbage (bok choy or napa), Cauliflower, Cavalo Broccoli, Collards, Kale, Kohlrabi, Mizuna, Mustard Spinach, Rape Greens and cultivars, varieties and/or hybrids of these commodities.	Alfalfa Looper, Armyworm, Cabbage Looper, Diamondback Moth, Imported Cabbageworm	180–300 ml/ac	Applications per season: · Low rate: 2 · High rate: 1 Do not apply more than 680 ml/ac per season. Apply in a minimum finished spray volume of 81 L/ac by ground.
	Aphids	260–300 ml/ac	
	Lygus Bug, Swede Midge	200 ml/ac	

⚠ Always read and follow pesticide label directions.

GO TO: HERBICIDES INSECTICIDES FUNGICIDES

Crop	Insects Controlled	Rate	Application Instructions
VEGETABLES (CONT'D)			
Leafy Vegetables–Brassica Leafy Greens (crop sub-group 4-13b): Arugula, Broccoli Raab, Chinese Broccoli, Abyssinian Cabbage, Seakale Cabbage, Bok Choy (Chinese cabbage), Collards, Garden Cress, Upland Cress, Hanover Salad, Kale, Maca, Mizuna, Mustard Greens, Radish Leaves, Rape Greens, Wild Rocket, Shepherd's Purse, Turnip Greens, Watercress, as well as cultivars, varieties and hybrids of these commodities.	Aphids	260–300 ml/ac	Applications per season: 3 Do not apply more than once every 7–10 days. Apply in a minimum finished spray volume of 80 L/ac by ground.
Corn (sweet)	Aphids	200–280 ml/ac	Applications per season: 2 Do not apply more than once every 21 days. Apply in a minimum 80 L/ac spray volume by ground. Use the higher rate for heavier infestations.

CROP STAGING AND RATES (CONT'D)

Crop	Insects Controlled	Rate	Application Instructions
VEGETABLES (CONT'D)			
Peppers (bell and non-bell)	Colorado Potato Beetle	180–280 ml/ac	Do not make applications less than 7 days apart. Do not apply more than 1050 ml/ac per season. Apply in at least 80 L/ac by ground. For CPB, do not apply more than twice to a single generation and do not apply to successive generations.
	Aphids	200 ml/ac	
	European Corn Borer	260–300 ml/ac	
	Armyworm, Cabbage Looper	180–300 ml/ac	
Potatoes	Colorado Potato Beetle	180–280 ml/ac	Do not apply more than once every 10–14 days. For Colorado potato beetle, do not apply more than twice to a single generation and do not apply to successive generations. Apply in minimum finished spray volume of 80 L/ac by ground.
	Armyworm, Cabbage Looper	180–300 ml/ac	
	Leafhopper	200–300 ml/ac	
	Aphids, European Corn Borer	260–300 ml/ac	

MIXING INSTRUCTIONS

1. Fill sprayer tank ½ full of water.
2. Start sprayer tank agitation.
3. Add the required amount of CORMORAN®.
4. If necessary, add any required adjuvants or surfactants for tank-mix partners.
5. Complete filling tank with water.

NOTE: If tank-mixing, please reference the label of the partner for specific mixing order or follow WAMLEGS or WALES for proper mixing protocol (detailed on page 124 of this guide).

CORMORAN®

CROP ROTATIONS

No restrictions

PRE-HARVEST INTERVALS

- Strawberries: 1 day
- Brassica Leafy Vegetables (Crop group 5-13 and subgroup 4-13B), Peppers, Potatoes, Stone Fruits (Crop group 12-09): 7 days
- Bushberries (Crop sub-group 13-07B): 8 days
- Sweet Corn: 10 days
- Alfalfa (grown for seed), Apples: 14 days

RE-ENTRY INTERVALS (REI)

Crop	Re-entry activities	Restricted entry interval
Alfalfa (grown for seed)	All activities	12 hours
Apples	Fruit thinning	7 days
	All other activities	12 hours
Bushberries (Crop sub-group 13-07B)	All activities	12 hours
Stone Fruit	Fruit thinning	6 days
	All other activities	12 hours
Strawberries	All activities	12 hours
Brassica (cole) Leafy Vegetables (Crop Group 5-13)	Hand weeding, scouting, tying and training	2 days
	All other activities	12 hours
Leafy Vegetables–Brassica Leafy Greens (Crop sub-group 4-13B)	All activities	12 hours
Peppers (bell and non-bell)		
Potatoes		
Sweet Corn		

STORAGE

- Store in original, tightly closed container.
- Do not ship or store near food, feed, seed and fertilizers.
- Store in cool, dry, locked, well-ventilated area without floor drain.
- Keep away from fire or open flame, or other sources of heat.

QUICK TIPS:

Consider early applications (before petal fall) of CORMORAN® to allow beneficial insects to build up later in the season. To minimize the possibility of transient effects on honeybee brood development, do not use CORMORAN® on blooming crops when bees are actively foraging. If orchards have been historically infested with mites or aphids, be sure to scout regularly and use miticides to control their populations.

INSECTICIDE

GROUP 28

COSAYR® NEW

This powerful Group 28 insecticide delivers rapid control of chewing insects and keeps working even after application. Trusted across a wide range of horticultural and field crops, it's your NEW go-to solution for long lasting peace of mind.

ACTIVE INGREDIENT

Chlorantraniliprole 200 g/L = SC

APPLICATION RATES

Rate: 125 – 500 ml/ha
(51 – 202 ml/ac)

PACKAGING & ACRES TREATED

- **Case:** 12 x 1 L jugs
  (treats 5 – 20 ac/jug)
- **Case:** 2 x 6 L jugs
  (treats 30 – 120 ac/jug)

Acres Treated: 60 – 240 ac/case

WATER VOLUME

Ground: Minimum 100 L/ha (40 L/ac)
Aerial: 50 L/ha (20 L/ac)

RAINFASTNESS

Avoid application when heavy rain is forecast.

GRAZING RESTRICTION

None

REGISTERED CROPS

For a complete list of all crops registered for COSAYR® please refer to the label.

- Barley
- Brassica Vegetables
- Corn (field, popcorn, seed and sweet)
- Cucurbits
- Fruiting Vegetables
- Grass Forage, Fodder and Hay
- Green Onions
- Leafy Vegetables
- Legume Vegetables
- Non Grass Animal Feeds
- Oats
- Oil Seed Crops (canola, mustard, flax, sunflower)
- Potatoes
- Root and Tuber Vegetables
- Rye
- Soybeans
- Triticale
- Wheat

KEY INSECTS CONTROLLED

For a complete list of all insects controlled by COSAYR® please refer to the label.

- Alfalfa Weevil[S]
- Armyworm (beet, bertha, fall)
- Beet Webworm
- Cabbage Looper
- Colorado Potato Beetle
- Corn Earworm
- Cutworms (black, variegated, western bean)
- Diamondback Moth
- European Corn Borer
- Fruit Worm (tomato)
- Grasshopper
- Hornworm (tomato, tobacco)
- Imported Cabbageworm
- Leafminer (lepidopteran, *liriomyza sativae liriomyza trifolii)*
- Sunflower Head Moth[1]
- Swede Midge

[S] Suppression
[1] Reduces damage caused by banded sunflower head moth

⚠ Always read and follow pesticide label directions.

GO TO: HERBICIDES INSECTICIDES FUNGICIDES

COSAYR® NEW

CROP STAGING & RATES

Apply at the recommended rates when insect populations reach locally determined economic thresholds.

Crop	Insects Controlled	Acres per Case	Rate
Cereals	Cutworms	119 ac/case	101 ml/ac
	Armyworms, Fall Armyworm, Corn Earworm, European Corn Borer	79–119 ac/case	101–152 ml/ac
	Grasshoppers	119–234 ac/case	51–101 ml/ac
Corn	Black Cutworm	119 ac/case	101 ml/ac
	Armyworm, Fall Armyworm, Beet Armyworm, Variegated Cutworm, Corn Earworm / Tomato, Fruit Worm, European Corn Borer, Western Bean Cutworm	79–119 ac/case	101–152 ml/ac
Potatoes	European Corn Borer	59–119 ac/case	101–202 ml/ac
	Colorado Potato Beetle	79–119 ac/case	101–152 ml/ac
Soybeans	Cutworms	119 ac/case	101 ml/ac
	Grasshopper	119–234 ac/case	51–101 ml/ac
	Armyworm	79–119 ac/case	101–152 ml/ac

HOW IT WORKS

Chlorantraniliprole binds to a specific receptor in the muscles called the ryanodine receptor. Once bound to this receptor the muscle cells begin to leak calcium, which prevents normal function. The insect is paralyzed and dies.

STORAGE

Store this product away from food or feed. Store product in original container only, away from other pesticides and fertilizer. Not for use or storage in or around the home.

COSAYR® NEW

MIXING INSTRUCTIONS

1. Fill spray tank ½ full of water.
2. Add COSAYR® directly to spray tank. Mix thoroughly to fully disperse the insecticide; once dispersed continued agitation is required.
3. Once the product has been well mixed, add an adjuvant, where applicable, while continuously mixing.
4. Complete filling tank with water maintaining agitation during mixing and spraying operations.

Spray mix should not be stored overnight in spray tank.

NOTE: If tank-mixing, please reference the label of the partner for specific mixing order or follow WAMLEGS or WALES for proper mixing protocol (detailed on page 124 of this guide).

PRE-HARVEST INTERVALS

See label for full list of crops and PHI's.

- Non-Grass Animal Feeds, Hops, Grass Forage, Fodder and Hay: 0 days
- Oil Seeds, Greenhouse Vegetables (cucumbers, peppers, eggplants, tomatoes), Cereal Crops, Root and Tuber Vegetables, Leafy Vegetables, Legume Vegetables, Fruiting Vegetables, Cucurbit Vegetables, Seed and Sweet Corn: 1 day
- Brassica Vegetables: 3 days
- Field Corn, Popcorn: 14 days

ADJUVANT RATE

- NIS @ 0.25% v/v
- MSO @ 0.5% v/v

See label for COSAYR® uses which require adjuvant for optimal control.

CROP ROTATIONS

N/A

RE-ENTRY INTERVAL (REI)

12 hours

QUICK TIPS:

Can be applied in a flexible temperature range of 4 – 40C°. Do not make a foliar application of COSAYR® for a minimum of 60 days following an in-furrow or soil application or planting of seed or seed pieces treated with any Group 28 insecticide.

GO TO: HERBICIDES INSECTICIDES FUNGICIDES

INSECTICIDE

GROUP 3

SILENCER® 120 EC

SILENCER® 120 EC controls a wide range of insects in field, tree fruit and horticulture crops.

ACTIVE INGREDIENT

Lambda-cyhalothrin 120 g/L = EC

PACKAGING & ACRES TREATED

Case: 4 x 3.785 L jugs
Acres Treated: 40–220 ac/jug (110 ac/jug at standard rate)

APPLICATION RATES

Rate: 17–94 ml/ac (standard rate for most pests: 34 ml/ac)

WATER VOLUME

Ground: 40–80 L/ac
(10–20 US gal/ac)
Aerial: 4–16 L/ac (1–4 US gal/ac)

RAINFASTNESS

Avoid application when heavy rain is forecast.

REGISTERED CROPS

- Brassica Crops (broccoli, Brussels sprouts, cabbage, cauliflower)
- Carrots
- Cereals (wheat, barley, oats)
- Cherries
- Choke Cherry
- Corn (field)
- Dry Beans
- Nectarines
- Pears
- Peas
- Plums
- Potatoes
- Shelterbelts
- Soybeans
- Strawberries
- Sweet Potatoes
- Tobacco
- Tomatoes

SILENCER® 120 EC is registered for use on more than 30 crops; refer to the label for more information.

KEY INSECTS CONTROLLED

- Armyworm
- Bean Aphid
- Bean Leaf Beetle
- Bertha Armyworm
- Black Vine Weevil (adults)
- Bud (clipper) Weevil
- Cabbage Looper
- Cabbage Seedpod Weevil (adults)
- Carrot Rust Fly
- Carrot Weevil
- Cherry Maggot
- Codling Moth
- Colorado Potato Beetle
- Corn Earworm
- Crucifer Flea Beetle
- Cutworms
- Darksided Cutworm
- Diamondback Moth Larvae
- European Asparagus Aphids
- European Corn Borer
- Fall Armyworm
- Fruit Tree Leafroller
- Grasshoppers
- Green Peach Aphid
- Imported Cabbageworm
- Lygus Bug
- Meadow Spittle Bug
- Mealy Plum Aphid
- Onion Thrips
- Oriental Fruit Moth
- Pea Aphid
- Pea Leaf Weevil
- Pear Psylla (nymphs, adults)
- Plum Curculio
- Potato Flea Beetle
- Potato Leafhopper
- Prairie Tent Caterpillar
- Soybean Aphid
- Spotted Tentiform Leafminer
- Swede Midge
- Tarnished Plant Bug
- Tuber Flea Beetle
- Ugly Nest Caterpillar
- Western Bean Cutworm

SILENCER® 120 EC

APPLICATION TIMING AND CROP STAGING

The need and timing of an application should be based on the presence of pests at vulnerable developmental stages and significant populations, as determined by local monitoring.

Consult the label for specific crop and insect timing.

Crop	Insects Controlled	Acres per Jug	Rate
Wheat, Barley, Oats	Armyworm, Grasshoppers	110 ac/jug	34 ml/ac
Soybean, Bean (succulant & dry), Peas (field, succulant & pigeon)	Soybean Aphid, Pea Aphid, Bean Aphid, Bean Leaf Beetle	40–110 ac/jug	34–94 ml/ac
	Western Bean Cutworm	50–110 ac/jug	34–76 ml/ac
	Cutworms, Potato Leafhopper, Lygus Bugs, Grasshoppers[1]	110 ac/jug	34 ml/ac
Potatoes	Potato Flea Beetle, Potato Leafhopper, Tarnished Plant Bug, Tuber Flea Beetle, European Corn Borer	110 ac/jug	34 ml/ac
	Colarado Potato Beetle	75–110 ac/jug	34–50 ml/ac
Corn (including field, pop and sweet types)	Armyworm, Fall Armyworm, Cutworm, Corn Earworm	110 ac/jug	34 ml/ac
	European Corn Borer	50–110 ac/jug	34–76 ml/ac
Brassica Crops (broccoli, Brussels sprouts, cabbage, cauliflower)	Swede Midge	110 ac/jug	34 ml/ac
	Onion Thrips[2]	50 ac/jug	76 ml/ac
Carrots	Carrot Rust Fly, Carrot Weevil	110 ac/jug	34 ml/ac
Cherries	Plum Curculio, Cherry Maggot	90 ac/jug	42 ml/ac
Nectarines	Green Peach Aphid, Oriental Fruit Moth, Tarnished Plant Bug	90 ac/jug	42 ml/ac
Pears	Pear Psylla (nymphs and adults), Codling Moth	110 ac/jug	34 ml/ac
Plums	Plum Curculio, Mealy Plum Aphid	90 ac/jug	42 ml/ac
Chokecherry, Shelterbelts	Prairie Tent Caterpillar, Ugly Nest Caterpillar, Fruittree Leafroller	165 ac/jug	23 ml/ac

Refer to the label for application guidelines and restrictions by crop.
[1] Grasshoppers only registered in soybeans, field peas, chickpeas, lentils
[2] Only broccoli, Chinese broccoli (gai lon), Brussels sprouts, cabbage, Chinese cabbage (napa), cauliflower and kohlrabi

HOW IT WORKS

Fast-acting stomach and contact insecticide.

CROP ROTATIONS

No restrictions the year following treatment

SILENCER® 120 EC

REGISTERED AND SUPPORTED TANK MIXES†

Herbicides:

- BISON® 400 L
- SQUADRON®

Fungicides:

- Allegro®
- BUMPER® 432 EC
- SORATEL®
- TOPNOTCH™

† Refer to page 125 for PMRA tank-mixing directives.

MIXING INSTRUCTIONS

Confirm compatibility in advance by premixing small proportional quantities of water with SILENCER® 120 EC and the tank-mix partner.

1. Fill sprayer tank ½ full of water.
2. Start sprayer tank agitation.
3. Add the required amount of SILENCER® 120 EC.
4. If necessary, add any required adjuvants or surfactants for tank-mix partners.
5. Complete filling tank with water with agitation on.

NOTE: If tank-mixing, please reference the label of the partner for specific mixing order or follow WAMLEGS or WALES for proper mixing protocol (detailed on page 124 of this guide).

RE-ENTRY INTERVALS (REI)

Corn (sweet/field):

- Hand harvesting/hand detasseling: 3 days
- All other activities: 12 hours

All other crops:

- All activities: 12 hours

PRE-HARVEST INTERVALS*

- Corn (field): 21 days
- Legumes (soybeans, beans, field peas): 21 days
- Oilseeds: 7 days
- Potatoes: 7 days
- Timothy: 14 days
- Wheat, Barley, Oats: 28 days

*See label for full list of pre-harvest intervals for all registered crops.

GRAZING RESTRICTIONS

- DO NOT graze treated fields.
- Grain/Seed and Meal from Canola, Cereals, Field Corn, Soybeans and Legume Vegetables (including pulses) treated with SILENCER® 120 EC can be fed to livestock. DO NOT feed other parts of treated crops to livestock.
- DO NOT cut treated fields for silage/forage.
- For grasses/non-grasses grown for seed production only, DO NOT feed seed screenings and aftermath to livestock.

STORAGE

Do not freeze.

QUICK TIPS:

Apply below temperatures of 25°C. Apply in the evening or early morning when temperatures are cool to get the best control. Wait 24 hours before re-entry.

INSECTICIDE

GROUP 28 & 3

SILENCER® DUO NEW

Dual mode insecticide for resistance management with both superior knockdown and extended control of the most harmful insects.

ACTIVE INGREDIENT

Chlorantraniliprole 200 g/L = SC
Lambda-cyhalothrin 120 g/L = EC

PACKAGING & ACRES TREATED

2 x 6.06 L jugs of SILENCER® DUO A (Chlorantraniliprole 200 SC) +
2 x 4.03 L jugs of SILENCER® DUO B (Lambda-cyhalothrin 120 EC)
Acres Treated: 106 – 240 acres/case

APPLICATION RATES

Rate:

SILENCER® DUO A: 125 – 283 ml/ha (50.6 – 116 ml/ac)
SILENCER® DUO B: 83 – 187 ml/ha (34 – 76 ml/ac)

WATER VOLUME

Ground: 100 L/ha (40 L/ac) minimum
Aerial*: 50 L/ha (20 L/ac) minimum

*Not all crops and pests are registered for aerial application. Please refer to the labels

RAINFASTNESS

Avoid application when heavy rain is forecast.

REGISTERED CROPS

- Canola
- Cereals (wheat, barley, oats)
- Corn (field, popcorn, seed and sweet)
- Dry Beans
- Field Peas
- Soybeans

HOW IT WORKS

Dual mode – Fast knockdown effect by contact and long-lasting control by ingestion.

RE-ENTRY INTERVALS (REI)

Corn (seed, sweet):
- Hand harvesting/hand detasseling: 3 days
- All other activities: 12 hours

All other crops:
- All activities: 12 hours

⚠ Always read and follow pesticide label directions.

GO TO: HERBICIDES INSECTICIDES FUNGICIDES

SILENCER® DUO NEW

CROP STAGING

Apply at the recommended rates when insect populations reach locally determined economic thresholds.

KEY INSECTS CONTROLLED

Crop	Insects Controlled	Acres per Case	Rate
Canola	Bertha Armyworm, Diamondback Moth, Crucifer Flea Beetle, Grasshoppers, Swede Midge	240 ac/case	SILENCER® DUO A 50.6 ml/ac SILENCER® DUO B 34 ml/ac
Corn (field, popcorn, seed and sweet)	Corn Earworm, European Corn Borer, Western Bean Cutworm[2]	106 ac/case	SILENCER® DUO A 116 ml/ac SILENCER® DUO B 76 ml/ac
Field Peas, Dry Beans and Soybeans	Bean Leaf Beetle[1], Western Bean Cutworm, Aphids[1] (Soybean Aphid, Pea Aphid, Bean Aphid)	106 ac/case	SILENCER® DUO A 116 ml/ac SILENCER® DUO B 76 ml/ac
	Grasshopper, Aphids[1] (Soybean Aphid, Pea Aphid, Bean Aphid)	240 ac/case	SILENCER® DUO A 50.6 ml/ac SILENCER® DUO B 34 ml/ac
Wheat Barley Oats	Grasshopper, Armyworm	240 ac/case	SILENCER® DUO A 50.6 ml/ac SILENCER® DUO B 34 ml/ac

Refer to the label for application guidelines and restrictions by crop.

[1] Knockdown only on this pest
[2] Residual control only on this pest

MIXING INSTRUCTIONS

1. Fill spray tank ½ full of water.
2. Add SILENCER® DUO A directly to spray tank. Mix thoroughly to fully disperse the insecticide; once dispersed continued agitation is required.
3. Add SILENCER® DUO B into spray tank and continue to mix.
4. Once the product has been well mixed, add an adjuvant, where applicable, while continuously mixing.
5. Complete filling tank with water maintaining agitation during mixing and spraying operations.

*Spray mix should not be stored overnight in spray tank.

NOTE: If tank-mixing, please reference the label of the partner for specific mixing order or follow WAMLEGS or WALES for proper mixing protocol (detailed on page 124 of this guide).

SILENCER® DUO NEW

PRE-HARVEST INTERVALS

- Canola: 7 days
- Cereals (wheat, barley, oats) 28 days
- Corn (field, popcorn, seed): 21 days
- Corn (sweet): 1 day
- Dry Beans: 21 days
- Field Peas: 21 days
- Soybeans: 21 days

GRAZING RESTRICTIONS

- DO NOT graze treated fields.
- Grain/seed and meal from Canola, Cereals, Field Corn, Soybeans and Legume Vegetables (including pulses) treated with SILENCER® DUO can be fed to livestock. DO NOT feed other parts of treated crops to livestock.
- DO NOT cut treated fields for silage/forage.
- For grasses/non-grasses grown for seed production only, DO NOT feed seed screenings and aftermath to livestock.

CROP ROTATIONS

N/A

ADJUVANT RATE

No adjuvant needed

STORAGE

Do not freeze.

QUICK TIPS:

SILENCER® DUO has both contact and residual activity, allowing for broad flexibility in terms of application timing. However, for optimal activity target applications when the insect pests are actively feeding within the canopy.

INSECTICIDE

GROUP 3

ZIVATA®

A choice in insect control giving you the same trusted results in a more sustainable and advanced formulation

ACTIVE INGREDIENT

Lambda-cyhalothrin 120 g/L = EC

PACKAGING & ACRES TREATED

Low VOC
FORMULATION TECHNOLOGY

Case: 2 x 4.08 L jugs
Area Treated: 45–240 ac/jug (120 ac/jug at standard rate)

APPLICATION RATES

Rate: 17–94 ml/ac (standard rate for most pests: 34 ml/ac)

WATER VOLUME

Ground: 40–80 L/ac
(10–20 US gal/ac)
Aerial: 4–16 L/ac (1–4 US gal/ac)

RAINFASTNESS

Avoid application when heavy rain is forecast.

REGISTERED CROPS

- Carrots
- Cereals (wheat, barley, oats)
- Cherries
- Choke Cherry
- Corn (field)
- Brassica Crops (broccoli, Brussels sprouts, cabbage, cauliflower)
- Nectarines
- Pears
- Plums
- Potatoes
- Shelterbelts
- Soybeans
- Strawberries
- Sweet potatoes
- Tomatoes

ZIVATA® is registered for use on more than 30 crops; refer to the label for more information.

HOW IT WORKS

ZIVATA® is a synthetic pyrethroid insecticide formulated with an improved, plant-based solvent that offers fast-acting stomach and contact effects against a broad spectrum of insect pests. This renewably sourced formulation has low volatile organic properties and improves the user experience with a reduced drift potential and product volatility.

APPLICATION RATES

The need and timing of an application should be based on the presence of pests at vulnerable developmental stages and significant populations, as determined by local monitoring. Consult the label for specific crop and insect timing.

ZIVATA®

KEY BENEFITS

- Advanced formulation using sustainable, plant-based materials
- Low Volatile Organic Compound (VOC) with low odour formulation
- Improved user experience and flexibility of use around odour-sensitive areas
- Trusted and proven active ingredient
- Broad range of crops, pests and use patterns

KEY INSECTS CONTROLLED

- Armyworm
- Bean Aphid
- Bean Leaf Beetle
- Bertha Armyworm
- Black Vine Weevil (adults)
- Bud (clipper) Weevil
- Cabbage Looper
- Cabbage Seedpod Weevil (adults)
- Carrot Rust Fly
- Carrot Weevil
- Cherry Maggot
- Codling Moth
- Colorado Potato Beetle
- Corn Borer
- Corn Earworm
- Crucifer Flea Beetle
- Cutworms
- Darksided Cutworm
- Diamondback Moth Larvae
- European Asparagus Aphids
- European Corn Borer
- Fall Armyworm
- Fruit Tree Leafroller
- Grasshoppers
- Green Peach Aphid
- Imported Cabbageworm
- Lygus Bug
- Meadow Spittle Bug
- Mealy Plum Aphid
- Onion Thrips
- Oriental Fruit Moth
- Pea Aphid
- Pea Leaf Weevil
- Pear Psylla (nymphs, adults)
- Plum Curculio
- Potato Flea Beetle
- Potato Leafhopper
- Prairie Tent Caterpillar
- Soybean Aphid
- Spotted Tentiform Leafminer
- Swede Midge
- Tarnished Plant Bug
- Tuber Flea Beetle
- Ugly Nest Caterpillar
- Western Bean Cutworm

REGISTERED AND SUPPORTED TANK MIXES†

Herbicides:

- BISON® 400 L
- SQUADRON®

Fungicides:

- Allegro®
- BUMPER® 432 EC
- SORATEL®
- TOPNOTCH™

† Refer to page 125 for PMRA tank-mixing directives.

ZIVATA®

MIXING INSTRUCTIONS

Confirm compatibility in advance by premixing small proportional quantities of water with ZIVATA® and the tank-mix partner.

1. Fill sprayer tank ½ full of water.
2. Start sprayer tank agitation.
3. Add the required amount of ZIVATA®.
4. If necessary, add any required adjuvants or surfactants for tank-mix partners.
5. Complete filling tank with water with agitation on.

NOTE: If tank-mixing, please reference the label of the partner for specific mixing order or follow WAMLEGS or WALES for proper mixing protocol (detailed on page 124 of this guide).

PRE-HARVEST INTERVALS*

Oilseeds, Potatoes: 7 days
Timothy: 14 days
Corn (field), Legumes (beans, chickpeas, field peas, soybeans): 21 days
Wheat, Barley, Oats: 28 days

*See label for full list of pre-harvest intervals for all registered crops.

RE-ENTRY INTERVALS (REI)

Corn (sweet/field)
- Hand harvesting/hand detasseling: 3 days
- All other activities: 12 hours

All other crops/all activities: 12 hours

GRAZING RESTRICTIONS

- DO NOT graze treated fields.
- Grain/Seed and Meal From Canola, Cereals, Field Corn, Soybeans and Legume Vegetables (including pulses) treated with ZIVATA® can be fed to livestock. DO NOT feed other parts of treated crops to livestock.
- DO NOT cut treated fields for silage/forage.
- For grasses/non-grasses grown for seed production only, DO NOT feed seed screenings and aftermath to livestock.

CROP ROTATIONS

No restrictions the year following the treatment

STORAGE

Do not freeze.

QUICK TIPS:

Control of some insect species with pyrethroid insecticides decreases as temperature rises (above 25° C). For best results, apply ZIVATA® during the early morning before temperatures rise, and during the evening, past the heat of the day. Use sufficient water for thorough coverage.

FUNGICIDE

DISEASE CONTROL

CLICK BELOW TO NAVIGATE

Herbicide
PAGE 04

Insecticide
PAGE 62

CLICK HERE

LOADING...

For new products that were not registered prior to the printing of this guide, as well as label updates, please scan here to discover more details.

FUNGICIDE

FUNGICIDE

GROUP 3

BUMPER® 432 EC

Broad-spectrum systemic fungicide that protects against yield and quality losses due to leaf disease including mummy berry in blueberries

Low VOC
FORMULATION TECHNOLOGY

ACTIVE INGREDIENT

Propiconazole 432 g/L = EC

PACKAGING & ACRES TREATED

Case: 2 x 4.8 L jugs
Acres Treated: 27–80 ac/jug

APPLICATION RATES

Rate: 60–180 ml/ac

WATER VOLUME

Ground: min 80 L/ac (20 US gal/ac
Aerial: 16–20 L/ac (4–5 US gal/ac)

RAINFASTNESS

1 hour

REGISTERED CROPS

- Apricots
- Asparagus
- Barley
- Blueberries (lowbush, highbush)
- Canola
- Cherries (sweet, sour)
- Corn
- Cranberries
- Caneberries
- Dry Edible Beans
- Nectarines
- Oats
- Peaches
- Plums
- Saskatoon Berries
- Soybeans
- Wheat (spring, winter)

KEY DISEASES CONTROLLED

- Black Knot (suppression)
- Blackleg
- Brown Rot
- Cherry Leaf Spot
- Cottonball
- Mummy Berry
- Net and Spot Blotches
- Powdery Mildew
- Rusts
- Rutabagas
- *Septoria* Spots and Blotches
- Scalds
- Tan Spots
- Yellow Rust

HOW IT WORKS

Broad-spectrum, systemic activity with excellent leaf surface protection and translocation within the plant for additional disease prevention.

BUMPER® 432 EC

APPLICATION TIMING AND CROP STAGING

Crop	Diseases	Timing
½ rate at 60 ml/ac		
Barley	Net Blotch	Early: Growth stage 12–23, as early as the 2-leaf stage
Wheat	*Septoria* Leaf Spot, Tan Spot	
Full rate at 120 ml/ac		
Barley	Leaf And Stem Rust, *Septoria* Leaf Spot, Net Blotch, Powdery Mildew, Scald, Spot Blotch	Early: Growth stage 29–37, at the first sign of disease, usually at the beginning of stem elongation Later: Growth stage 49–55, before head is half emerged
Oats	Crown Rust, *Septoria* Leaf Blotch	
Wheat	Glume Blotch, Leaf And Stem Rust, Powdery Mildew, *Septoria* Leaf Spot, Stripe Rust, Tan Spot	
Canola	Blackleg	Rosette stage, between 2nd true leaf and bolting
Corn	Eye Spot, Grey Leaf Spot, Helminthosporium Leaf Spot, Northern Corn Leaf Blight, Rusts, Southern Corn Leaf Blight	When disease first appears
Soybeans (for seed)	Frogeye Leaf Spot, Aerial Web Blight	When disease first appears. Under severe disease pressure, make a 2nd application 14 days after the first.
Dry Edible Beans	Rust	At the first detection of disease and a 2nd application 14–21 days later

FRUIT AND SPECIALTY CROP USES

NOTE: See label for full list of fruit and specialty crops and diseases.

Crop	Diseases
Asparagus	Rust
Cranberries	Cottonball
Blueberries (highbush, lowbush)	Mummy Berry
Kentucky Bluegrass (grown for seed)	Powdery Mildew
Peaches, Nectarines, Plums, Apricots	Brown Rot Blossom Blight, Fruit Brown Rot
Plums, Sour Cherries	Black Knot (suppression only)
Rutabagas	Powdery Mildew

GO TO: HERBICIDES INSECTICIDES FUNGICIDES

BUMPER® 432 EC

FRUIT AND SPECIALTY CROP USES (CONT'D)

Crop	Diseases
Saskatoon Berries	Entomosporium Leaf And Berry Spot, Saskatoon Juniper Rust
Sweet and Sour Cherries	Brown Rot Blossom Blight, Fruit Brown Rot, Cherry Leaf Spot
Western Red Cedar	Keithia Foliar Blight

REGISTERED AND SUPPORTED TANK MIXES†

Herbicides:

- 2,4-D ESTER 700
- BADGE®
- BROMOTRIL® 240 EC
- MCPA ESTER 600

Insecticides:

- SILENCER® 120 EC
- ZIVATA®

† Refer to page 125 for PMRA tank-mixing directives.

MIXING INSTRUCTIONS

1. Fill spray tank ½ full with water and gently agitate.
2. Add the required amount of BUMPER® 432 EC and agitate thoroughly.
3. Continue filling the tank with water until the tank is ⅘ full and, if applicable, add the required amount of tank-mix partner.
4. Complete filling the spray tank with water, maintaining agitation during mixing and spraying operations.

NOTE: If tank-mixing, please reference the label of the partner for specific mixing order or follow WAMLEGS or WALES for proper mixing protocol (detailed on page 124 of this guide).

PRE-HARVEST INTERVALS

NOTE: See label for PHIs for all registered crops.

- Corn: 14 days
- Beans: 28 days
- Cereal Crops (wheat, barley, oats): 45 days
- Soybeans: 50 days
- Canola: 60 days

GRAZING RESTRICTIONS

Do not graze livestock within three (3) days of spraying.

RE-ENTRY INTERVALS (REI)

NOTE: Any activities or crops not listed have an REI of 12 hours.

Highbush Blueberries:

- Hand pruning: 5 days

Corn:

- Hand harvesting/hand detasseling: 1 day

CROP ROTATIONS

No restrictions

STORAGE

May be stored at any temperature

QUICK TIPS:

BUMPER® 432 EC should be applied as a preventative disease control measure. Established diseases are more difficult to control and may have already reduced crop vigour.

FUNGICIDE

GROUP M04

CAPTAN 480 SC

CAPTAN 480—now available in a new liquid formulation—makes it easier to use to control a wide variety of diseases in fruit, vegetable and ornamental crops.

ACTIVE INGREDIENT

Captan 482 g/L

PACKAGING & ACRES TREATED

Case: 2 x 10 L jugs
Acres Treated: Varies

APPLICATION RATES

Rate: Varies by crop, refer to table below.

WATER VOLUME

Ground: 400 L/ac (105 US gal/ac)*
Aerial: 20 L/ac (5 US gal/ac)
*unless otherwise noted in the charts on page 89-90

RAINFASTNESS

Avoid application when heavy rain is forecast.

REGISTERED CROPS

This is only a partial list of crops registered for use with CAPTAN 480 SC. For the full list, please refer to the CAPTAN 480 SC label.

- Apples
- Apricots
- Blackberries
- Blueberries (highbush, lowbush)
- Cherries
- Cucumbers (field grown)
- Ginseng
- Grapes
- Loganberries
- Nectarines
- Peaches
- Pears[1]
- Plums
- Potatoes
- Prunes
- Raspberries
- Rhubarb
- Strawberries (field grown)
- Tomatoes (field grown–foliar applications)
- Turf (golf course, sod farms only)
- Outdoor Ornamentals (cut and non-cut flowers)
- Greenhouse Ornamentals (non-cut flower: foliar applications to aster, camellia, carnation, chrysanthemum, dahlia, lilac, rose and tulip)
- Soil and Greenhouse Bench Treatment (soil treatment: seedlings or transplants of roses and other flowers, shrubs, trees, lawn seedbeds, beans, celery, crucifers, eggplants, peas, tomatoes, peppers)

[1] Do NOT use on D'Anjou pears.

⚠ Always read and follow pesticide label directions.

GO TO: HERBICIDES INSECTICIDES FUNGICIDES

CAPTAN 480 SC

KEY DISEASES CONTROLLED AND APPLICATION RATES

NOTE: Water volume (ground application) is 400 L/ac unless otherwise noted.

Crop	Diseases	Application Rate
FRUIT CROPS		
Apples	Bitter Rot, Black Rot, Brook's Spot, Bull's-Eye Rot, Fly Speck, Scab, Sooty Blotch	**Rate:** 2 L/ac (0.97 kg a.i./ac) Apply at a minimum of a 7-day interval. Maximum Applications per year: High-density orchards: 10 Low-density orchards: 2 When hand thinning is performed, make one (1) application before hand thinning fruit and 1 application after hand thinning fruit.
Pears (do not use on D'Anjou pears)	Scab, Sooty Blotch	
Apricots	Brown Rot	**Rate:** 2.69 L/ac (1.3 kg a.i./ac) Maximum applications per year: 1
Cherries (sour, sweet)	Brown Rot, Leaf Spot	
Nectarines, Peaches	Brown Rot, Scab	
Plums, Prunes	Black Knot, Brown Rot	
Grapes	Dead Arm (current season's infections)	**Rate:** 1.33 L/ac (0.65 kg a.i./ha) Apply when new shoots are 1-5 cm long and again when 10–15 cm long. Maximum applications per year: 2
	Black Rot, Downy Mildew	**Rate:** 1.33–2.0 L/ac (0.65–0.97 kg a.i./ha) Maximum applications per year: 1
Blueberries	Fruit Rot, Mummy Berry	**Rate:** 1.5 L/ac (0.73 kg a.i./ha) Apply at a minimum of a 7-day interval. Maximum applications per year: 6 DO NOT apply by air.
Blackberries	Fruit Rot	
Loganberries	Cane Spot, Fruit Rot, Leaf Spot, Spur Blight	**Rate:** 1.0–1.5 L (0.49–0.73 kg a.i) Apply at a minimum of a 7-day interval. Maximum applications per year: 6 DO NOT apply by air.
Raspberries	Fruit Rot, Spur Blight	**Rate:** 1.68 L (0.81 kg a.i.) Apply at a minimum of a 7-day interval. Maximum applications per year: 6 DO NOT apply by air.

CAPTAN 480 SC

KEY DISEASES CONTROLLED AND APPLICATION RATES (CONT'D)

NOTE: Water volume (ground application) is 400 L/ac unless otherwise noted.

Crop	Diseases	Application Rate
FRUIT CROPS (CONT'D)		
Strawberries	Gray Mould Rot, Leaf Spot	**Rate:** 2.35 L (1.13 kg a.i.) Apply at a minimum of a 7-day interval. Maximum applications per year: 6 DO NOT use on greenhouse strawberries.
Rhubarb (in forcing sheds)	Grey Mould	**Rate:** 0.85–1.34 L (0.4–0.65 kg a.i.) Maximum spray volume: 60 L/ac Apply at a minimum of a 7-day interval. Maximum applications per year: 6 DO NOT apply by air.
VEGETABLE CROPS		
Cucumbers	Anthracnose, Scab	**Rate:** 1.5–2.83 L/ac (0.73–1.38 kg a.i./ha) Apply at a minimum of a 7-day interval. Maximum applications per year: 3 DO NOT use on greenhouse cucumber.
Potatoes	Early Blight, Late Blight	**Rate:** 1.68–2.52 L/ac (0.81–1.21 kg a.i./ha) Apply at a minimum of a 7-day interval. Maximum applications per year: 3
Tomatoes	Anthracnose, *Septoria* Leaf Spot	**Rate:** 1.85–2.83 L/ac (0.89–1.38 kg a.i./ha) Apply at a minimum of a 7-day interval. Maximum applications per year: 3 DO NOT use on greenhouse tomato.
Ginseng	Grey Mould, Pythium Root Rot And Damping-Off, Phytophthora Root Rot, Rhizoctonia Root Rot, Cylindrocarpon Root Rot (suppression only)	**Rate:** 1.68 L/ac (0.81 kg a.i./ha) in 378–757 L of water per acre Apply at a minimum of a 7-day interval. Maximum applications per year: 8 DO NOT apply by air.

See Label for complete list of crops and diseases controlled by Captan 480 SC for each.

GO TO: HERBICIDES INSECTICIDES FUNGICIDES

CAPTAN 480 SC

TANK MIXES†

Nova™ and other myclobutanil products

When tank mixes are permitted, consult the labels of the tank-mix partners and observe the largest (most restrictive) spray buffer zone of the products involved in the tank-mix and apply using the coarsest spray (ASAE) category indicated on the labels for those tank-mix partners.

† Refer to page 125 for PMRA tank-mixing directives.

MIXING INSTRUCTIONS*

1. Before using, mix contents of the container thoroughly to ensure the product is suspended.
2. Fill the spray tank to at least ½ capacity with clean water and begin agitation.
3. Pour recommended amount of CAPTAN 480 SC into the spray tank.
4. Before adding any optional tank-mix partners, add more water and add the partner according to product labels.
5. Add balance of water.
6. Maintain agitation during filling and spraying operations. Do not allow mixture to stand.

* Use a screen not finer than 50 mesh in entire system.

NOTE: If tank-mixing, please reference the label of the partner for specific mixing order or follow WAMLEGS or WALES for proper mixing protocol (detailed on page 124 of this guide).

CROP ROTATION AND GRAZING RESTRICTIONS

No restrictions

STORAGE

Store this product away from food or feed.

QUICK TIPS:

Alkaline materials such as spray lime, lime-sulfur and Bordeaux mixture will reduce the fungicidal activity of CAPTAN 480 SC. Do not apply CAPTAN 480 SC in combination with or immediately before or closely following oil sprays. Combinations with solvent formulation of organic phosphates should not be used.

CAPTAN 480 SC

RE-ENTRY INTERVALS (REI)

NOTE: If the re-entry interval (REI) for hand harvesting and the pre-harvest interval (PHI) are different, follow the longer of the two intervals. See label for the full list of crops and associated PHIs.

Crop	Activity	REI[1] and/or PHI
VEGETABLE CROPS		
Cucumber (field grown)	Hand-set/hand-line irrigation-related activities involving foliage contact	10 days
	Harvesting	8 days
	Training, tying	3 days
	All other activities	12 hours
Ginseng	Harvesting	20 days
	Hand-set/hand-line irrigation-related activities involving foliage contact	7 days
	All other activities	12 hours
Potatoes	Harvesting	8 days
	Hand-set/hand-line irrigation-related activities involving foliage contact	7 days
	Rogueing	6 days
	All other activities	12 hours
Tomatoes (field grown, foliar applications)	Hand-set/hand-line irrigation-related activities involving foliage contact	10 days
	Harvesting	8 days
	Training, tying	7 days
	All other activities	12 hours
FRUIT CROPS		
Stone Fruit Trees (cherry, peach, plum, prune, apricot, nectarine)	Hand thinning	29 days
	Hand harvesting	15 days
	Mechanically-assisted harvesting	8 days
	All other activities	1 day

[1] REIs longer than 12 hours apply to hand labour tasks.

GO TO: HERBICIDES INSECTICIDES FUNGICIDES

CAPTAN 480 SC

RE-ENTRY INTERVALS (CONT'D)

Crop	Activity	REI[1] and/ or PHI
FRUIT CROPS (CONT'D)		
Grapes	Turning, girdling	78 days
	Hand harvesting, training (full foliage), tying (full foliage), leaf pulling by hand	55 days
	Mechanically-assisted harvesting	8 days
	All other activities	12 hours
Apple and Pear trees (high-density) *NOTE: maximum canopy width per tree is 2 m (1 m to reach center or trunk from the row alley).*	Mechanically-assisted harvesting	8 days
	Hand pruning, training	6 days
	All other activities	2 days
Apple and Pear trees (non-high-density)	Hand thinning	24 days
	Hand harvesting	19 days
	Mechanically-assisted harvesting	8 days
	Hand pruning, training	4 days
	All other activities	2 days
BERRIES		
Raspberries	Harvesting	8 days
	Hand-set/hand-line irrigation-related activities involving foliage contact	7 days
	Training, tying	7 days
	All other activities	12 hours
Strawberries (field grown)	Hand-set/hand-line irrigation-related activities involving foliage contact	9 days
	Harvesting	8 days
	All other activities	12 hours

CAPTAN 480 SC

RE-ENTRY INTERVALS (CONT'D)

Crop	Activity	REI[1] and/or PHI
FRUIT CROPS (CONT'D)		
BERRIES (CONT'D)		
Highbush Blueberries, Blackberries, Loganberries	Harvesting	8 days
	Hand-set/hand-line irrigation-related activities involving foliage contact	6 days
	Training, tying (full foliage)	5 days
	All other activities	12 hours
Lowbush Blueberries	Harvesting	8 days
	Hand-set/hand-line irrigation-related activities involving foliage contact	6 days
	All other activities	3 days
GREENHOUSE AND OUTDOOR ORNAMENTAL CROPS		
Greenhouse Ornamentals[2] (non-cut flower): Foliar Appli-Cations To Aster, Camellia, Car-Nation, Chrysanthemum, Dahlia, Lilac, Rose And Tulip	All activities	12 hours
Soil and greenhouse bench treatment (soil treatment): seedlings or transplants of Roses and other flowers, Shrubs, Trees, Lawn Seedbeds, Beans, Celery, Crucifers, Egg-Plants, Peas, Tomatoes, Pepper		
Outdoor Ornamentals: Foliar (cut flower)	Harvesting, disbudding, hand pruning (full foliage)	7 days
	All other activities	1 day
Outdoor Ornamentals: Foliar (non-cut flower)	Harvesting, disbudding, hand pruning (full foliage)	4 days
	All other activities	12 hours
TURF		
Sod Farms	All activities	12 hours
Golf Courses	All activities	Until sprays have dried

[1] REIs longer than 12 hours apply to hand labour tasks.

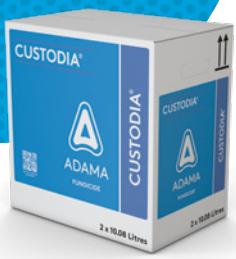
[2] Only applies to non-cut flowers, as there is a label statement that will prohibit the use on cut flowers.

FUNGICIDE

GROUPS 3 & 11

CUSTODIA®

A multi-mode-of-action fungicide offering preventative and curative protection of the flag leaf against major leaf diseases



ACTIVE INGREDIENT

Tebuconazole 200 g/L and Azoxystrobin 120 g/L = SC

PACKAGING & ACRES TREATED

Case: 2 x 10.08 L jugs
Acres Treated: 40–53 ac/jug

APPLICATION RATES

- **Rate:** 190–250 ml/ac

WATER VOLUME

- **Ground:** 40 L/ac (10 US gal/ac)
- **Aerial:** 20 L/ac (5 US gal/ac)

RAINFASTNESS

Avoid applying when heavy rainfall is in the forecast.

REGISTERED CROPS

- Barley
- Oats
- Soybeans
- Wheat (spring, winter)

KEY DISEASES CONTROLLED

- Leaf Rust
- Stem Rust
- Stripe Rust
- *Septoria* Leaf Blotch
- Tan Spot
- Net Blotch
- Spot Blotch

HOW IT WORKS

CUSTODIA® is a broad-spectrum, preventative fungicide with systemic and curative properties recommended for the control of many important plant diseases. CUSTODIA® may be applied as a foliar spray in spray programs or in tank mixes with other crop protection products. All applications must be made according to the use directions that follow.

CUSTODIA®

CROP STAGING

Crop	Rate	Diseases	Application Timing
Wheat (spring, winter)	190–250 ml/ac	Leaf Rust, Stem Rust, Stripe Rust, *Septoria* Leaf Blotch, Tan Spot	Apply CUSTODIA® at the very early stages of disease development. Use of the higher rate should be considered when weather conditions are conducive to heavy disease development or when heavy disease pressure is present.
Barley		Net Blotch, Spot Blotch, Leaf Rust, Stem Rust, Stripe Rust, *Septoria* Leaf Blotch, Tan Spot	
Soybeans		Asian Soybean Rust, Frog-Eye Leaf Spot	
Oats	190 ml/ac	Crown Rust, Stem Rust, *Septoria* Leaf Blotch	Apply CUSTODIA® at the very early stages of disease development.

REGISTERED AND SUPPORTED TANK MIXES†

Manipulator™

† Refer to page 125 for PMRA tank-mixing directives.

MIXING INSTRUCTIONS*

1. Fill sprayer tank ½ full of water.
2. Start sprayer tank agitation.
3. Add the required amount of CUSTODIA®.
4. If applicable, add any required adjuvants or surfactants for tank-mix partners.
5. Complete filling tank with water.

* Use a 50-mesh (or coarser) filter screen.

NOTE: If tank-mixing, please reference the label of the partner for specific mixing order or follow WAMLEGS or WALES for proper mixing protocol (detailed on page 124 of this guide).

CROP ROTATIONS

No restrictions

PRE-HARVEST INTERVALS

- Forage, Hay: 6 days
- Soybeans: 20 days
- Mature Grains: 36 days

CUSTODIA®

RE-ENTRY INTERVAL (REI)

12 hours

GRAZING RESTRICTIONS

Do not allow livestock to graze or feed green forage to livestock prior to 6 days after treatment. Straw cut after harvest may be fed or used for bedding.

STORAGE

Do not freeze.

Please note that there has been a re-evaluation of Tebuconazole by the PMRA; the total seasonal rate is limited to a maximum of 136 g a.i./ha/year, except for those crops where the yearly total rate is currently below 136 g a.i./ha.

QUICK TIPS:

CUSTODIA® should be applied at flag leaf for optimal leaf disease control. Pathogens coverage is key; do not use less than recommended water volumes.

For Fusarium control, we would recommend an application of SORATEL® fungicide at full head emergence after CUSTODIA® at flag leaf.

For resistance management, CUSTODIA® contains Group 3 and 11 fungicides. When possible, rotate the use of CUSTODIA® or other Group 3 and 11 fungicides with different groups that control the same pathogens.

FUNGICIDE

GROUP M4

FOLPAN® 80 WDG

A water-dispersible granular fungicide that delivers exceptional protection against the most common and economically damaging diseases in grapes and other fruit, vegetable and ornamental crops

ACTIVE INGREDIENT

80% Folpet = WDG

PACKAGING & ACRES TREATED

Case: 2 x 5 kg packs
Acres Treated: 2.5–10 ac/pack

APPLICATION RATES

Rate: 0.5–2 kg/ac

WATER VOLUME

Ground: 400–1200 L/ac
(100–317 US gal/ac)

Aerial: Do not apply by air.

RAINFASTNESS

N/A

REGISTERED CROPS

- Apples
- Azalea
- Carnation
- Chrysanthemum
- Crabapples
- Field Cucumbers
- Field Tomatoes
- Grapes
- Iris
- Marigold
- Melons
- Poinsettia (greenhouse)
- Pumpkins
- Snapdragon
- Squash
- Strawberries
- Zinnia

KEY DISEASES CONTROLLED

- Alternaria Leaf Spot
- Anthracnose
- Black Rot
- Brooks Spot
- Dead Arm
- Didymellina Leaf Spot
- Downy Mildew
- Fly Speck
- Fruit Rot
- Grey Mould
- Leaf Spot
- Phythium Root Rot
- Powdery Mildew
- Scab
- *Septoria* Leaf Spot
- Sooty Blotch
- Stem Rot

HOW IT WORKS

Multi-site-contact mode of action with protective ability. Use in a regularly scheduled maintenance program.

⚠ Always read and follow pesticide label directions.

GO TO: HERBICIDES INSECTICIDES FUNGICIDES

FOLPAN® 80 WDG

APPLICATION TIMING AND CROP STAGING

Crop	Diseases	Timing
Apples, Crabapples	Alternaria Leaf Spot, Black Rot, Brooks Spot, Fly Speck, Scab, Sooty Blotch	Apply in a regular protective schedule from green tip up until harvest. Do not apply more than 6 applications per season. See label for additional precautions.
Cranberries	Fruit Rot	Apply when 5% of blossoms are open. Repeat 10–14 days later when 50–75% of blossoms are open.
Grapes	Dead Arm	Apply when new shoots are 1–2 inches long and repeat when growth is 4–6 inches long.
	Black Rot, Downy Mildew	Apply just before bloom, just after bloom and in first cover spray. For downy mildew, an additional application 2–3 weeks later may be needed.
	Powdery Mildew	Apply in a tank-mix with Kumulus® DF at first sign of mildew and repeat after 10 days.
Field Cucumbers, Melons, Pumpkins, Squash	Anthracnose, Downy Mildew	Apply when first true leaves appear. Repeat at 7-day intervals until crop is harvested.
Field Tomatoes	Anthracnose	Apply during first bloom and repeat at 7-day intervals until harvest.
Strawberries	Grey Mould, Fruit Rot, Leaf Spot	Apply before first infection and repeat at 7-day intervals to protect crop until harvest.
Azalea, Carnation, Chrysanthemum, Iris, Marigold, Poinsettia, Snapdragon, Zinnia	Blight, Phythium Root Rot, Stem Rot, Alternaria Leaf Spot, *Septoria* Leaf Spot, Didymellina Leaf Spot, Anthracnose (depending on ornamental)	Generally, apply when ornamental emerges and repeat at regular intervals. Consult label for timing on specific disease and ornamental.

FOLPAN® 80 WDG

REGISTERED AND SUPPORTED TANK MIXES†

Kumulus® DF

† Refer to page 125 for PMRA tank-mixing directives.

MIXING INSTRUCTIONS

1. Fill spray tank nearly full.
2. Start sprayer agitation.
3. Pour recommended amount of FOLPAN® 80 WDG on surface of water. Fungicide can be premixed in a bucket ½ filled with water. Mix can be poured through screen into nearly filled spray tank.
4. Finish filling tank.
5. Keep agitator running during filling and spraying.

NOTES:

Fungicide can be premixed in a bucket ½ filled with water. Mix can be poured through screen into nearly-filled spray tank.

If tank-mixing, please reference the label of the partner for specific mixing order or follow WAMLEGS or WALES for proper mixing protocol (detailed on page 124 of this guide).

CROP ROTATIONS

No restrictions

STORAGE

May be stored at any temperature

GRAZING RESTRICTIONS

No restrictions

RE-ENTRY & PRE-HARVEST INTERVALS (REI/PHI)

NOTE: Any activity not specifically listed has a REI/PHI of 12 hours.

Crop	Activity	REI &/ or PHI
FRUIT CROPS		
Apples, Crabapples	Harvesting (hand, mechanical)	1 day
	Hand thinning	6 days
Grapes	Hand turning and girdling (table/raisin grapes only)	35 days
	Hand harvesting, training/tying, leaf pulling by hand	3 days
	Mechanical harvesting	1 day
Melons	Hand-set/hand-line irrigation-related activities involving foliar contact	22 days
	Harvesting (hand, mechanical), training, tying, turning	11 days

FOLPAN® 80 WDG

RE-ENTRY & PRE-HARVEST INTERVALS (REI/PHI) (CONT'D)

NOTE: Any activity not specifically listed has a REI/PHI of 12 hours.

Crop	Activity	REI &/ or PHI
FRUIT CROPS (CONT'D)		
Strawberries	Hand harvesting	11 days
	Mechanical harvesting	1 day
Cranberries	Harvesting (hand, mechanical)	30 days
	Scouting	4 days
VEGETABLE CROPS		
Cucumber, Squash	Hand-set/hand-line irrigation-related activities involving foliar contact	22 days
	Harvesting (hand, mechanical), training, tying, turning	11 days
Tomatoes (for processing)	Mechanical harvesting	1 day
	Scouting	2 days
	Hand-set/hand-line irrigation-related activities involving foliar contact	22 days
Tomatoes (not for processing)	Hand harvesting, training, tying	16 days
	Mechanical harvesting, scouting	1 days
	Hand-set/hand-line irrigation-related activities involving foliar contact	22 days
ORNAMENTALS GROWN FOR CUT FLOWER PRODUCTION		
Carnation, Chrysanthemum, Iris, Snapdragon, Zinnia	Hand harvesting, hand pruning, disbudding (greenhouse)	48 days
	Hand harvesting, hand pruning, disbudding (outdoor)	16 days
	Hand-set/hand-line irrigation-related activities involving foliar contact (outdoor)	8 days
ORNAMENTALS NOT GROWN FOR CUT FLOWER PRODUCTION		
Snapdragon, Carnation, Chrysanthemum, Iris, Marigold, Zinnia	Hand-set/hand-line irrigation-related activities involving foliar contact (greenhouse and outdoor)	13 days
Poinsettia	All activities	12 hours

FUNGICIDE

GROUPS 3 & 11

MAXENTIS®

Provides protection against White Mould in soybeans and Rust in lowbush blueberries. Features two distinct elite modes of action (Groups 3 & 11) for resistance management and long-lasting systemic activity.

POWERED BY Asorbital® FORMULATION TECHNOLOGY

ACTIVE INGREDIENTS

Azoxystrobin 120 g/L and
Prothioconazole 90 g/L as an EC

PACKAGING & ACRES TREATED

Case: 2 x 8.45 L jugs
Drum: 118.1 L
Acres Treated: 40–66 ac/case; 280–467 ac/drum

APPLICATION RATES

Rate: 253–422 ml/ac

WATER VOLUME

Ground: 80 L/ac (20 US gal/ac)
Aerial: 20 L/ac (5 US gal/ac)

RAINFASTNESS

Avoid applying when rain is forecast.

REGISTERED CROPS*

- Barley
- Lowbush Blueberries (Eastern Canada)
- Soybeans

KEY DISEASES CONTROLLED*

- Rust (suppression)
- White Mould (*Sclerotinia*)

*See label for the complete list of registered crops as well diseases controlled and rates for each crop.

KEY BENEFITS

- Unique combination of prothioconazole and azoxystrobin
- Enhanced EC formulation–with bulk packaging capabilities
- Multi-mode activity for resistance management (Groups 3 & 11)
- Broad-spectrum disease control with protective and curative action
- Whole plant protection: translaminar and systemic movement
- Wide window of application

KEY DISEASES CONTROLLED AND APPLICATION RATES

Crop	Diseases	Rate
Lowbush Blueberries	Rust (suppression)	253 ml/ac
Soybeans	White Mould (*Sclerotinia*)	422 ml/ac

See product label for all registered crops and application timing.

MAXENTIS®

MIXING INSTRUCTIONS

1. Fill sprayer tank ¾ full of water.
2. Start sprayer tank agitation.
3. Add the required amount of MAXENTIS®.
4. If applicable, add any required adjuvants or surfactants for tank-mix partners.
5. Complete filling tank with water.

NOTE: If tank-mixing, please reference the label of the partner for specific mixing order or follow WAMLEGS or WALES for proper mixing protocol (detailed on page 124 of this guide).

REGISTERED AND SUPPORTED TANK MIXES

None registered

CROP ROTATIONS

No restrictions

GRAZING RESTRICTIONS

Forage, hay: 30 days
Grazing or green feed: 6 days

STORAGE

Do not freeze.

RE-ENTRY INTERVAL (REI)

24 hours

PRE-HARVEST INTERVALS

- Soybeans: 20 days
- Lowbush Blueberries: 30 days

*See label for the complete list of pre-harvest intervals for each registered crop.

QUICK TIPS:

Environmental conditional are a major driver of disease pressure and severity. Under high disease pressure conditions a rate of MAXENTIS® at the upper end of the rate range is recommended. When temperatures are above 25C we recommend application in the evening.

FUNGICIDE

GROUP 3

ORIUS® 430 SC

Your tool of choice—ORIUS® 430 SC offers long-lasting, broad-spectrum protection against the most dangerous cereal leaf and head diseases in wheat, barley and oats, and the flexibility of a wider application window.

ACTIVE INGREDIENT

Tebuconazole 430 g/L = SC

PACKAGING & ACRES TREATED

Case: 2 x 9.44 L jugs
Acres Treated: 80–100 ac/jug

APPLICATION RATE

Rate: 89–118 ml/ac

WATER VOLUME

Ground: 40 L/ac (10 US gal/ac)
Aerial: 20 L/ac (5 US gal/ac)

RAINFASTNESS

Avoid applying when heavy rainfall is in the forecast.

REGISTERED CROPS

- Barley
- Oats
- Wheat (spring, winter)

KEY DISEASES CONTROLLED

- Fusarium Head Blight (suppression)
- *Septoria* Glume Blotch
- Rusts (leaf, stem, stripe)
- *Septoria* Leaf Blotch
- Tan Spot
- Powdery Mildew
- Net Blotch
- Spot Blotch
- Scald

HOW IT WORKS

ORIUS® 430 SC foliar fungicide can be applied as a post-emergent treatment in wheat (spring, winter), barley and oats for the suppression of Fusarium Head Blight and control of foliar diseases.

CROP STAGING

Crop	Diseases	Application Timing	Rate
Wheat (spring, winter)	Fusarium Head Blight (suppression), *Septoria* Glume Blotch (control)	For optimum suppression of Fusarium Head Blight and control of *Septoria* Glume Blotch, apply ORIUS® 430 SC foliar fungicide within the time period from when at least 75% of the wheat heads on the main stem are fully emerged to when 50% of the heads on the main stem are in flower. Spray coverage is essential: Ensure thorough coverage of all wheat heads.	118 ml/ac

GO TO: HERBICIDES INSECTICIDES FUNGICIDES

ORIUS® 430 SC

CROP STAGING (CONT'D)

Crop	Diseases	Application Timing	Rate
Wheat (spring, winter)	Rusts (leaf, stem, stripe), *Septoria* Leaf Blotch, Tan Spot	Apply ORIUS® 430 SC foliar fungicide to leaf foliage at the first sign or very early stage of disease, especially if weather conditions are conducive to disease development, up to the end of the flowering stage. Consider using the higher rate when weather conditions are conducive to heavy disease development.	89–118 ml/ac
	Powdery Mildew		118 ml/ac
Barley	Net Blotch, Spot Blotch, Scald, Rusts (leaf, stem and stripe), *Septoria* Leaf Blotch, Powdery Mildew	Apply ORIUS® 430 SC foliar fungicide at the very early stages of disease development. Consider using the higher rate when weather conditions are conducive to heavy disease development.	89–118 ml/ac
Oats	Stem Rust, Crown Rust	Apply ORIUS® 430 SC foliar fungicide at the very early stages of disease development.	89 ml/ac

QUICK TIPS:

ORIUS® 430 SC should only be applied when the risk of Fusarium Head Blight infection is high. Consult your local extension authority regarding the need for ORIUS® 430 SC. Head blight is extremely difficult to control. Fusarium Head Blight outbreaks occur when the weather is warm and wet at the flowering to soft dough stages.

Timing of application is critical: For optimum suppression of Fusarium Head Blight and control of *Septoria* glume blotch, apply ORIUS® 430 SC Foliar fungicide within the time period from when at least 75% of the wheat heads on the main stem are fully emerged to when 50% of the heads on the main stem are in flower.

Spray coverage is essential: Ensure thorough coverage of all wheat heads.

ORIUS® 430 SC

REGISTERED AND SUPPORTED TANK MIXES†

- Agral® 90
- Ag-Surf ®[1]
- SORATEL®

† Refer to page 125 for PMRA tank-mixing directives.

[1]ORIUS® 430 SC foliar fungicide is recommended to be used with a registered non-ionic surfactant.

MIXING INSTRUCTIONS*

1. Fill the spray tank ¾ full with water.
2. Add the required amount of ORIUS® 430 SC foliar fungicide into the sprayer.
3. Agitate until the fungicide is thoroughly mixed.
4. Continue agitation and add the required amount of the tank-mix partner.
5. Continue agitation while adding the required amount of recommended registered non-ionic surfactant at 0.125% v/v.
6. Complete filling the tank to the desired level with water.
7. Upon completion of spraying, thoroughly flush tank, boom, hoses, and in-line and nozzle screens with clean water to avoid possible injury to other crops.
8. Repeat sprayer cleanout process using an appropriate spray system cleaner.

* Use a 50-mesh (or coarser) filter screen.

NOTE: If tank-mixing, please reference the label of the partner for specific mixing order or follow WAMLEGS or WALES for proper mixing protocol (detailed on page 124 of this guide).

SURFACTANT RATE

Non-ionic surfactant (NIS) @ 0.125% v/v

PRE-HARVEST INTERVALS

Wheat, Barley, Oats: 36 days

RE-ENTRY INTERVAL (REI)

12 hours

GRAZING RESTRICTIONS

Do not allow livestock to graze or feed green forage to livestock prior to 6 days after treatment. Straw cut after harvest may be fed or used for bedding.

CROP ROTATIONS

No restrictions

STORAGE

Do not freeze.

Please note that there has been a re-evaluation of Tebuconazole by the PMRA; the total seasonal rate is limited to a maximum of 136 g a.i./ha/year, except for those crops where the yearly total rate is currently below 136 g a.i./ha.

FUNGICIDE

GROUP 3

SORADUO™

Advanced disease protection powered by Asorbital® Formulation Technology. SORADUO™ provides proven Fusarium protection in wheat and barley.

POWERED BY Asorbital® FORMULATION TECHNOLOGY

ACTIVE INGREDIENT

Prothioconazole 250 g/L = EC, and
Tebuconazole 430 g/L = SC

PACKAGING & ACRES TREATED

Case includes:

- 1 × 9.71 L jug of SORADUO™ A (Prothioconazole)
- 1 × 5.65 L jug of SORADUO™ B (Tebuconazole)

Acres treated: 60–80 ac/case

APPLICATION RATE

Rate: 121-162 ml/ac SORADUO™ A + 70-94 ml/ac SORADUO™ B

WATER VOLUME

Ground: 40–80 L/ac (10–20 US gal/ac)
Aerial: 20 L/ac (5 US gal/ac)

RAINFASTNESS

Avoid application if heavy rainfall is in the forecast.

REGISTERED CROPS AND APPLICATION TIMING

Crop	Disease	Rate	Timing
Barley	For suppression of Fusarium Head Blight (*fusarium spp.*)	162 ml/ac SORADUO™ A + 94 ml/ac SORADUO™ B	70–100% head emergence to 3 days after full head emergence
Wheat (spring, winter)		121-162 ml/ac SORADUO™ A + 70 – 94 ml/ac SORADUO™ B	75% head emergence to 50% main stem flower

Applications per year: Maximum of one (1)

REGISTERED AND SUPPORTED TANK MIXES†

Optional: Non-ionic surfactant (NIS) @ 0.125% v/v

† Refer to page 125 for PMRA tank-mixing directives.

MIXING INSTRUCTIONS

1. Fill sprayer tank ½ full of water.
2. Start sprayer tank agitation.
3. Add the required amount of SORADUO™ B.
4. Add required amount of SORADUO™ A.
5. If applicable, add any required adjuvants or surfactants for tank-mix partners.
6. Complete filling tank with water with agitation on.

NOTE: If tank-mixing, please reference the label of the partner for specific mixing order or follow WAMLEGS or WALES for proper mixing protocol (detailed on page 124 of this guide).

SORADUO™

KEY BENEFITS

- Proven Fusarium protection in wheat and barley
- Absorbital® Formulation Technology helps to deliver uniform coverage for consistent protection
- Simple choice without the complication of grower programming
- Application flexibility
- Performance over a wide range of conditions

HOW IT WORKS

SORADUO™ is a combination two triazole fungicides including one that features features Asorbital® Formulation Technology for broad-spectrum system activity plus long-lasting foliar protection.

CROP ROTATIONS

No restrictions

GRAZING RESTRICTIONS

6 days

PRE-HARVEST INTERVAL

36 days

STORAGE

Do not freeze.

RE-ENTRY INTERVAL (REI)

24 hours

Please note that there has been a re-evaluation of Tebuconazole by the PMRA; the total seasonal rate is limited to a maximum of 136 g a.i./ha/year, except for those crops where the yearly total rate is currently below 136 g a.i./ha.

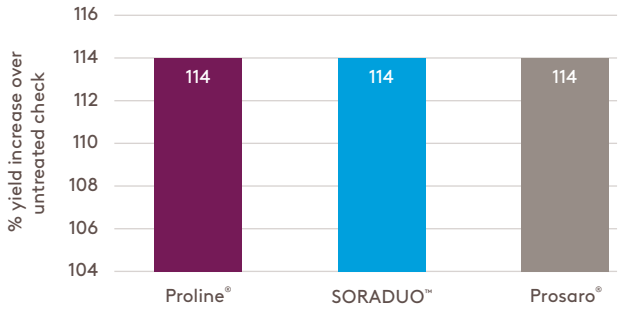
Fusarium Control in Cereals—Yields

Summary of 35 trials

Crops (# of trials): spring wheat (14), barley (10), durum wheat (7), winter wheat (4)

Rates applied (a.i./acre):

- Proline®: 138 ml/ac
- SORADUO™:
  - Prothioconazole: 162 ml/ac
  - Tebuconazole: 94 ml/ac
- Prosaro®: 324 ml/ac



QUICK TIPS:

Fusarium Head Blight outbreaks in wheat and barley occur when the weather is warm and wet at head emergence and flowering. Timing of application is critical when providing protection against Fusarium Head Blight.

FUNGICIDE

GROUP 3

SORATEL®

Advanced disease protection powered by Asorbital® Formulation Technology. Offering a flexible application window, SORATEL® fungicide is proven to protect a wide variety of crops from disease, including Fusarium Head Blight in wheat and Gibberella Ear Rot in corn.

POWERED BY Asorbital® FORMULATION TECHNOLOGY

ACTIVE INGREDIENT

Prothioconazole 250 g/L = EC

PACKAGING & ACRES TREATED

Case: 2 x 9.6 L jugs
Acres treated: 30–60 ac/jug (standard rate: 40 ac/jug)

APPLICATION RATE

Rate: 160–320 ml/ac (standard rate: 240 ml/ac)

WATER VOLUME

Ground: Minimum 40 L/ac (10 US gal/ac)
Aerial: Minimum 20 L/ac (5 US gal/ac)

RAINFASTNESS

Avoid application if heavy rainfall is in the forecast.

REGISTERED CROPS

- Barley
- Low-Growing Berries Except Strawberries (crop sub-group 13-07h)
- Borage
- Brassica Carinata
- Bushberries (crop sub-group 13b)
- Canola
- Chickpeas
- Crambe
- Corn
- Field Peas
- Flax (linseed)
- Lentils
- Oats
- Oriental Mustard
- Peanuts
- Rapeseed
- Safflower
- Soybeans
- Sugarbeets
- Sunflower
- Wheat (spring, winter)
- Plus Other Small Grains

HOW IT WORKS

SORATEL® is a triazolinthione, broad-spectrum systemic fungicide with Asorbital® Formulation Technology. This technology, unique to ADAMA, includes a built-in adjuvant which enhances leaf penetration and increases effectiveness.

SORATEL®

KEY DISEASES CONTROLLED

Crop	Diseases	Rate	Timing
Cereals			
Barley	Fusarium Head Blight[S]	240–320 ml/ac	70–100% head emergence
	Net Blotch, Scald, Spot Blotch	160–240 ml/ac	First sign of disease
Oats	Crown Rust	240 ml/ac	First sign of disease
Wheat (spring, winter)	Fusarium Head Blight[S], Glume Blotch	240–320 ml/ac	75% head emergence–50% main stem flower
	Leaf Rust, Speckled Leaf Blotch, Tan Spot	240 ml/ac	First sign of disease
Oilseeds			
Canola	Sclerotinia Stem Rot	240–280 ml/ac	20–50% bloom
Soybeans			
Soybeans	Asian Soybean Rust Frog-Eye Leaf Spot	160 ml/ac	First sign of disease
Corn			
Corn (field, sweet and popcorn, including seed production)	Eyespot, Gibberella Ear Rot[S], Grey Leaf Spot, Northern Corn Leaf Blight, Rust	240 ml/ac	First sign of disease Apply from the development stage of corn between full silk emergence (BBCH 63) to early silk browning (BBCH 67)

For a complete list of registered crops, diseases, and application rates, consult the label.

[S] Suppression
[2] Blueberries only

SORATEL®

Crop	Diseases	Rate	Timing
Berries			
Bushberries (crop sub-group 13b): Aronia Berry, Blueberry (highbush, lowbush), Chilean Guava, Cranberry (highbush), Currant (black, buffalo, native, red), Elderberry, European Barberry, Gooseberry, Honeysuckle (edible), Huckleberry, Jostaberry, Juneberry (Saskatoon berry), Lingonberry, Salal, Sea Buckthorn; Cultivars, Varieties, and/or Hybrids of These.	*Septoria* Leaf Spot[S]	240 ml/ac (600 ml/ha)	First sign of disease
	Leaf Rust[S] Valdensinia Leaf Spot[2]	300 ml/ac (760 ml/ha)	
	Mummy Berry[2]	240–320 ml/ac (600–800 ml/ha)	1st application: at early bloom for fruit rot 2nd application: 5-10 days later after first application
Low-Growing Berries Except Strawberries (crop sub-group 13-07h): Bearberry, Bilberry, Bluberry (lowbush), Cloudberry, Cranberry, Lingonberry, Muntries, Partridgeberry, Cultivars, Varieties, and/or Hybrids of these.	Fruit Rot	280 ml/ac (700 ml/ha)	

For a complete list of registered crops, diseases, and application rates, consult the label.

[S] Suppression

[2] Blueberries only

CROP ROTATIONS

Treated areas may be replanted with any crop specified on the label as soon as practical after the last application. For crops not listed on the label, do not plant back within 30 days of last application.

SORATEL®

PRE-HARVEST AND RE-ENTRY INTERVALS (REI)

- Bushberries:
  - Harvesting: 7 days
  - Hand-line irrigation: 3 days
- Corn (field, popcorn): 14 days
- Corn (sweet/seed):
  - Mechanical harvesting: 14 days
  - Hand harvesting/detasseling: 20 days
- Soybeans: 20 days
- Barley, Oats, Wheat (spring, winter): 30 days
- Borage, *Brassica carinata*, Canola, Crambe, Flax, Oriental Mustard, Rapeseed: 36 days
- Low-Growing Berries (except strawberries): 45 days

All other activities not listed (all crops): 24 hours

GRAZING RESTRICTIONS

Do not graze livestrock within 30 days of spraying.

STORAGE

Do not freeze.

REGISTERED AND SUPPORTED TANK MIXES†

- Coragen®
- Decis®
- ORIUS® 430 SC
- SILENCER® 120 EC
- ZIVATA®

† Refer to page 125 for PMRA tank-mixing directives.

MIXING INSTRUCTIONS

1. Fill sprayer tank ½ full of water.
2. Start sprayer tank agitation.
3. Add the required amount of SORATEL®.
4. If applicable, add any required adjuvants or surfactants for tank-mix partners.
5. Complete filling tank with water with agitation on.

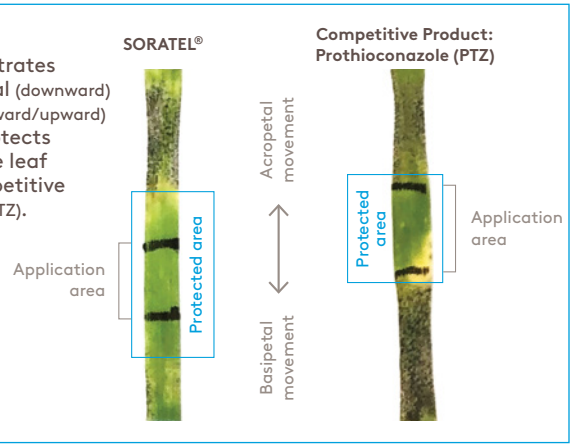
NOTE: If tank-mixing, please reference the label of the partner for specific mixing order or follow WAMLEGS or WALES for proper mixing protocol (detailed on page 124 of this guide).

KEY BENEFITS

- Technologically advanced formulation developed by and unique to ADAMA
- 5% higher efficacy vs. competitive products shown in Canadian trials
- Improved leaf penetration into the plant, improved efficacy
- Preventative, curative and eradicative control of multiple diseases in multiple crops
- Wide window of application
- No need for additional surfactants

SORATEL®

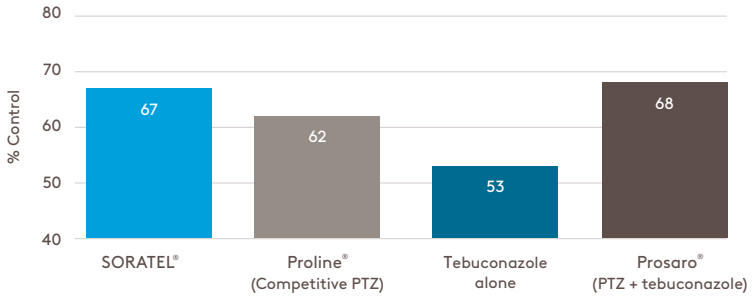
SORATEL® demonstrates enhanced basipetal (downward) and acropetal (outward/upward) migration, and protects a larger area of the leaf compared to competitive prothioconazole (PTZ).



Fusarium Head Blight control in cereals

Summary of 35 small-plot, replicated trials
Conducted by independent researchers across Canada

SORATEL® alone shows superior results to Proline® and similar results to the combo product Prosaro®, demonstrating the benefits of Asorbital® Formulation Technology.



ABOUT ASORBITAL® FORMULATION TECHNOLOGY

Asorbital® Formulation Technology was developed by and is unique to ADAMA worldwide. Products with this enhanced technology offer reduced run-off and photodegradation, improved rainfastness, increased amount of active in the plant and more thorough protection of the foliage.

SORATEL® was the first of many ADAMA products to come that will include Asorbital® Formulation Technology and be available to Eastern Canada growers in the future.

FUNGICIDE

GROUPS 3 & 11

TOPNOTCH™

Broad-spectrum disease control in multiple crops including cereals, field peas, edible beans and soybeans

ACTIVE INGREDIENT

Azoxystrobin 143 g/L and
Propiconazole 124 g/L = SC

PACKAGING & ACRES TREATED

Case: 2 x 8.6 L jugs
Acres Treated: 14–40 ac/jug

APPLICATION RATE

Rate: 210–620 ml/ac

WATER VOLUME

Ground: 40 L/ac (10 US gal/ac)
Aerial: 20 L/ac (5 US gal/ac)

RAINFASTNESS

Avoid applying when heavy rainfall is in the forecast.

REGISTERED AND SUPPORTED CROPS

- Barley
- Edible Beans
- Field Peas
- Lentils
- Oats
- Rye
- Soybeans
- Triticale
- Wheat

KEY DISEASES CONTROLLED

- Anthracnose
- Ascochyta Blight
- Barley Leaf Rust
- *Mycosphaerella* Blight
- Net And Spot Blotches
- Powdery Mildew
- Scald
- *Septoria* Spot
- Stripe Rust
- Tan Spot
- Wheat Leaf Rust
- White Mould[S]

[S] Suppression only.

HOW IT WORKS

Used as both a curative and preventative fungicide, TOPNOTCH™ has broad-spectrum, systemic and contact activity.

⚠ Always read and follow pesticide label directions.

GO TO: HERBICIDES INSECTICIDES FUNGICIDES

TOPNOTCH™

APPLICATION TIMING AND CROP STAGING

Crop	Diseases	Application Timing	Rate
Barley	Barley Net Blotch Barley Scald *Septoria* Leaf Spot Stripe Rust Barley Leaf Rust Tan Spot	Apply once between stem elongation and half-head emergence (Growth stage 29–55).	210 ml/ac
Beans, Field Peas, Lentils, Soybeans	*Mycosphaerella* Blight Anthracnose	Make the first application at the first sign of disease. Apply the high rate only under conditions of high disease pressures. A second application 14 days later may be needed if conditions persist. Good spray coverage and canopy penetration are important for best results.	310–620 ml/ac
	Powdery Mildew White Mould (suppression only)		310 ml/ac
Oats	Barley Net Blotch Crown Rust *Septoria* Leaf Spot	Apply once between stem elongation and half-head emergence (Growth stage 29–55).	210 ml/ac
Rye	*Septoria* Leaf Spot Barley Scald Tan Spot		
Triticale	*Septoria* Leaf Spot Tan Spot		
Wheat	*Septoria* Leaf Spot Tan Spot Stripe Rust Wheat Leaf Rust		

TOPNOTCH™

REGISTERED AND SUPPORTED TANK MIXES†

- ARROW ALL IN®
- Coragen®
- Decis®
- Glufosinate
- Poast Ultra®
- LEOPARD®
- SILENCER® 120 EC
- Voliam Xpress®
- ZIVATA®

† Refer to page 125 for PMRA tank-mixing directives.

MIXING INSTRUCTIONS

1. Fill spray tank ½ to ⅔ full with water.
2. With agitator running, add required amount of TOPNOTCH™ and continue agitating while adding remainder of the water.
3. Begin application after TOPNOTCH™ is completely dispersed into the mix water, and maintain agitation during spraying operation.

NOTE: If tank-mixing, please reference the label of the partner for specific mixing order or follow WAMLEGS or WALES for proper mixing protocol (detailed on page 124 of this guide).

CROP ROTATIONS

Do not plant any other crop intended for food, grazing or any component of animal feed or bedding within 105 days of application.

PRE-HARVEST INTERVALS

Field Peas, Beans, Lentils, Soybeans: 30 days
Cereals: 45 days

RE-ENTRY INTERVAL (REI)

12 hours

GRAZING RESTRICTIONS

Do not graze pea vines.
30 days for all other crops.

STORAGE

Do not freeze.

QUICK TIPS:

Good spray coverage and canopy penetration are important to achieve the best results.

FUNGICIDE

GROUP 29

VANTANA™

A protective, broad-spectrum fungicide used in a variety of fruit and vegetable crops.

This Group 29 fungicide is a very important resistance management tool with activity on the hardest-to-control fungal diseases.

ACTIVE INGREDIENT

Fluazinam 500 g/L = SC

PACKAGING & ACRES TREATED

Case: 2 x 10 L jugs

Acres Treated: 27–80 ac/jug

APPLICATION RATE

Rate: 162–907 ml/ac

WATER VOLUME

Ground: Varies with the crop.
Refer to the label for more details.

Aerial: Minimum of 18.2 L/ac

RAINFASTNESS

Avoid application when heavy rainfall is forecast.

REGISTERED AND SUPPORTED CROPS

- Apples
- Blueberries (highbush, lowbush)
- Bulb Onion
- Carrots
- Currant
- Dry-Shelled Beans
- Elderberry
- Edible-Podded Legume Vegetables (except pea)
- Field Peppers
- Ginseng
- Gooseberry
- Huckleberry
- Head and Stem Brassica (crop sub-group 5A)
- Leafy Brassica Greens (crop sub-group 5B)
- Potatoes
- Soybeans

For a full list of registered crops, please refer to the label.

HOW IT WORKS

VANTANA™ works by inhibiting fungal adenosine triphosphate (ATP) production in the mitochondria (impairing energy production).

Active on a wide range of diseases, VANTANA™ is a protective fungicide that inhibits the germination of fungal spores.

CROP ROTATIONS

Areas treated with VANTANA™ may be replanted with potatoes and dry shelled beans as soon as practical after the last application. Other root crops and leafy vegetables can be planted 30 days after the last application.

All other crops can be planted 70 days after the last application.

GRAZING RESTRICTIONS

Do not feed treated foliage to livestock.

STORAGE

Do not freeze.

APPLICATION TIMING AND KEY DISEASES CONTROLLED BY CROP

Crop	Diseases	Rate	Timing
FRUITS			
Apples	Cedar Apple Rust, Apple Scab, Flyspeck, Sooty Blotch	304–405 ml/ac (750–1,000 ml/ha)	Foliage appliction as a preventative measure before disease occurs
	Black Rot[S], Brooks Spot[S], Quince Rust[S]	405 ml/ac (1,000 ml/ha)	Before disease occurs, and on a 7-day schedule thereafter
Blueberries (lowbush)	Valdensinia Leaf Spot	162–324 ml/ac (400–800 ml/ha)	At early bloom or at first symptoms in fruiting fields and at an equivalent time in sprout fields
Blueberries (highbush, lowbush)	Mummyberry[S], Phomopsis Fruit Rots[S], Fruit Anthracnose[S]	907 ml/ac (2,240 ml/ha)	At bud break and on a 7–10 day interval thereafter until petal fall
Currant, Elderberry, Gooseberry, Huckleberry	Fruit Anthracnose[S]		
VEGETABLES AND DRY BEANS			
Bulb Onion	Purple Blotch Botrytis Leaf Blight	469 ml/ac (1 16 ml/ha) (584 g)	When conditions are favourable for disease development or when first disease symptoms appear
Carrots	White Mould	469 ml/ac	First sign of disease symptoms. All subsequent applications are to be applied at 7-day intervals
	Alternaria Leaf Blight		
Dry-shelled beans	White Mould	243–405 ml/ac (600–1,000 m/ha)	10 to 30% bloom If needed, a second application may be applied 7–10 days later (for white mould) or 10-14 days later (for anthracnose)
	Anthracnose		
Edible-Podded Legume Vegetables (except pea)	White Mould		At first bloom to 10% bloom
Field Peppers	Phytophthora Blight	688 ml/ac	Being at transplant by soil drench or foliar application. Subsequent applications should be foliar

[S] Suppression

⚠ Always read and follow pesticide label directions.

APPLICATION TIMING AND KEY DISEASES CONTROLLED BY CROP (CONT'D)

Crop	Diseases	Rate	Timing
VEGETABLES AND DRY BEANS (CONT'D)			
Potatoes	Late Blight	162 ml/ac (400 ml/ha)	When plants are 15-20 cm tall or when conditions are favourable for disease development
	White Mould	162–242 ml/ac (400–600 ml/ha)	At full bloom
Soybeans	White Mould	356–473 ml/ac (880–1,170 ml/ha)	At the R1 (early bloom) to R2 (full bloom) stage of development If needed, 10 to 14 days later at early pod formation (R3)
	White Mould[S]	178 ml/ac (440 ml/ha)	
Leafy Brassica Greens (crop sub-group 5b)	Clubroot	1.17 L in 202 L per acre (2.9 L in 500 L of water/ha)	Pre-transplant
Head And Stem Brassica (crop sub-group 5a), Leafy Brassica Greens (crop sub-group 5b)		Mix 50 ml with water to make a 100 L solution.	At transplant Apply 100 mL of solution per plant immediately after transplanting
Ginseng	Rhizoctonia Root Rot	486 ml/ac (1,200 ml/ha)	At seed and continued on a 14-day interval
	Alternaria Blight Botrytis Blight		When disease first appears or when conditions are favourable for disease development Repeat applications on a 7–14 day interval

[S] Suppression

VANTANA™

MIXING INSTRUCTIONS

1. Fill sprayer tank ½ full of water.
2. Start sprayer tank agitation.
3. Add the required amount of VANTANA™.
4. If applicable, add any required adjuvants or surfactants for tank-mix partners.
5. Complete filling tank with water.

NOTE: If tank-mixing, please reference the label of the partner for specific mixing order or follow WAMLEGS or WALES for proper mixing protocol (detailed on page 124 of this guide).

REGISTERED AND SUPPORTED TANK MIXES

None registered

CROP ROTATIONS

Areas treated with VANTANA™ may be replanted with potatoes and dry shelled beans as soon as practical after the last application. Other root crops and leafy vegetables can be planted 30 days after the last application. All other crops can be planted 70 days after the last application.

PRE-HARVEST INTERVALS

Soybeans: DO NOT apply after growth stage R3.
Bulb Onion, Carrots: 7 days
Edible-Podded Legume Vegetables (except peas), Potatoes: 14 days
Apples: 28 days
Blueberries (highbush, lowbush), Currant, Dry-Shelled Beans, Elderberry, Field Peppers, Ginseng, Gooseberry, Huckleberry, Leafy Brassica Greens (Crop sub-group 5B): 30 days
Head and Stem Brassica (Crop sub-group 5A): 65 days

RE-ENTRY INTERVALS (REI)

Bulb Onion: 3 days

All other crops: 24 hours

QUICK TIPS:

For optimal efficacy VANTANA™ requires good coverage, best achieved with higher water volumes. Actual water volumes will vary with the crop, please refer to the label for more specific details.

Active Ounces per Acre	Formulation (ml per acre)					Acres Treated per 10 L jug				
	300	400	500	600	700	300	400	500	600	700
1	94	70	57	47	41	107	142	177	212	247
2	187	140	113	94	81	53	71	88	106	124
3	281	211	170	142	121	36	47	59	71	82
4	374	281	227	189	162	27	36	44	53	62
5	468	351	283	236	202	21	28	35	42	49
6	562	421	340	283	243	18	24	29	35	41
7	655	491	397	331	283	15	20	25	30	35
8	749	562	453	378	324	13	18	22	27	31
9	842	632	510	425	364	12	16	20	24	28
10	936	702	567	472	405	11	14	18	21	25

Recommended rates have been rounded to whole numbers.

AERIAL APPLICATION CHART

	ADAMA PRODUCT NAME	AERIAL APPLICATION	WATER VOLUME
HERBICIDES	2,4-D ESTER 700	Yes	12 L/ac
	ARMORY® 240	Yes	90–200 L/ac
	BADGE®	Yes (wheat, barley and oats only)	8–20 L/ac
	BISON® 400 L	Yes (cereal crops only)	12–18 L/ac
	BROMOTRIL® 240 EC	Yes (wheat and barley only)	8–16 L /ac
	ESTEEM ALL IN®	Yes	12–20 L/ac
	ADAMA GLUFOSINATE 150 SL	Yes	23 L/ac
	LEOPARD®	Yes	10 L/ac
	MCPA ESTER 600	Yes	12 L/ac
INSECTICIDES	COSAYR®	Yes	20 L/ac
	SILENCER® 120 EC	Yes	4–16 L/ac
	SILENCER® DUO	Yes (with restrictions)	20 L/ac
	ZIVATA®	Yes	4–16 L/ac
FUNGICIDES	BUMPER® 432 EC	Yes	16–20 L/ac
	CAPTAN 480 SC	Yes (with restrictions)	See label
	CUSTODIA®	Yes	20 L/ac
	MAXENTIS®	Yes	20 L/ac
	ORIUS® 430 SC	Yes	20 L/ac
	SORADUO™	Yes	10 L/ac
	SORATEL®	Yes	20 L/ac
	TOPNOTCH™	Yes	20 L/ac
	VANTANA™	Yes	Min. of 18.2 L/ac

If product is not on the list it can not be applied by air.

For emergency medical help or health/safety concerns, call ProPharma immediately at 1-877-250-9291 (24 hours a day).

In the event of a spill, leak or fire, call INFOTRAC immediately at 1-800-535-5053 (24 hours a day) – For emergency medical help or health/safety concerns, call ProPharma immediately at 1-877-250-9291 (24 hours a day).

GENERAL CLEANING PRACTICES FOR SPRAYER EQUIPMENT

1. **CLEAN SPRAYER:** Once tank is empty, clean sprayer in an area that will not allow the contamination of water bodies, sources, crops or other areas that are not accessible to others, pets and livestock.
2. **RINSE 1**:
   a) Rinse equipment, removing any product adhering to the inside of the tank. Fill tank to 10% full of water and herbicide recommended rinse solution (see below). Agitate for 15 minutes.
   b) Flush RINSE 1 through the booms, hoses and nozzles then drain.
   c) Once done flushing, disassemble all strainers, filters, nozzles, screens, diaphragms and boom ends where residue can get tied up. Clean separately with an ammonia solution of 100 mL/10 L water. Inspect thoroughly and reassemble.
3. **RINSE 2:** Fill tank to 10% full of water and add the RINSE 2 solution if needed (see below) while agitating. Charge up the booms and continue to agitate for 15 minutes before flushing out again.
4. **ADDITIONAL RINSES:** Complete additional rinses, as requested from the table below, by filling, agitating and flushing the system with the recommended solution each time.
5. **FINAL RINSE:** Fill tank to 10% full of clean water and flush through the booms and hoses. Remove end caps/open ball valves and flush water through to ensure no spray solution is trapped. Drain any remaining water.

HERBICIDE	HERBICIDE NUMBER OF RINSES			
	1	2	3	4
2,4-D ESTER 700	W	D or 1%A	W	
ARMORY® 240	W	1%S	W	
ARROW ALL IN®	W	D	W	
BADGE®	W	D or 1%A	W	
BISON® 400 L	W	D or 1%A	W	
BROMOTRIL® 240 EC	D	W	W	
DAVAI® 80 SL	W	W	W	
DAVAI® A PLUS	W	D	W	
DAVAI® Q PLUS	W	1%A	1%A	W
EMPHASIS® MAX	D	W	3%A	W
ESTEEM ALL IN®	W	D or 1%A	W	
FORCEFIGHTER ALL IN™	W	D or 1%A	W	
ADAMA GLUFOSINATE 150 SL	D	W	W	
INVOLVE® 50 WDG	W	1%A	W	W
LEOPARD®	W	1%A	1%A	W
MCPA ESTER 600	W	D or 1%A	W	
PHANTOM® 240 SL	W	W	W	
PYTHON®	D	W	W	
RUSH 24 ALL IN®	W	D or 1%A	W	
SQUADRON®	D	D	D	W

IMPORTANT NOTES

If a tank-mix partner is used, always check tank-mix partner label for any additional clean up procedures.

Be cautious with dry granular products, like florasulum, which can severely harm a sensitive broadleaf crop if not properly cleaned out.

WARNING: Never mix chlorine (bleach) and ammonia as a reaction-producing toxic gas can occur.

	SOLUTION
A	Ammonia Solution (min. 3% ammonia–Finish or Flush)
D	Detergent Solution
S	Non-Ionic Surfactant
W	Water

TANK-MIXING GUIDELINES

WAMLEGS METHOD

W — WETTABLE powders, dispersible granules, soluble granules (WG, DF, SG, WP, SP)

INVOLVE® 50 WDG	FOLPAN® 80 WG
SQUADRON®	

A — AGITATE tank-mix thoroughly

M — MICRO-ENCAPSULATED suspensions (ME)

L — LIQUID flowables and suspensions (SC, SL, SN, LI, SU, SE)

ARMORY® 240	SILENCER® DUO A (SILENCER® DUO)
BISON 400 L®	CUSTODIA®
DAVAI® 80 SL (DAVAI® A PLUS & DAVAI® Q PLUS)	CAPTAN 480 SC
ADAMA GLUFOSINATE 150 SL	ORIUS® 430 SC
PHANTOM® 240 SL	SORADUO™ B (SORADUO™)
PYTHON®	TOPNOTCH™
COSAYR®	VANTANA™

E — EMULSIFIABLE concentrate formulations (EC)

2,4-D ESTER 700	RUSH 24 ALL IN®
ADAMA QUIZALOFOP (DAVAI® Q PLUS)	CORMORAN®
ARROW ALL IN® (DAVAI® A PLUS)	SILENCER® 120 EC
BADGE®	SILENCER® DUO B (SILENCER DUO)
BROMOTRIL® 240 EC	ZIVATA®
EMPHASIS® MAX	BUMPER® 432 EC
ESTEEM ALL IN®	MAXENTIS®
FORCEFIGHTER ALL IN™	SORADUO™ A (SORADUO™)
LEOPARD®	SORATEL®
MCPA ESTER 600	

Fill spray tank nearly full with water.

G — GLYPHOSATE formulations

S — SURFACTANTS

ADAMA

HERBICIDE
INSECTICIDE
FUNGICIDE

Some herbicide labels list a specific mixing sequence. In absence of specific directions, a recommended sequence for adding pesticide formulations to a tank partially filled with water is the **WAMLEGS method**. Each ingredient must be uniformly mixed before adding the next component. For example, a soluble powder must be completely dissolved before adding the next component. Adjuvants are added in the same sequence as pesticides: ammonium sulfate is a soluble powder, oil adjuvants are emulsifiable concentrates and most surfactants are solutions. Within each group, usually add the pesticide before the adjuvant. For example, add a soluble-powder pesticide before ammonium sulfate.

Know the benefits and risks of tank-mixing before you make an application. In some cases, compatibility of two or more chemicals is based on the order in which they are added to the tank-mix.

Tank-mixing can lead to a variety of mishaps if not done correctly. Being aware of the benefits and risks while following the proper guidelines is critical to ensuring the success of any tank-mix procedure and application.

This information is presented in good faith for your reference. Always read and follow product label directions before tank-mixing.

PMRA TANK-MIXING DIRECTIVES

This directive from the Pest Management Regulatory Agency (PMRA) applies to ALL products included in this product guide.

PMRA DIRECTIVES

1. Products may be tank-mixed with (a fertilizer, a supplement, or with) registered pest control products, whose labels also allow tank mixing, provided the entirety of both labels — including Directions For Use, Precautions, Restrictions, Environmental Precautions, and Spray Buffer Zones — are followed for each product.
2. In cases where these requirements differ between the tank-mix partner labels, the most restrictive label must be followed.
3. Do not tank-mix products containing the same active ingredient, unless specifically listed on the product label.
4. In some cases, tank mixing pest control products can result in reduced pesticide efficacy or increased host crop injury.

ADAMA CONTACT INFORMATION

The user should contact ADAMA Agricultural Solutions Canada Ltd. at 1-855-264-6262 for information before applying any tank-mix that is not specifically recommended on the product label.

METRIC/IMPERIAL CONVERSIONS

Metric Unit	Imperial Multiply by	Imperial Unit	Metric Multiply by	Metric Unit
LINEAR centimetre (cm)	x 0.39	inch	x 2.54	**LINEAR** centimetre (cm)
AREA				**AREA**
square metre (m^2)	x 1.2	square yard	x 0.84	square metre (m^2)
hectare (ha)	x 2.5	acres	x 0.4	hectare (ha)
VOLUME				**VOLUME**
litre (L)	x 0.22	Imperial gallon	x 4.55	litre (L)
litre (L)	x 0.27	U.S. gallon	x 3.79	litre (L)
PRESSURE				**PRESSURE**
kilopascals (kPa)	x 0.14	psi	x 6.9	kilopascals (kPa)
WEIGHT				**WEIGHT**
gram (g)	x 0.04	oz	x 28.35	gram (g)
kilogram (kg)	x 2.2	lb	x 0.45	kilogram (kg)
AGRICULTURAL				**AGRICULTURAL**
litres per hectare (L/ha)	x 0.09	Imperial gallons per acre	x 11.23	litres per hectare (L/ha)
litres per hectare (L/ha)	x 0.11	U.S. gallons per acre	x 9.35	litres per hectare (L/ha)
litres per hectare (L/ha)	x 0.36	quarts per acre	x 2.81	litres per hectare (L/ha)
litres per hectare (L/ha)	x 0.71	pints per acre	x 1.41	litres per hectare (L/ha)
millilitres per hectare (ml/ha)	x 0.015	Imperial fl. oz per acre	x 70.17	millilitres per hectare (ml/ha)
millilitres per hectare (ml/ha)	x 0.014	U.S. fl. oz per acre	x 73.05	millilitres per hectare (ml/ha)
kilograms per hectare (kg/ha)	x 0.89	lb per acre	x 1.12	kilograms per hectare (kg/ha)
grams per hectare (g/ha)	x 0.014	oz per acre	x 70	grams per hectare (g/ha)

EXAMPLE: To convert centimetres to inches, multiply by 0.39; conversely, to convert inches to centimetres, multiply by 2.54.

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