Product Guide
Eastern Canada and Specialty

You asked for effective products, we listened. Finally a line of products that work for you.

@ADAMA_CAN
@ADAMACanada
1.855.264.6262

Always read and follow pesticide label directions.
A Plan for Potatoes

See our straightforward, innovative solutions made just for your crop.

**Herbicides**

ARMORY™ 240, ARROW® 240 EC, ARROW ALL IN™, SQUADRON®

**Insecticides**

ALIAS® 240 SC, CORMORAN™, PYRINEX® 480 EC, SILENCER® 120 EC
## Quick Reference

### Weeds

<table>
<thead>
<tr>
<th>Product</th>
<th>Wheat</th>
<th>Winter Wheat</th>
<th>Barley</th>
<th>Oats</th>
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<th>Canola</th>
<th>Potatoes</th>
<th>Field Vegetables</th>
<th>Fruit Crops</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,4-D ESTER 700</td>
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### Insects

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<th>Fruit Crops</th>
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<tr>
<td>BUMPER® 432 EC</td>
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</table>

1. Onions, spinach, fenugreek and coriander
2. Highbush blueberries
3. Asparagus only
4. Asparagus (established), processing carrots, transplanted tomatoes
5. Fruit trees (newly planted and established), highbush blueberries (newly planted)
6. Sweet corn only
<table>
<thead>
<tr>
<th>Herbicide</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,4-D Ester 700</td>
<td>5</td>
</tr>
<tr>
<td>ARMORY™ 240</td>
<td>9</td>
</tr>
<tr>
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<td>11</td>
</tr>
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<td>13</td>
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<td>21</td>
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<td>23</td>
</tr>
<tr>
<td>SQUADRON®</td>
<td>25</td>
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</tbody>
</table>
2,4-D ESTER 700

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

ACTIVE INGREDIENT:
2,4-D Ester

CHEMISTRY GROUP:
Group 4

APPLICATION RATES AND PACKAGING:
- 2 x 10 L jug/case
- 120 L drum (rates vary)

REGISTERED CROPS:
- Wheat (spring, winter)
- Barley
- Fall rye
- Field corn
- Non-crop land
- Pastures
- Rye

WEEDS CONTROLLED:

<table>
<thead>
<tr>
<th>Susceptible Weed</th>
<th>Timing</th>
<th>Rate</th>
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<tbody>
<tr>
<td>Annual sow thistle</td>
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<tr>
<td>Bluebur</td>
<td>Before 4-leaf stage</td>
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<tr>
<td>Burdock</td>
<td>Before 4-leaf stage</td>
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</tr>
</tbody>
</table>
| Cocklebur, Daisy fleabane, False flax, False ragweed, Flixweed, Giant ragweed, Goat’s beard, Kochia, Lamb’s quarters, Mustards (except Dog and Tansy) | | Small seedlings (2–4 leaf), growing rapidly, good growing conditions: 0.2–0.3 L/ac
Large weeds, dry or cold weather, heavy infestations: 0.3 L/ac Resistance increases with age. |
| Narrow-leaved hawk’s beard | In fall, and at 1–2 leaf stage in spring | |
| Plantain, Prickly lettuce, Ragweeds, Redroot pigweed, Russian pigweed, Russian thistle, Shepherd’s purse, Stinging nettle, Stinkweed, Sweet clover (seedling), Thyme-leaved spurge | | |
| Volunteer canola¹ | 1–4 leaf stage | |
| Wild radish, Wild (prairie) sunflower | | |

¹All types.
### Harder-to-Control Weed

<table>
<thead>
<tr>
<th>Weed Type</th>
<th>Timing</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curled dock</td>
<td>Before 4-leaf stage</td>
<td>Small seedlings (2 – 4 leaf), growing rapidly, good growing conditions: 0.4 – 0.5 L/ac</td>
</tr>
<tr>
<td>Dog mustard, Field pepper-grass, Flixweed, (if treated before bolting in spring), Groundsel, Hairy galinsoga, Hawkweed, Heal-all</td>
<td>Before 4-leaf stage</td>
<td>Large weeds, dry or cold weather, heavy infestations: 0.5 L/ac</td>
</tr>
<tr>
<td>Knotweed</td>
<td>Before 4-leaf stage</td>
<td>Resistance increases with age.</td>
</tr>
<tr>
<td>Narrow-leaved hawk’s beard (if treated before bolting in spring), Oak-leaved goosefoot, Pineappleweed, Prostrate pigweed, Purslane, Sheep sorrel, Tansy mustard, Tumble pigweed, Velvetleaf</td>
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<tr>
<td>Volunteer canola¹</td>
<td>4 – 6 leaf stage</td>
<td></td>
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</tbody>
</table>

¹All types.

### Very-Hard-to-Control Weed

<table>
<thead>
<tr>
<th>Weed Type</th>
<th>Timing</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biennial wormwood, Blue lettuce, Bull thistle, Burdock, Buttercup, Canada thistle, Chicory, Curled dock, Dandelion, Field bindweed, Field chickweed², Field horsetail², Gumweed, Hedge bindweed</td>
<td>If treated before 4-leaf stage</td>
<td>Small seedlings (2 – 4 leaf), growing rapidly, good growing conditions: 0.4 – 0.5 L/ac</td>
</tr>
<tr>
<td>Hempnettle²</td>
<td></td>
<td>Large weeds, dry or cold weather, heavy infestations: 0.5 L/ac</td>
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<tr>
<td>Hoary cress, Lady’s thumb², Leafy spurge, Mouse-eared chickweed², Perennial sow thistle, Russian knapweed, Scentless mayweed, Smartweed², Tartary buckwheat, Teasel, Volunteer sunflower, Wild buckwheat²</td>
<td>Controlled with applications before 4-leaf stage</td>
<td>Resistance increases with age.</td>
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<tr>
<td>Yellow rocket</td>
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</table>

²Use highest listed rate for suppression.

**HOW IT WORKS:**

Systemic activity hinders plant cell growth in newly forming stems and leaves promoting uncontrolled, unsustainable growth, causing stem curl-over, leaf withering and eventual plant death.
**CROP STAGING:**

<table>
<thead>
<tr>
<th>Crop</th>
<th>Timing</th>
<th>Rate</th>
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<tbody>
<tr>
<td>Barley, Rye, Wheat (spring, winter)</td>
<td>Pre-plant or pre-emergent</td>
<td>0.2 – 0.5 L/ac</td>
</tr>
<tr>
<td>Barley, Rye, Wheat (spring, winter)</td>
<td>4 leaf to flag leaf</td>
<td>Up to 0.5 L/ac</td>
</tr>
<tr>
<td>Winter wheat, Fall rye</td>
<td>Pre-plant or pre-emergent</td>
<td>0.2 – 0.5 L/ac</td>
</tr>
<tr>
<td>Winter wheat, Fall rye</td>
<td>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.</td>
<td>Up to 0.3 L/ac</td>
</tr>
<tr>
<td>Field corn</td>
<td>Before corn is 6 inches tall or 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.</td>
<td>Up to 0.3 L/ac</td>
</tr>
<tr>
<td>Established grasses for forage and seed production</td>
<td>In spring, up to shot blade of grasses or in fall after harvest. Application during flower or pollination development will reduce seed yield.</td>
<td>Up to 0.3 L/ac (for seed production) Up to 0.6 (hay and pasture crops)</td>
</tr>
<tr>
<td>Established pasture and rangeland</td>
<td>Apply at time of rapid growth, usually May, June or September. Apply after pasture has been grazed or cut and weed growth has resumed.</td>
<td>Up to 1.4 L/ac</td>
</tr>
<tr>
<td>Non-crop (stubble land, rights of ways, roadsides etc.)</td>
<td>Apply at time of rapid growth, usually May, June or September. A 2nd application may be required to control perennial weeds.</td>
<td>Up to 1.4 L/ac</td>
</tr>
</tbody>
</table>
2,4-D ESTER 700

WATER VOLUME:
- Ground: 12.5 – 50 L/ac
- Aerial: Minimum 12 L/ac

RAINFASTNESS:
Avoid applying when rain is forecast.

SUPPORTED TANK MIXES:
- Glyphosate
- Bromoxynil (BROMOTRIL® II)
- Tribenuron (Express® SG)
- BISON® 400 L
- BUMPER® 432 EC
- PYRINEX® 480 EC

MIXING INSTRUCTIONS:
1. ½ fill the tank with clean water.
2. Add the required amount of ADAMA 2,4-D Ester 700 and agitate thoroughly.
3. Add any tank-mix partners.
4. Fill the tank and agitate again before use.

CROP ROTATIONS:
No restrictions.

PRE-HARVEST INTERVAL:
90 days

GRAZING RESTRICTIONS:
30 days

STORAGE:
Store the container tightly closed away from seeds, fertilizer, plants and foodstuffs. May be stored at any temperature. Shake well before using.

QUICK TIPS:
Avoid spray drift to any desirable vegetation. Coarse sprays are less likely to drift. Do not spray during periods of high winds.
ARMORY™ 240

Provides more precise harvest timing with fast drydown of crops, protecting yield and grade, and reducing disease transmission late in the season.

**ACTIVE INGREDIENT:**
Diquat

**CHEMISTRY GROUP:**
Group 22

**APPLICATION RATES AND PACKAGING:**
2 x 10 L jugs/case

- **Potatoes:**
  - Ground: 0.51 – 1.42 L/ac
  - Aerial: 0.69 – 0.93 plus 0.51 L/ac

- **Vegetables:**
  - Ground: 0.93 – 1.86 L/ac

- **Fruit:**
  - Ground: 1.86 L/ac

- **Beans, lentils, field peas, chickpeas, canola, mustard, flax, sunflowers:**
  - Ground: 0.5 – 0.69 L/ac
  - Aerial: 0.69 – 0.93 L/ac

- **Legumes:**
  - Ground: 0.69 – 1.09 L/ac
  - Aerial: 0.69 – 1.09 L/ac

- **Oats:**
  - Ground: 0.36 – 0.51 L/ac

- **Sweet white lupins:**
  - Ground: 0.93 L/ac

**REGISTERED CROPS:**

- Beans
- Canola
- Chickpeas
- Field peas
- Flax
- Legumes
- Lentils
- Mustard
- Oats
- Potatoes
- Sunflowers
- Sweet white lupins

**USES AND WEEDS CONTROLLED:**

- Potato vines
- Corn spurry in oats
- Weeds in stale seedbeds (vegetables and field crops)
- Weeds in vegetables (inter-row directed)
- Weeds in non-crop land
- Suppression of perennial grasses under apple trees

**HOW IT WORKS:**

ARMORY™ 240 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.

**WATER VOLUME:**
90 – 200 L/ac

**RAINFASTNESS:**
30 minutes
SUPPORTED TANK MIXES:
- Agral® 90
- LI 700®
- Liberate®
- Other non-ionic surfactants

MIXING INSTRUCTIONS:
Use LI 700® wetting and spreading agent at 2.5 L per 1000 L of spray solution (0.25%) or Agral® 90, wetting and spreading agent, at a rate of 1 L for each 1000 L of spray mixture unless otherwise stated.

GRAZING RESTRICTIONS:
Do not graze the treated areas or cut for hay.

STORAGE:
Store above 0 C.

QUICK TIPS:
Avoid morning and evening applications. Suggested conditions for aerial applications is a temperature below 25 C, humidity above 50% and wind speed below 9 km/h at flying height.
ARROW® 240 EC

Get broad-spectrum grassy weed control in canola, soybeans, potatoes, pulses and other broadleaf and specialty crops.

ACTIVE INGREDIENT: Clethodim
CHEMISTRY GROUP: Group 1

APPLICATION RATES AND PACKAGING:
- 50 ml/ac for light infestations or 60 ac/case
- 80 ml/ac for moderate infestations or 40 ac/case
- 150 ml/ac for quack grass or 20 ac/case
- 1 x 3 L jug + 1 x 9 L jug of X-ACT® adjuvant

REGISTERED CROPS:
- Alfalfa, seedling
- Beans
- Canola
- Chickpeas
- Coriander
- Cranberries
- Fenugreek
- Field peas
- Flax
- Highbush blueberries
- Lentils
- Linola™
- Mustard
- Onion
- Potatoes
- Prairie carnation
- Soybeans
- Spinach
- Sunflowers

WEEDS CONTROLLED:

<table>
<thead>
<tr>
<th>Grass Species</th>
<th>Leaf Stage</th>
<th>Application Rates</th>
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</thead>
<tbody>
<tr>
<td>Foxtail (green, yellow), Wild oats, Volunteer cereals (wheat, barley, oats)</td>
<td>2 – 4</td>
<td>50 ml/ac</td>
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<tr>
<td>Barnyard grass, Fall panicum, Proso millet, Volunteer corn, Volunteer canarygrass, Witch grass</td>
<td>2 – 6</td>
<td>50 ml/ac</td>
</tr>
<tr>
<td>Barnyard grass, Crabgrass (smooth, large), Fall panicum, Foxtail (green, yellow), Persian darnel, Proso millet, Quack grass suppression, Volunteer canarygrass, Volunteer cereals (wheat, barley, oats), Volunteer corn, Wild oats, Witch grass</td>
<td>2 – 6</td>
<td>80 ml/ac</td>
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<tr>
<td>Quack grass control</td>
<td>2 – 6</td>
<td>150 ml/ac</td>
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</table>

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.
WATER VOLUME:
- Ground application only
  - 20 – 90 L/ac to achieve uniform spray coverage

RAINFASTNESS:
1 hour

SUPPORTED TANK MIXES:
Herbicides:
- Canola: Lontrel® or Muster®
- Clearfield® canola only: Imazethapyr (PHANTOM® 240 SL)
- LibertyLink® canola only: Liberty®
- Field peas: Imazethapyr (PHANTOM® 240 SL)
- Flax, including low linolenic acid varieties: Bromoxynil + MCPA ester (BADGE® II) or Curtail® M
- Flax, not including low linolenic: Lontrel® or MCPA ester
- Glyphosate-tolerant soybeans: Glyphosate

MIXING INSTRUCTIONS:
1. Fill clean spray tank ½ full with water. Start agitation.
2. Add the correct amount of ARROW® 240 EC. Continue to agitate.
3. Add the correct amount of adjuvant X-ACT® along with the remaining amount of water necessary to fill the spray tank.
4. Continue to agitate or run the bypass system.
5. After any break in the spraying operation, agitate thoroughly before spraying again.
6. Do not allow the mixture to sit overnight.
7. If tank mixing, follow label directions for each tank-mix partner.

CROP ROTATIONS:
No restrictions when applied alone.

PRE-HARVEST INTERVALS:
- Alfalfa, Fenugreek: 30 days
- Blueberries, Spinach: 14 days
- Canola, Coriander, Beans, Flax (including low linolenic), Lentils, Potatoes, Chickpeas, Mustard: 60 days
- Onion: 45 days
- Soybeans, Field peas: 75 days
- Sunflowers: 72 days

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

STORAGE:
- May be stored at any temperature.
- Shake well before use.

QUICK TIPS:
ARROW® 240 EC works best when applied to actively growing weeds. Regrowth of tillers may occur if applied to weeds under stress conditions. ARROW® 240 EC must be used with the adjuvant X-ACT®.

Always read and follow pesticide label directions.
ARROW ALL IN™

A more concentrated formulation of grassy weed control in canola, soybeans, pulses and a variety of specialty crops with the convenience of a built-in surfactant.

**ACTIVE INGREDIENT:** Clethodim 120 g/L

**CHEMISTRY GROUP:** Group 1

**APPLICATION RATES AND PACKAGING:**
- 150 ml/ac for standard rate or 80 ac/case
- 100 ml/ac for light infestations and easier-to-control weeds or 120 ac/case
- 300 ml/ac for quack grass control or 40 ac/case
- 2 x 6 L jugs/case

**REGISTERED CROPS:**
- Alfalfa, seedling
- Beans, dry 
  (pinto, black, great northern, red, pink, navy)
- Canola
- Carnations
- Chickpeas 
  (desi, kabuli)
- Coriander
- Cranberries
- Fenugreek
- Field peas
- Flax
- Highbush blueberries
- Lentils
- Mustard (oriental, brown, yellow)
- Onions, dry
- Potatoes
- Soybeans
- Spinach
- Sunflowers

**WEEDS CONTROLLED:**

<table>
<thead>
<tr>
<th>Grass Species</th>
<th>Leaf Stage</th>
<th>Application Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foxtail (green, yellow), Wild oats, Volunteer cereals (wheat, barley, oats)</td>
<td>2 – 4</td>
<td>100 ml/ac</td>
</tr>
<tr>
<td>Barnyard grass, Fall panicum, Proso millet, Volunteer corn, Volunteer canarygrass, Witch grass</td>
<td>2 – 6</td>
<td>100 ml/ac</td>
</tr>
<tr>
<td>Barnyard grass, Crabgrass (smooth, large), Fall panicum, Foxtail (green, yellow), Persian darnel, Proso millet, Quack grass suppression, Volunteer canarygrass, Volunteer cereals (wheat, barley, oats), Volunteer corn, Wild oats, Witch grass</td>
<td>2 – 6</td>
<td>150 ml/ac</td>
</tr>
<tr>
<td>Quack grass control</td>
<td>2 – 6</td>
<td>300 ml/ac</td>
</tr>
</tbody>
</table>

**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.
WATER VOLUME:
- Recommended: 40 L/ac
- Ground application only

RAINFASTNESS:
1 hour

SUPPORTED TANK MIXES:
- Flax: BADGE® II (including low-linolenic varieties); MCPA ester (does not include low-linolenic varieties); Lontrel™ 360 (does not include low-linolenic varieties); Curtail® M (including low-linolenic varieties)
- Canola: Lontrel™ 360; Muster®; Imazethapyr (PHANTOM® 240 SL or Pursuit®) (imazethapyr-tolerant canola only); Liberty® (glufosinate ammonia-tolerant canola varieties)
- Field peas: Imazethapyr (PHANTOM® 240 SL or Pursuit®)
- Soybeans (glyphosate-tolerant): Glyphosate, PHANTOM® 240 SL or Pursuit®

MIXING INSTRUCTIONS:
1. Thoroughly clean the sprayer by flushing the system with water containing detergent.
2. Fill clean spray tank ½ full with clean water. Start agitation system.
3. Add the required amount of the tank-mix partner. Continue to agitate.
4. Add the correct amount of ARROW ALL IN™. Continue to agitate.
5. Continue to add the remaining amount of water to fill the spray tank. Continue to agitate.
6. After any break in the spraying operation, agitate thoroughly before spraying again. Check inside the tank to ensure that sprayer agitation is sufficient to re-mix the spray materials. Do not allow the mixture to sit overnight. In the case of tank mixtures with broadleaf herbicides, settling will occur if agitation is not continuous.
7. If an oil film starts to build up in the tank, drain it and clean the tank with a strong detergent solution.
8. Immediately after use, thoroughly clean the sprayer by flushing the system with clean water containing detergent.

CROP ROTATIONS:
30-day plant-back interval for all unlabelled crops.

PRE-HARVEST INTERVALS:
- Alfalfa (seedling), Cranberries, Fenugreek: 30 days
- Canola, Chickpeas (desi, kabuli), Coriander, Dry beans (pinto, black, great northern, red, pink, navy), Flax (including low-linolenic acid varieties), Lentils, Mustard (oriental, brown, yellow) (condiment type only), Potatoes: 60 days
- Dry onions: 45 days
- Field peas, Soybeans: 75 days
- Highbush blueberries, Spinach: 14 days
- Sunflowers: 72 days

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

STORAGE:
Do not freeze.

QUICK TIPS:
Most effective control is achieved when application is made prior to tillering when annual grasses are small and actively growing.
HERBICIDE
BADGE® II

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

ACTIVE INGREDIENTS:
Bromoxynil and MCPA ester

CHEMISTRY GROUPS:
Group 4 (MCPA ester) and Group 6 (bromoxynil)

APPLICATION RATES AND PACKAGING:
- 0.5 L/ac or 1 case treats 40 acres
- 2 x 10 L jug/case

REGISTERED CROPS:
Field crops:
- Barley
- Canary seed
- Corn
- Fall rye
- Flax
- Oats
- Timothy (established for seed production)

Seedling grasses:
- Bromegrass
- Creeping red fescue
- Crested wheatgrass
- Intermediate wheatgrass
- Meadow fescue
- Meadow foxtail
- Reed canarygrass
- Russian wild rye
- Seedling meadow bromegrass
- Seedling tall fescue

- Wheat (spring, winter, durum)
- Slender wheatgrass
- Tall wheatgrass
- Timothy

WEEDS CONTROLLED:
- American nightshade
- Ball mustard
- Bluebur
- Canada thistle1
- Cocklebur
- Common buckwheat
- Common groundsel
- Common ragweed
- Cow cockle2
- Flixweed
- Green smartweed
- Kochia3
- Lady’s thumb
- Lamb’s quarters
- Night-flowering catchfly
- Pale smartweed
- Perennial sow thistle1
- Redroot pigweed
- Russian thistle3
- Scentless chamomile4
- Shepherd’s purse
- Stinkweed
- Tartary buckwheat
- Velvetleaf5
- 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 Spray before plants are 2 inches high.
4 Spring annual only.
5 Spray before plants are 3 inches high.

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:**

<table>
<thead>
<tr>
<th>Crop</th>
<th>Stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barley, Oats, Spring wheat (including durum)</td>
<td>2 leaf to early flag</td>
</tr>
<tr>
<td>Canary seed</td>
<td>3 – 5 leaf</td>
</tr>
<tr>
<td>Corn</td>
<td>4 – 6 leaf</td>
</tr>
<tr>
<td>Fall rye</td>
<td>When growth commences in spring to early flag leaf.</td>
</tr>
<tr>
<td>Flax, Solin</td>
<td>2 inches to early bud stage. Best tolerance occurs when flax is 2 – 4 inches tall.</td>
</tr>
<tr>
<td>Seedling grasses</td>
<td>2 – 4 leaf</td>
</tr>
<tr>
<td>Timothy (established for seed production)</td>
<td>Prior to shot blade in the seed production year.</td>
</tr>
<tr>
<td>Winter wheat</td>
<td>2 – 4 leaf stage in the fall or after growth resumes up to early flag leaf.</td>
</tr>
</tbody>
</table>

**WATER VOLUME:**
- Ground: 20 – 40 L/ac in cereals and flax; 80 – 120 L/ac in corn; 60 L/ac in forages
- Aerial: 8 – 20 L/ac

**RAINFASTNESS:**
1 hour

**SUPPORTED TANK MIXES:**
- Corn: Atrazine
- Flax and Solin: Clethodim (ARROW® 240 EC, ARROW ALL IN™) or Poast®
- Oats: MCPA ester
- Spring wheat and barley: Ally®, Avenge®, MCPA ester, Refine Extra® or tralkoxydim (BISON® 400 L)
- Winter wheat: Refine Extra®

**MIXING INSTRUCTIONS:**
1. Fill clean spray tank ½ full with water.
2. Add the required amount of BADGE® II and agitate thoroughly.
3. Fill the tank and agitate again before use.
4. When tank mixing, follow instructions on both labels.

**CROP ROTATIONS:**
No re-cropping restrictions the year after treatment.

**PRE-HARVEST INTERVAL:**
Flax or Solin: 60 days

**STORAGE:**
Avoid freezing.

**GRAZING RESTRICTIONS:**
- Do not graze treated grain or established timothy crops or cut for feed within 30 days of application.
- Do not graze meadow foxtail in the year of treatment.
- Do not graze other treated forage grasses within 56 days of treatment.

**QUICK TIPS:**
BADGE® II herbicide is well known for being gentle on the crop. Avoid spraying if temperatures are above 25 C.
BISON® 400 L

Get a wide window of application and excellent control of Persian darnel, wild oats and other grassy weeds in cereals and seedling forage grasses grown for seed. It gives you tank-mix flexibility with more than 20 different broadleaf herbicides.

ACTIVE INGREDIENT:
Tralkoxydim

CHEMISTRY GROUP:
Group 1

APPLICATION RATES AND PACKAGING:
- 200 ml/ac or 40 ac/case
- 1 x 8 L jug BISON® 400 L + 1 x 8 L jug Addit® adjuvant per case

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

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

WEEDS CONTROLLED:

<table>
<thead>
<tr>
<th>Weed</th>
<th>Stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wild oats, Volunteer oats</td>
<td>1 – 6 leaf (Zadoks 11, 20 – 14, 22)</td>
</tr>
</tbody>
</table>

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.

WATER VOLUME:
- Ground: 20 – 40 L/ac
- Aerial: 12 – 18 L/ac

RAINFASTNESS:
1 hour
SUPPORTED TANK MIXES:
Do not apply any broadleaf herbicide tank mixes to underseeded forage legumes.

Herbicides:
- 2,4-D ester
- Attain®
- Bromoxynil (BROMOTRIL® II)
- Bromoxynil + 2,4-D ester
- Bromoxynil + MCPA ester (BADGE® II)
- Dichlorprop + 2,4-D ester
- Lontrel®
- Prestige™
- Starane®

Insecticides:
- Decis®
- Lambda-cyhalothrin (SILENCER® 120 EC)

MIXING INSTRUCTIONS:
1. Begin to fill spray tank or premix 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 premix tank is ¾ full of water, add BISON® 400 L. If more than 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. If tank mixing, add the recommended product(s) next.
5. Add Addit® adjuvant, and continue to fill tank to desired level with water.

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

PRE-HARVEST INTERVAL:
60 days

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:
- Store above -5 C.
- Shake well before use.

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.

Always read and follow pesticide label directions.
BROMOTRIL® II
Tough broadleaf weed control with tank-mix flexibility and excellent crop safety.

ACTIVE INGREDIENT: Bromoxynil
CHEMISTRY GROUP: Group 6

APPLICATION RATES AND PACKAGING:
- 0.49 – 0.57 L/ac or 40 – 34 ac/case
- 2 x 9.7 L jugs/case
- Post-Emergent Rate: 0.49 – 0.57 L/ac or 34 – 40 ac/case
- Pre-Plant: BROMOTRIL® II at 0.49 L/ac (40 ac/case) tank mixed with glyphosate at a rate of 175 g a.i./ac

REGISTERED CROPS:

<table>
<thead>
<tr>
<th>Crop</th>
<th>Stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barley, Oats, Wheat</td>
<td>Pre-plant burn-off with glyphosate</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Crop</th>
<th>Crop Leaf Stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alfalfa (seedling)</td>
<td>2 – 6 trifoliate</td>
</tr>
<tr>
<td>Alfalfa (established)</td>
<td>Spring: before the crop begins to shield the weeds</td>
</tr>
<tr>
<td>Barley, Oats, Triticale, Wheat (spring, durum)</td>
<td>2 leaf to early flag</td>
</tr>
<tr>
<td>Winter wheat</td>
<td>Fall: 2 – 4 leaf</td>
</tr>
<tr>
<td></td>
<td>Spring: first growth to early flag</td>
</tr>
<tr>
<td>Corn (field, sweet) with drop pipes</td>
<td>Beyond 8 leaf</td>
</tr>
<tr>
<td>Canary seed (seed production only)</td>
<td>3 – 5 leaf</td>
</tr>
<tr>
<td>Fall rye</td>
<td>Spring: from first growth to early flag</td>
</tr>
<tr>
<td>Flax</td>
<td>2 – 4 inches in height</td>
</tr>
<tr>
<td>Forage millet, Sorghum</td>
<td>4 leaf to 8 inches</td>
</tr>
<tr>
<td>Seedling grasses (seed production only):</td>
<td>2 – 4 leaf (year of establishment only)</td>
</tr>
<tr>
<td>Bromegrass, Fescue (creeping red, meadow),</td>
<td></td>
</tr>
<tr>
<td>Orchard grass, Reed canarygrass, Russian</td>
<td></td>
</tr>
<tr>
<td>wildrye, Timothy, Wheatgrass (crested,</td>
<td></td>
</tr>
<tr>
<td>intermediate, slender, tall)</td>
<td></td>
</tr>
</tbody>
</table>

WEEDS CONTROLLED:

Seeding up to 4-leaf stage:
- American nightshade
- Bluebur
- Cocklebur
- Common ragweed
- Cow cockle
- Green smartweed
- Kochia
- Lady’s thumb
- Pale smartweed
- Pigweed
- Russian thistle
- Stinkweed
- Velveteen
- Wild mustard

Seeding 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® II 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.

WATER VOLUME:
- Ground: 20 – 40 L/ac
- Air (wheat and barley only): 8 – 16 L/ac

RAINFASTNESS:
30 minutes

SUPPORTED POST-EMERGENT TANK MIXES:
- Spring wheat: 2,4-D ester, Avenge®, MCPA ester, tralkoxydim (BISON® 400 L)
- Winter wheat: 2,4-D ester, MCPA ester, tralkoxydim (BISON® 400 L)
- Barley: 2,4-D ester, Avenge®, MCPA ester, tralkoxydim (BISON® 400 L)
- Oats: MCPA ester
- Corn: Accent®, Atrazine, Banvel®, Ultim®
- Fall rye: MCPA ester
- Flax: MCPA ester or MCPA-K
- Canary seed: MCPA ester
- Seedling grasses: MCPA ester

MIXING INSTRUCTIONS:
1. Fill spray tank ½ full with water.
2. Add required amount of BROMOTRIL® II. Begin agitation.
3. If tank mixing, add the recommended amount of the tank-mix partner product to the spray tank first, agitate and then add BROMOTRIL® II (unless otherwise directed by the BROMOTRIL® II and tank-mix partner label).
4. Add the remaining amount of water while agitation continues.

CROP ROTATIONS:
If applying pre-plant, only apply prior to wheat, barley and oats.

PRE-HARVEST INTERVAL:
30 days

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:
Avoid freezing.

QUICK TIPS:
Avoid spraying if temperatures are above 25 C. Leaf scorching may occur in corn and flax 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.
HERBICIDE

KARMEX®

Unmatched versatility and value in residual weed control. Selectively control weeds in grape vineyards and asparagus, or control many annual and perennial weeds on non-crop areas where bare ground is desired.

ACTIVE INGREDIENT:
Diuron

CHEMISTRY GROUP:
Group 7

APPLICATION RATES AND PACKAGING:
· 1 x 10 kg bag

Asparagus:
· Light sandy soils: 0.45 – 0.91 kg/ac (actual area sprayed)
· Clay soils: 0.91 – 1.82 kg/ac (actual area sprayed)

Grapes:
· Light sandy soils: 0.91 – 1.32 kg/ac (actual area sprayed)
· Clay soils: 1.32 – 2.71 kg/ac (actual area sprayed)

Non-cropland:
· Sandy/sandy loam soils: 4.5 – 11 kg/ac as a broadcast application
· Clay soils: 16 – 22 kg/ac as a broadcast application

Spot treatment:
· 115 g/100 m² = 11.25 kg/ha

Irrigation and drainage ditches (restricted use):
· 115 g/100 m² = 11.25 kg/ha

REGISTERED CROPS:
· Asparagus · Grapes · Non-cropland

WEEDS CONTROLLED:
Asparagus, grape:
· Weed seedlings such as crabgrass, foxtail, pigweed, ragweed and lamb’s quarters.

Non-cropland:
· Many annual and perennial grasses and broadleaf weeds.

Spot treatment:
· Many annual and perennial grasses and broadleaf weeds plus deep-rooted perennials such as quack grass and toadflax.

HOW IT WORKS:
Applied as a spray to the surface of the ground for control of weeds. The weed control effects are slow to appear and will not become apparent until moisture carries the chemical into the root zone.
CROP STAGING:
Grapes:
· Apply only to established vineyards (at least 3 years old) as a band application to grape rows.

Asparagus:
· Do not apply to newly planted asparagus, or to young plants during the first growing season after setting or on plants with exposed roots as severe injury may result.
· Apply as a band or broadcast treatment.
· 2 applications may be used.

Non-cropland:
· Any time, except when ground is frozen.
· Best results are obtained when applied shortly before weed growth begins.

Irrigation and drainage ditches (restricted use):
· For irrigation ditches, apply during the non-crop season, and when ditch is not in use.

WATER VOLUME:
100–160 L/ac of actual area sprayed.

RAINFASTNESS:
Moisture is desirable and required to move the active ingredient into the rooting zone.

SUPPORTED TANK MIXES:
None registered.

MIXING INSTRUCTIONS:
1. Accurately weigh the amount of KARMEX® required and mix into necessary volume of water.
2. Material must be kept in suspension at all times by agitation, preferably by continuous mechanical or hydraulic means in the spray tank.
3. Openings in screens should be equal to or larger than 50 mesh.

CROP ROTATIONS:
Asparagus:
· Do not replant treated areas to any crop within 2 years after last application as injury to subsequent crops may result.
· Do not use on dwarf or semi-dwarf plants.

PRE-HARVEST INTERVAL:
None.

GRAZING RESTRICTIONS:
Do not graze the treated areas or cut for hay.

STORAGE:
· Keep from contact with fertilizers, insecticides, fungicides and seeds.
· Do not contaminate food or feed.

QUICK TIPS:
KARMEX® requires moisture in the form of rainfall or irrigation after treatment. Sandy and sandy loam soils require lower rates than clay and high organic soils. Use higher rates where perennial weeds are dominant on non-cropland. On non-cropland, regrowth of plantain, thistle or wild carrot will indicate when retreatment is necessary.

Always read and follow pesticide label directions.
**PHANTOM® 240 SL**

Flexible pre-plant, pre-plant incorporated, pre-emergent or post-emergent broadleaf and grassy weed control in soybeans, dry beans, peas and alfalfa, with residual control to eliminate early season weed competition.

**ACTIVE INGREDIENT:** Imazethapyr

**CHEMISTRY GROUP:** Group 2

**APPLICATION RATES AND PACKAGING:**
- 126 – 170 ml/ac or 52 – 40 ac/case
- 2 x 3.3 L jugs/case

**REGISTERED CROPS:**

<table>
<thead>
<tr>
<th>Crop</th>
<th>Application timing</th>
<th>Pre-plant</th>
<th>Pre-plant incorporated</th>
<th>Pre-emergent</th>
<th>Post-emergent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adzuki beans</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alfalfa (grown for seed)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dry common beans (black, cranberry, Dutch brown, kidney, white, yellow eye)</td>
<td></td>
<td>Cranberry</td>
<td>Kidney</td>
<td>White</td>
<td></td>
</tr>
<tr>
<td>Lima beans (Ontario only)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Processing peas</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Snap beans</td>
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<tr>
<td>Snow peas</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Soybeans</td>
<td></td>
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</tr>
</tbody>
</table>

**WEEDS CONTROLLED:**
Check label as weeds controlled vary by crop and application timing.

**Broadleaf weeds:**
- Cocklebur
- Common ragweed
- Eastern black nightshade

**Grasses:**
- Barnyard grass
- Crabgrass

**HOW IT WORKS:**
PHANTOM® 240 SL is readily absorbed through both leaf and root uptake, and it is translocated in the weed to inhibit amino acid production and cell division. 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 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.
PHANTOM® 240 SL

WATER VOLUME:
- Ground: 40 – 160 L/ac
- Do not apply by air.

RAINFASTNESS:
6 hours or reduced control may occur on foliar application.

SUPPORTED TANK MIXES:

<table>
<thead>
<tr>
<th>Tank-mix option</th>
<th>Application timing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Early</td>
</tr>
<tr>
<td>Gramoxone®</td>
<td>•</td>
</tr>
<tr>
<td>Glyphosate</td>
<td>•</td>
</tr>
<tr>
<td>Glyphosate + FirstRate®</td>
<td>•</td>
</tr>
<tr>
<td>Sencor®/Lexone®</td>
<td>•</td>
</tr>
<tr>
<td>Trifluralin</td>
<td>•</td>
</tr>
<tr>
<td>Edge®</td>
<td>•</td>
</tr>
<tr>
<td>Lorox®/Afolan®/Linuron</td>
<td>•</td>
</tr>
<tr>
<td>Basagran®</td>
<td>•</td>
</tr>
<tr>
<td>Basagran® Forte</td>
<td>•</td>
</tr>
</tbody>
</table>

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

MIXING INSTRUCTIONS:
1. Fill the spray tank ½ – ¾ full with water.
2. Add the required amount of PHANTOM® 240 SL while agitating the spray solution.
3. While agitating, add non-ionic surfactant containing at least 80% active ingredient (e.g. Agral® 90, Ag-Surf®) at the rate of 0.25% (2.5 L of surfactant per 1,000 L of spray solution).
4. Fill the remainder of the tank with water.

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
- Imazethapyr-tolerant canola
- Imazethapyr-tolerant corn
- Kidney beans
- Lima beans
- Processing peas
- Soybeans
- Spring barley
- Spring wheat
- White beans
- Winter wheat
- Yellow eye beans

PRE-HARVEST INTERVALS:
- Dry beans: 100 days
- Lima beans: 90 days
- Processing peas: 50 days
- Snap peas: 40 days
- Snow peas: 60 days

GRAZING RESTRICTIONS:
- Do not graze treated crops or cut for hay.

STORAGE:
Do not store below freezing.

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 inches 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), more than 7 – 10 days may elapse before the receipt of adequate precipitation to activate the herbicide and reduce the risk of weed escapes.

Always read and follow pesticide label directions.
This broad-spectrum herbicide is 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

CHEMISTRY GROUP:
Group 5

APPLICATION RATES AND PACKAGING:
· Please refer to the label for application rates as these vary based on crop, soil type and application methods.

REGISTERED CROPS:
· Asparagus (established)
· Fruit trees
  (newly planted and established)
· Highbush blueberries
  (newly planted)
· Potatoes
· Processing carrots
· Soybeans
· Sweet white lupins
· Transplanted tomatoes
  (grown for processing)

WEEDS CONTROLLED:
Broadleaf weeds:
· Carpetweed¹
· Cocklebur
· Common chickweed
· Common ragweed
· Corn spurry²
· Dandelion (seedling)
· Green smartweed
· Hempnettle²
· Jimsonweed¹
· Lady’s thumb
· Lamb’s quarters
· Prickly mallow
· Prostrate pigweed
· Redroot pigweed
· Russian thistle
· Shepherd’s purse
· Stinkweed³
· Velvetleaf
· Wild buckwheat³
· Wild mustard
· Wild potato vine
· Yellow woodsorrel¹
Grassy weeds:
· Barnyard grass
· Cheat grass
· Crabgrass
· Fall panicum
· Giant foxtail
· Green foxtail
· Johnson grass (seedling)
· Witch grass
· Yellow foxtail

¹Pre-emergence only.
²Suppression with multiple post-emergence applications of 200 g/ha.
³Post-emergence only.

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

<table>
<thead>
<tr>
<th>Coarse</th>
<th>Medium</th>
<th>Fine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loamy sand,</td>
<td>Loam, Silt loam, Silt, Sandy</td>
<td>Silty clay loam, Silty clay,</td>
</tr>
<tr>
<td>Sandy loam</td>
<td>clay loam, Sandy clay</td>
<td>Clay loam, Clay</td>
</tr>
</tbody>
</table>

- 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.

RAINFASTNESS:
6 hours after foliar application

PRE-HARVEST INTERVALS:
- Asparagus: 14 days
- Newly planted blueberries: 2 years
- Potatoes: 60 days
- Tomatoes: 60 days

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.

Always read and follow pesticide label directions.
## Application Timing and Crop Staging:

<table>
<thead>
<tr>
<th>Crop</th>
<th>Application Method</th>
<th>Products</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Soybeans</strong></td>
<td>Pre-plant incorporated</td>
<td>SQUADRON® plus Treflan™ E.C., Dual Magnum®, Dual II Magnum®, Frontier® or Axiom® DF</td>
</tr>
<tr>
<td></td>
<td>Pre-emergence following pre-plant incorporated application of other herbicides</td>
<td>Treflan™ E.C. followed by SQUADRON®; Dual Magnum® or Dual II Magnum® followed by SQUADRON®</td>
</tr>
<tr>
<td></td>
<td>Pre-plant surface or burn-off application</td>
<td>SQUADRON® alone or with PHANTOM® 240 SL (Pursuit®), glyphosate, Axiom® DF, Lorox® DF, Dual Magnum®, Dual II Magnum®</td>
</tr>
<tr>
<td></td>
<td>Pre-emergence application</td>
<td>SQUADRON® alone or with PHANTOM® 240 SL (Pursuit®), glyphosate, Axiom® DF, Lorox® DF, Dual Magnum®, Dual II Magnum®, Frontier®, Linuron 50%, Linuron 480, Broadstrike™ Dual, Gramoxone®</td>
</tr>
<tr>
<td><strong>Potatoes</strong></td>
<td>Pre-emergence</td>
<td>SQUADRON® alone or with Dual Magnum®, Dual II Magnum®, Gramoxone®, Linuron 50%, Linuron 480 g/L</td>
</tr>
<tr>
<td></td>
<td>Early post-emergence</td>
<td>SQUADRON® alone or with Venture® L</td>
</tr>
<tr>
<td></td>
<td>Pre-emergence or early post-emergence or pre-plant incorporated</td>
<td>SQUADRON® plus Dual Magnum®, Dual II Magnum® or Eptam® 8-E</td>
</tr>
<tr>
<td></td>
<td>Split application (pre- and post-emergence)</td>
<td>SQUADRON® alone</td>
</tr>
<tr>
<td><strong>Transplanted Tomatoes</strong></td>
<td>Pre-plant incorporated</td>
<td>SQUADRON® plus Treflan™ E.C., Dual Magnum®, Dual II Magnum®</td>
</tr>
<tr>
<td>(grown for processing only)</td>
<td>Post-emergence</td>
<td>SQUADRON® alone or with Bravo® 500</td>
</tr>
<tr>
<td><strong>Asparagus</strong></td>
<td>Pre-emergence</td>
<td>SQUADRON®</td>
</tr>
<tr>
<td>(established)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Processing Carrots</strong></td>
<td>Post-emergence</td>
<td>SQUADRON®</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Highbush Blueberries</strong></td>
<td>Pre-emergence to weeds</td>
<td>SQUADRON®</td>
</tr>
</tbody>
</table>
Always read and follow pesticide label directions.
INSECTICIDE

PEST CONTROL
INSECTICIDE

- ALIAS® 240 SC (Seed and soil treatment) 31
- ALIAS® 240 SC (Foliar application) 33
- CORMORAN™ 35
- NIMITZ® 480 EC 41
- PYRINEX® 480 EC 43
- SILENCER® 120 EC 45
- SOMBRERO® 600 FS 47
INSECTICIDE

ALIAS® 240 SC

SEED AND SOIL TREATMENT

Seed and soil treatments for long lasting, early season control of tough insects in cereals, soybeans and many specialty crops.

ACTIVE INGREDIENT: Imidacloprid
CHEMISTRY GROUP: Group 4

APPLICATION RATES AND PACKAGING:
- 4 x 3.785 L jugs/case
- Seed treatment: 12 – 238 ml/100 lbs seed or 315 – 16 lbs seed/3.785 L jug
- Soil application: 344 – 526 ml/ac or 11 – 7 ac/3.785 L jug

REGISTERED CROPS:
- Barley
- Broccoli
- Cabbage
- Caneberries
- Field lettuce
- Ginseng
- Melons
- Oats
- Potatoes
- Saskatoon berries
- Soybeans
- Strawberries
- Sweet potatoes
- Tomatoes
- Wheat (durum, spring, winter)

1 Consult label for crop registrations by province.

KEY INSECTS CONTROLLED:
- Aphids
- Colorado potato beetle
- European chafer larvae
- Leafhoppers
- Potato flea beetles
- Soybean aphis
- Wireworm
- Plus many other insects; see label for details

HOW IT WORKS:
Neonicotinoid chemistry provides control of insect pests through a combination of contact and ingestion.

APPLIED IN SEED AND SOIL TREATMENT:
- Barley
- Broccoli
- Cabbage
- Caneberries
- Field lettuce
- Ginseng
- Melons
- Oats
- Potatoes
- Saskatoon berries
- Soybeans
- Strawberries
- Sweet potatoes
- Tomatoes
- Wheat (durum, spring, winter)

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KEY INSECTS CONTROLLED:
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- Plus many other insects; see label for details

HOW IT WORKS:
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APPLICATION TIMING AND CROP STAGING:

<table>
<thead>
<tr>
<th>Crop</th>
<th>Insect</th>
<th>Rate</th>
<th>Application Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat (durum, spring, winter), Barley, Oats</td>
<td>Wireworm</td>
<td>19 – 29 ml/100 lbs seed</td>
<td>For light wireworm pressure, apply to the seed prior to planting.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>38 – 57 ml/100 lbs seed</td>
<td>For fields with a history of moderate to high wireworm pressure, apply to the seed prior to planting.</td>
</tr>
<tr>
<td>Field lettuce</td>
<td>Lettuce aphid</td>
<td>10.2 ml/1,000 plants</td>
<td>Drench plugs prior to transplanting.</td>
</tr>
<tr>
<td>Potatoes</td>
<td>Aphids (including green, peach, buckthorn, foxglove, potato aphisid, Colorado potato beetle, Potato flea beetle, Potato leafhopper)</td>
<td>Soil application: 7.5 – 12 ml/100 m row or 344 – 526 ml/ac (based on 36-inch row spacing)</td>
<td>The higher rate is recommended when extended length of control is needed.</td>
</tr>
<tr>
<td></td>
<td>Seed piece treatment: 12 – 18 ml/100 lbs seed pieces</td>
<td>Apply as a diluted spray onto seed pieces using a shielded spray system.</td>
<td></td>
</tr>
<tr>
<td>Soybeans</td>
<td>Wireworm, Soybean aphisid, Bean leaf aphisid, Small corn maggot</td>
<td>118 – 236 ml/100 lbs seed</td>
<td>Apply to seed, and use the higher rate when insect populations are expected to be high.</td>
</tr>
<tr>
<td>Tomatoes</td>
<td>Colorado potato beetle</td>
<td>7 – 10 ml/100 m row</td>
<td>Apply in furrow transplant.</td>
</tr>
</tbody>
</table>

Consult label for additional seed, soil and in-furrow treatments.
WATER VOLUME:
Do not dilute with any more than 3 parts water to 1 part ALIAS® 240 SC when treating seed pieces.

RAINFASTNESS:
Not applicable.

SUPPORTED TANK MIXES:
- Raxil® T and Raxil® MD in wheat, barley and oats
- Apron Maxx® RTA and Apron Maxx® RFC in soybeans
- ALIAS® 240 SC may be applied sequentially or mixed with other leading seed treatments that are registered for use in cereal and soybean crops.

MIXING INSTRUCTIONS:
Seed and seed treatment:
- Shake well before using.
- When using ALIAS® 240 SC in conjunction with another seed treatment such as Rancona® Apex, Rancona® Pinnacle or Vitaflor® 280, mix just prior to application.
- Apply as a diluted spray onto seed pieces using a shielded spray system.
- Agitate or stir spray solution as needed.

Soil application:
- Apply as a narrow band in-furrow.

CROP ROTATIONS:
Acceptable plant-back intervals for:
- Cereal grains (wheat, barley, oats): minimum 30 days
- Peas and beans: 9 months
- All other food and feed crops: 12 months

PRE-HARVEST INTERVALS:
- Brussels sprouts: 21 days
- Caneberrys (Subgroup 13A): 14 days
- Cole (Group 5): 21 days
- Eggplant: 70 days
- Field lettuce: 21 days
- Ginseng: 3 years between application and harvest
- Highbush blueberries: 14 days
- Melons: 21 days
- Saskatoon berries: 14 days
- Strawberries: 30 days
- Sweet potatoes: 125 days

GRAZING RESTRICTIONS:
Do not graze or feed livestock on treated areas for 4 weeks after planting.

STORAGE:
- Store unused product in a cool, dry place.
- Long-term storage of mixed product or carry-over of seed treated with ALIAS® 240 SC is not recommended.

QUICK TIPS:
For optimal insect control, good coverage of the seed is required.
For best results, direct spray on the seed pieces or seed potatoes in the furrow.

Always read and follow pesticide label directions.
INSECTICIDE

ALIAS® 240 SC FOLIAR APPLICATION

Control your worst cereal, potato, soybean, blueberry, vegetable and tree fruit insects with a long-lasting foliar application.

ACTIVE INGREDIENT:
Imidacloprid

CHEMISTRY GROUP:
Group 4

APPLICATION RATES AND PACKAGING:
- 70 – 190 ml/ac or 54 – 20 ac/3.785 L jug
- 4 x 3.785 L jugs/case

REGISTERED CROPS:
- Apples
- Brussels sprouts
- Caneberries (Subgroup 13A)
- Cherries¹
- Cole (Group 5)
- Eggplant
- Highbush blueberries²
- Lettuce³
- Nectarines
- Peaches
- Potatoes
- Tomatoes

¹ BC, ON only
² BC
³ BC, ON, PG, PEI, NS only

KEY INSECTS CONTROLLED:
- Aphids
- Black cherry fruit fly
- Colorado potato beetle
- Leaf hoppers
- Mullein bug
- Potato flea beetles
- Soybean aphid
- Tentiform leafminer
- Western cherry fruit fly

HOW IT WORKS:
Neonicotinoid chemistry provides control of insect pests through a combination of contact and ingestion.

APPLICATION TIMING AND CROP STAGING:
The need and timing of application should be based on the presence of pests at vulnerable developmental stages and significant populations as determined by local monitoring. Consult label for specific crop and insect timing.

WATER VOLUME:
Apply by ground application in a water volume that provides good coverage of foliage and insect pests.

RAINFASTNESS:
Avoid application when heavy rain is forecast.
SUPPORTED TANK MIXES:
None registered.

MIXING INSTRUCTIONS:
1. Shake well before using.
2. Add a portion of the required amount of water to the spray tank with agitation.
3. Add required amount of ALIAS® 240 SC.
4. Complete filling the tank with balance of water.
5. Maintain sufficient agitation during mixing and application.

CROP ROTATIONS:
Acceptable plant-back intervals for:
- Cereal grains (wheat, barley, oats): minimum 30 days
- Field peas and beans: 9 months
- All other food and feed crops: 12 months

PRE-HARVEST INTERVALS:
- Caneberries (Subgroup 13A): 4 days
- Cherries: 10 days
- Highbush blueberries: 14 days
- Potatoes, Field lettuce, Cole (Group 5), Apples, Peaches, Nectarines, Brussels sprouts and Eggplant: 7 days

GRAZING RESTRICTIONS
Do not graze or harvest cover crops for food or feed.

STORAGE
Store in cool, dry place.

QUICK TIPS:
For optimal control, good coverage of the foliage is needed.
CORMORAN™

A new option with 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 INGREDIENTS:
Novaluron (100 g/L) and acetamiprid (80 g/L) EC

CHEMISTRY GROUPS:
Group 4 and Group 15

APPLICATION RATES AND PACKAGING:
- 2 x 10 L
- Varies by crop and pest, see label for details.

REGISTERED CROPS:
- Alfalfa (grown for seed)
- Apples
- Brassica leafy greens (crop subgroup 4-13B)
- Bushberries (crop subgroup 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
- 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 plant bug
- Oriental fruit moth
- Plum curculio
- Strawberry clipper weevil
- Strawberry rootworm
- Swede midge
- Tarnished plant bug
- Tentiform leafminer
- Thrips

HOW IT WORKS:
CORMORAN™ kills insect eggs by contact and larvae by ingestion. Containing 2 modes of action, CORMORAN™ provides both rapid knockdown and residual control of insect pests.
**CROP STAGING AND RATES:**

<table>
<thead>
<tr>
<th>Crop</th>
<th>Insects Controlled</th>
<th>Rate</th>
<th>Application Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Apples</strong></td>
<td>Leafhopper, Tentiform leafminer</td>
<td>0.28 L/ac</td>
<td>Apply in minimum finished spray volume of 400 L/ac by ground. Repeat applications if needed to maintain control but do not make applications &lt; 12 days apart. Do not apply more than 2.8 L/ac per season.</td>
</tr>
<tr>
<td></td>
<td>Aphids</td>
<td>0.28 – 0.42 L/ac</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Gypsy moth, Japanese beetle, Mullein bug</td>
<td>0.34 – 0.5 L/ac</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Green fruitworm</td>
<td>0.42 L/ac</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Apple maggot, Codling moth, European apple sawfly, Oriental fruit moth, Plum curculio</td>
<td>0.42 – 0.5 L/ac</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lesser appleworm, Tarnished plant bug</td>
<td>0.5 L/ac</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dogwood borer</td>
<td>0.6 L/ac</td>
<td></td>
</tr>
<tr>
<td><strong>Potatoes</strong></td>
<td>Colorado potato beetle</td>
<td>0.18 – 0.28 L/ac</td>
<td>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. Do not apply more than once every 10 – 14 days.</td>
</tr>
<tr>
<td></td>
<td>Armyworm, Cabbage looper</td>
<td>0.18 – 0.3 L/ac</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Leafhopper</td>
<td>0.2 – 0.3 L/ac</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Aphids, European corn borer</td>
<td>0.26 – 0.3 L/ac</td>
<td></td>
</tr>
<tr>
<td><strong>Stone fruit</strong></td>
<td>Oriental fruit moth (Ontario only)</td>
<td>0.58 – 0.84 L/ac</td>
<td>Maximum 4 applications per season. 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.</td>
</tr>
<tr>
<td></td>
<td>Cherry fruit fly (suppression, cherry only), Plum curculio (under high pressure, suppression only)</td>
<td>0.84 L/ac</td>
<td></td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
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<th>Insects Controlled</th>
<th>Rate</th>
<th>Application Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peppers (bell and non-bell)</td>
<td>Colorado potato beetle (CPB)</td>
<td>0.18 – 0.28 L/ac</td>
<td>Do not apply more than 1.05 L/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. Do not make applications less than 7 days apart.</td>
</tr>
<tr>
<td></td>
<td>Aphids</td>
<td>0.2 L/ac</td>
<td></td>
</tr>
<tr>
<td></td>
<td>European corn borer</td>
<td>0.26 – 0.3 L/ac</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Armyworm, Cabbage looper</td>
<td>0.18 – 0.3 L/ac</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strawberries</td>
<td>Aphids, Leafhopper</td>
<td>0.2 – 0.3 L/ac</td>
<td>Apply in a minimum application volume of 80 L/ac by ground. Do not apply more than once every 10 – 14 days or 3 times per season. Do not apply during bloom.</td>
</tr>
<tr>
<td></td>
<td>Strawberry clipper weevil, Tarnished plant bug</td>
<td>0.36 L/ac</td>
<td></td>
</tr>
<tr>
<td>Brassica (cole) leafy vegetables (crop group 5): Broccoli, Chinese broccoli, Broccoli raab (rapini), Brussels sprouts, Cabbage, Chinese cabbage (bok choy or napa), Chinese mustard cabbage (gai choy), Cauliflower, Cavalo broccoli, Collards, Kale, Kohlrabi, Mizuna, Mustard greens, Mustard spinach, Rape greens and cultivars, varieties and/or hybrids of these commodities</td>
<td>Alfalfa looper, Armyworm, Cabbage looper, Diamondback moth, Imported cabbageworm</td>
<td>0.18 – 0.3 L/ac</td>
<td>Apply in a minimum finished spray volume of 20 L/ac by air or 81 L/ac by ground. Applications per season: 2 at low rate, 1 at high rate. Do not apply more than 0.68 L/ac per season.</td>
</tr>
<tr>
<td></td>
<td>Aphids</td>
<td>0.26 – 0.3 L/ac</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lygus bug, Swede midge</td>
<td>0.3 L/ac</td>
<td></td>
</tr>
<tr>
<td>Crop</td>
<td>Insects Controlled</td>
<td>Rate</td>
<td>Application Instructions</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>--------------------</td>
<td>-------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Leafy vegetables – Brassica leafy greens (crop subgroup 4): 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</td>
<td>Aphids</td>
<td>0.26 – 0.3 L/ac</td>
<td>Apply in a minimum finished spray volume of 80 L/ac by ground. Do not apply more than once every 7 – 10 days or more than 3 times per season.</td>
</tr>
<tr>
<td>Sweet corn</td>
<td>Aphids</td>
<td>0.2 – 0.28 L/ac</td>
<td>Applications per season: 2. Apply in a minimum 80 L/ac spray volume by ground, no more than once every 21 days. Use the higher rate for heavy infestations.</td>
</tr>
<tr>
<td>Crop</td>
<td>Insects Controlled</td>
<td>Rate</td>
<td>Application Instructions</td>
</tr>
<tr>
<td>------</td>
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<td>--------------------------</td>
</tr>
<tr>
<td>Bushberries (crop 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</td>
<td>Aphids, Blueberry gall midge (cranberry tipworm)</td>
<td>0.3 L/ac</td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>Japanese beetle</td>
<td>0.28 L/ac</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Blueberry maggot</td>
<td>0.48 – 0.56 L/ac</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Blueberry flea beetle, Blueberry spanworm, Strawberry rootworm, Cherry fruitworm, Cranberry fruitworm, Thrips</td>
<td>0.56 L/ac</td>
<td></td>
</tr>
<tr>
<td>Alfalfa (grown for seed)</td>
<td>Alfalfa plant bug, Lygus bug</td>
<td>0.3 – 0.36 L/ac</td>
<td>Apply prior to bloom up to when 50% of seed pods are ripe. Use higher rate for heavier infestations. Applications per season: 2. Do not apply more than once in 7 days. Do not exceed more than 0.72 L/ac per season.</td>
</tr>
</tbody>
</table>
WATER VOLUME:
- 80 – 400 L/ac by ground

RAINFASTNESS:
Avoid application when heavy rain is forecast.

MIXING INSTRUCTIONS:
1. Be sure sprayer is clean and not contaminated with any other materials or crop injury or sprayer clogging may result.
2. Fill tank ½ full with clean water.
3. Start agitation.
4. Be certain that the agitation system is working properly and creates a rippling or rolling action on the liquid surface.
5. Pour product directly from container into partially filled spray tank.
6. Continue filing tank. Increase agitation if necessary to maintain surface action.
7. Maintain continuous agitation during mixing and application to assure uniform suspension. If mixture sits without agitation for extended periods, agitate the mixture for at least 10 minutes before use.

CROP ROTATIONS
There are no rotational crop plant restrictions for this product.

PRE-HARVEST INTERVALS:
- Strawberries: 1 day
- Brassica leafy vegetables (crop group 5 and subgroup 4), Peppers, Potatoes, Stone fruits: 7 days
- Bushberries (crop group 13-07B): 8 days
- Sweet corn: 10 days
- Alfalfa (grown for seed), Apples: 14 days

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.
NIMITZ® 480 EC

A fast-acting contact nematicide, NIMITZ® 480 EC is a revolutionary new management option for controlling root-knot and root lesion nematodes in fruiting vegetables and cucurbits.

ACTIVE INGREDIENT:
Fluensulfone

CHEMISTRY GROUP:
Unclassified

APPLICATION RATES AND PACKAGING:
- 1.62 – 3.24 L/ac
- 2 x 9.46 L

REGISTERED CROPS:
- Cucumbers
- Eggplant
- Melons (cantaloupe, watermelon, honeydew)
- Okra
- Peppers (bell, non-bell)
- Squash
- Tomatoes (except small tomatoes)

KEY INSECTS CONTROLLED:
- Root-knot nematodes (Meloidogyne spp.)
- Root lesion nematodes (Pratylenchus spp.)

HOW IT WORKS:
Fluensulfone is a true nematicide that kills the target by contact, rather than temporary paralysis activity as seen with older organophosphate and carbamate chemistry. NIMITZ® 480 EC has rapid activity. After 1 hour of exposure, nematodes cease feeding, become paralysed and complete mortality is achieved within 24 – 72 hours. Any nematode eggs laid after exposure to NIMITZ® 480 EC are likely to be unviable, or if juveniles do hatch, they do not survive.

APPLICATION TIMING AND CROP STAGING:
Applications can be broadcast incorporated, banded and incorporated, or applied by drip (trickle) chemigation. Apply at a rate of 1.62 – 3.24 L/ac a minimum of 7 days before transplanting. Soil applications should be applied only in accordance with directions and conditions of use described in this labeling. Treated areas can be covered with plastic or left uncovered according to planting practices. NIMITZ® 480 EC does not provide residual control of nematodes. Do not apply more than 1 application per crop and no more than 8 L of product per hectare (3.24 L/ac), per year (365 days).

WATER VOLUME:
120 L/ac

RAINFASTNESS:
Not applicable.
SUPPORTED TANK MIXES:
Do not apply NIMITZ® 480 EC with any other product before testing for physical and chemical compatibility of the mixture. To determine compatibility, pour the recommended proportions of the product(s) into a suitable container. After mixing, wait for 30 minutes and check to see if the product remains mixed. If the product remains mixed, it is considered physically compatible.

MIXING INSTRUCTIONS:
1. Add the recommended amount of NIMITZ® 480 EC to the water in the spray tank and mix well.
2. Continue agitation at frequent intervals during application.
3. If NIMITZ® 480 EC is to be mixed with other products or fertilizers, the physical compatibility of the mixture should be tested as described above prior to use.

CROP ROTATIONS:
Do not plant any crops not on this label into treated land for 365 days after application of the product.

GRAZING RESTRICTIONS
Do not feed treated commodities or any residual plant material to animals.

STORAGE
- Store the product in closed original container in a well-ventilated room at temperatures of 0 C to 37 C (32 F to 100 F).
- Keep out of reach of children, unauthorized persons and animals.
- Store separate from food, feed and fertilizer.

QUICK TIPS:
Soil moisture should be adequate for uniform mechanical incorporation and to support seed germination or plant growth. For optimal performance, all applications must be incorporated by water and/or mechanical means to a depth of 15 – 20 cm. Resume a normal irrigation schedule immediately after transplanting.

Always read and follow pesticide label directions.
INSECTICIDE

PYRINEX® 480 EC

Get flexible, broad-spectrum insect control in potatoes, corn, cereals and many other field and specialty crops.

ACTIVE INGREDIENT:
Chlorpyrifos

CHEMISTRY GROUP:
Group 1B

APPLICATION RATES AND PACKAGING:

Common field crop rates:
- 234 – 600 ml/ac or 42 – 17 ac/10 L jug;
  consult the label for specific application rates
- 2 x 10 L jugs/case

REGISTERED CROPS:
- Canola
- Cereals (wheat, barley, oats)
- Corn (field, sweet)
- Variety of fruit crops
- Potatoes
- Sunflowers
- Variety of vegetable crops
- Variety of specialty crops
PYRINEX® 480 EC is registered on almost 30 crops; refer to the label for more information.

KEY INSECTS CONTROLLED:
- Alfalfa looper
- Army cutworm
- Armyworm
- Bertha armyworm
- Black cutworm
- Brown wheat mite
- Cabbage maggot
- Colorado potato beetle (larvae)
- Darksided cutworm
- Diamondback moth (larvae)
- Filbert aphid
- Grasshoppers
- Lygus bugs
- Mountain pine beetle
- Onion maggot
- Orange wheat blossom midge
  (wheat only)
- Pale western cutworm
- Potato flea beetle
- Redbacked cutworm
- Russian wheat aphid
- Seed weevil
- Strawberry cutworm (crown borer)
- Tarnished plant bug
- Variegated cutworm

HOW IT WORKS:
An organophosphate insecticide that controls insects through contact, ingestion and vapour inhalation.

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.

WATER VOLUME:
- Ground: 20 – 80 L/ac
- Air: 4 – 12 L/ac
INSECTICIDE
PYRINEX® 480 EC

RAINFASTNESS:
4 – 6 hours

SUPPORTED TANK MIXES:
PYRINEX® 480 EC can be tank mixed with the herbicides listed for wheat, oats and barley. When tank mixing, first add the herbicide to the spray tank and then add PYRINEX® 480 EC.
- 2,4-D amine
- 2,4-D ester
- Avenge®
- Banvel® + 2,4-D amine
- BUMPER® 432 EC
- Fenoxprop-p-ethyl (Puma®)
- MCPA amine
- MCPA ester

MIXING INSTRUCTIONS:
1. Fill spray tank with water to 2/3 of final spray volume.
2. If tank mixing, add required amount of herbicide or fungicide.
3. Add required amount of PYRINEX® 480 EC with agitation.
4. Fill tank with water to the final desired volume.
5. Keep agitator running during mixing and application.

CROP ROTATIONS:
No restrictions the following year.

PRE-HARVEST INTERVALS:
- Canola: 21 days
- Cereals (wheat, barley, oats): 60 days
- Corn (field, sweet): 70 days
- Potatoes: 70 days
- Sunflowers: 42 days
Consult label for further PHI on special crops.

GRAZING RESTRICTIONS:
Cereals grown as a cover crop and treated with PYRINEX® 480 EC insecticide should not be harvested for human or animal consumption within 60 days of application.

STORAGE:
- Do not store near heat or open flame.
- Avoid storage at high temperatures.
- Do not freeze.

QUICK TIPS:
Get the best control of insects by applying insecticide in the evening (after 7 p.m.) or morning (before 8 a.m.). Use enough water to get thorough coverage of the intended soil, plant or pest target. Wait 24 hours before re-entry.

Always read and follow pesticide label directions.
SILENCER® 120 EC controls a wide range of insects in field, tree fruit and horticulture crops.

ACTIVE INGREDIENT:
Lambda-cyhalothrin

CHEMISTRY GROUP:
Group 3

APPLICATION RATES AND PACKAGING:
- 17 – 51 ml/ac or 220 – 74 ac/3.785 L jug;
  consult the label for specific application rates
- 4 x 3.785 L jugs/case

REGISTERED CROPS:
- Alfalfa
- Beans
- Canola
- Cereals (wheat, barley, oats)
- Corn (field)
- Flax
- Potatoes
- Soybeans
- Sunflowers
- Variety of specialty crops
- Variety of fruit crops
- Tomatoes
- Variety of vegetable crops

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

KEY INSECTS CONTROLLED:
- Alfalfa weevil
- Apple aphid
- Apple brown bug
- Apple leaf midge
- Armyworm (Psuedaletia unipuncta)
- Bean aphid
- Bean leaf beetle
- Bertha armyworm
- Black vine weevil (adults)
- Bud (clipper) weevil
- Cabbage looper
- Cabbage seedpod weevil (adults)
- Carrot rust fly (Psila rosae)
- Carrot weevil (Listronotus oregonensis)
- Cherry maggot
- Codling moth
- Colorado potato beetle
- Corn borer
- Corn earworm
- Corn earworm (Helicoverpa zea)
- Crucifer flea beetle
- Cutworms
- Darksided cutworm
- Diamondback moth larvae
- European asparagus aphids
- European corn borer (Ostrinia nubilalis)
- Fall armyworm
- Fruit tree leafroller
- Grasshoppers
- Green peach aphid
- Imported cabbageworm
- Lygus bug
- Meadow spittle bug
- Mealy plum aphid
- Oblique banded leafroller
- Onion thrips
- Oriental fruit moth
- Pale apple leafroller
- Pea aphid
- Pea leaf weevil (Sitona lineate)
- Pear psylla (nymphs, adults)
- Plum curculio
- Potato flea beetle
- Potato leafhopper
- Prairie tent caterpillar
- Soybean aphid
- Spotted tentiform leafminer
- Sunflower beetle
- Swede midge (Contarinia nasturtii)
- Tarnished plant bug
- Tuber flea beetle
- Ugly nest caterpillar
- Corn earworm
- Western bean cutworm
- White apple leafhopper
- Winter moth
- Woolly apple aphid
HOW IT WORKS:
Fast-acting stomach and contact insecticide.

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.

WATER VOLUME:
- Ground: 40 – 80 L/ac
- Aerial: 4 – 16 L/ac

RAINFASTNESS:
1 hour

SUPPORTED TANK MIXES:
Herbicides:
- Assert®
- Everest®
- SQUADRON®
- Tralkoxydim (BISON® 400 L)

Fungicides:
- Allegro®
- Propiconazole (BUMPER® 432 EC)
- Headline® EC (azoxystrobin)
- TOPNOTCH™

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

CROP ROTATIONS:
No restrictions the year following treatment.

PRE-HARVEST INTERVALS:
- Corn (silage, field): 14 days
- Legumes (soybeans, beans, field peas, faba beans, chickpeas, lentils): 21 days
- Oilseeds: 7 days
- Potatoes: 7 days
- Sunflowers: 7 days
- Timothy: 14 days
- Wheat, Barley, Oats: 28 days
- Wheat for forage: 14 days

GRAZING RESTRICTIONS:
Do not graze livestock within 3 days of application.

STORAGE:
Store above 0 C.

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

SOMBRERO® 600 FS

This seed treatment gives you long-lasting, early season control of tough insect pests – including wireworms and flea beetles – in cereals, oilseeds, soybeans and corn.

ACTIVE INGREDIENT: Imidacloprid
CHEMISTRY GROUP: Group 4

APPLICATION RATES AND PACKAGING:
- 8 x 1.54 L

REGISTERED CROPS:
- Barley
- Canola
- Corn
- Mustard
- Oats
- Soybeans
- Wheat (durum, spring, winter)

1 Registered for use on this seed in commercial seed treatment facilities only.

KEY INSECTS CONTROLLED:
- Bean leaf beetle
- Corn flea beetle
- Flea beetle
- Seedcorn maggot
- Soybean aphid
- Wireworms

HOW IT WORKS:
SOMBRERO® 600 FS contains a proven, highly-effective seed treatment insecticide that gives you broad-spectrum control of above and below ground pests. Once treated seed is planted, the active ingredient in SOMBRERO® 600 FS is released and forms a protective barrier around the seed. As the plant grows, systemic action transports SOMBRERO® 600 FS throughout the developing stem and leaves, ensuring lasting insect control and giving the crop the defense to grow to its potential.

APPLICATION RATES:
A colourant MUST be added in accordance with the PCP Act and the Seeds Act Regulations.

<table>
<thead>
<tr>
<th>Crop</th>
<th>Insect</th>
<th>Rate</th>
<th>Application Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn, Field corn for seed production</td>
<td>Wireworms</td>
<td>21.3 ml/80,000 seeds</td>
<td>Dilute in sufficient water to achieve uniform coverage on the seed. Ensure seed is adequately coloured. Other polymers and coating materials may be required.</td>
</tr>
<tr>
<td>Field corn for seed production</td>
<td>Corn flea beetle</td>
<td>80 ml/80,000 seeds</td>
<td>Use the higher rate for early planting, when insect populations are expected to be high, and to extended control period for aphids. Dilute in sufficient liquid to achieve uniform coverage on the seed.</td>
</tr>
<tr>
<td>Wheat (durum, spring, winter), Barley, Oats</td>
<td>Wireworms</td>
<td>17 – 50 ml/100 kg seed</td>
<td>Use the higher rate for early planting, when insect populations are expected to be high, and to extended control period for aphids. Dilute in sufficient liquid to achieve uniform coverage on the seed.</td>
</tr>
<tr>
<td>Soybeans</td>
<td>Soybean aphid, Bean leaf beetle, Seedcorn maggot, Wireworm</td>
<td>104 – 208 ml/100 kg seed</td>
<td>In areas where flea beetle populations are high, use the higher application rate.</td>
</tr>
<tr>
<td>Canola/Mustard</td>
<td>Flea beetle</td>
<td>667 – 1333 ml/100 kg seed</td>
<td></td>
</tr>
</tbody>
</table>

1 Registered for use on this seed in commercial seed treatment facilities only.
WATER VOLUME:
Dilute in sufficient liquid to achieve uniform coverage on the seed.

TANK MIXES WITH FUNGICIDES:
- Allegiance®
- Apex
- Apron Maxx® RTA®
- Apron Maxx® RFC
- EverGo® Energy
- Insure® Cereal
- Insure® Pulse
- Rancona® Apex
- Raxil® T
- Raxil® MD
- Raxil® Pro
- Trilex® AL
- Vibrance® Quattro

MIXING INSTRUCTIONS:
1. Add fungicide.
2. Add coating agents.
3. Add SOMBRERO® 600 FS.

STORAGE:
- Do not store SOMBRERO® 600 FS at low temperatures.
- Prior to and during application, SOMBRERO® 600 FS must be thoroughly agitated to ensure uniform mixing of the product.
- Due to viscosity of the material, it should be kept at 10 C prior to and during application. Do not apply direct heat to container.

USE RESTRICTIONS:
1. Do not use treated seed for food, feed or oil processing.
2. Do not graze or feed livestock on treated areas for 4 weeks after planting.
3. Mustard greens grown or harvested from SOMBRERO® 600 FS treated seed can’t be used for human consumption.
4. Treated canola, rapeseed or mustard (condiment type only) seed stored for periods exceeding 6 months may decrease in germination at a faster rate than untreated seed. Treated seed stored for more than 6 months should be tested for germination before planting. Do not store treated seed above 25 C or in direct sunlight.
5. This chemical demonstrates the properties and characteristics associated with chemicals detected in ground water. Using it in areas where soils are permeable, or the water table is shallow, may result in ground water contamination.

QUICK TIPS:
For optimal insect control, make sure to get good coverage.
For resistance management, rotate SOMBRERO® 600 FS with different groups that control the same pests in a field.

Always read and follow pesticide label directions.
FUNGICIDE

BUMPER® 432 EC ........................................ 51
CUSTODIA™ ............................................. 53
FOLPAN® 80 WDG ..................................... 55
ORIUS™ 430 SC ........................................ 57
TOPNOTCH™ ........................................... 59
FUNGICIDE

BUMPER® 432 EC

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

ACTIVE INGREDIENT: Propiconazole
CHEMISTRY GROUP: Group 3

APPLICATION RATES AND PACKAGING:
- 60 ml/ac or 80 ac/4.8 L jug in wheat and barley for early season control
- 120 ml/ac or 40 ac/4.8 L jug at the full rate
- 2 x 4.8 L jugs/case

REGISTERED CROPS:
- Barley
- Canary seed
- Canola
- Corn
- Dry edible beans
- Oats
- Soybeans
- Wheat (spring, winter, durum)
- Variety of fruit and specialty crops

KEY DISEASES CONTROLLED:
- Blackleg
- Mummy berry
- Net and spot blotches
- Powdery mildew
- Rusts
- Septoria spots and blotches
- Scalds
- Tan spots

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

APPLICATION TIMING AND CROP STAGING:

<table>
<thead>
<tr>
<th>Crop</th>
<th>Diseases</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>½ rate at 60 ml/ac</td>
<td></td>
</tr>
<tr>
<td>Barley</td>
<td>Net blotch</td>
<td>Early: Growth stage 12 – 23, as early as the 2-leaf stage.</td>
</tr>
<tr>
<td>Wheat</td>
<td>Septoria leaf spot, Tan spot</td>
<td></td>
</tr>
<tr>
<td>Full rate at 120 ml/ac</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barley</td>
<td>Leaf and stem rust, Septoria leaf spot, Net blotch, Powdery mildew, Scald, Spot blotch</td>
<td>Early: Growth stage 29 – 37, usually at the beginning of stem elongation.</td>
</tr>
<tr>
<td>Oats</td>
<td>Crown rust, Septoria leaf blotch</td>
<td></td>
</tr>
<tr>
<td>Wheat</td>
<td>Leaf and stem rust, Powdery mildew, Septoria glume blotch, Septoria leaf spot, Stripe rust, Tan spot</td>
<td>Later: Growth stage 49 – 55, before head is ½ emerged.</td>
</tr>
<tr>
<td>Canary seed</td>
<td>Septoria leaf mottle</td>
<td>At emergence of the flag leaf.</td>
</tr>
<tr>
<td>Canola</td>
<td>Blackleg</td>
<td>Rosette stage, between 2nd true leaf and bolting.</td>
</tr>
<tr>
<td>Corn</td>
<td>Eye spot, Grey leaf spot, Helminthosporium leaf spot, Northern corn leaf blight, Rusts, Southern corn leaf blight</td>
<td>When disease first appears. Under severe disease pressure, make a 2nd application 14 days after the first.</td>
</tr>
<tr>
<td>Soybeans (for seed)</td>
<td>Frogeye leaf spot, Aerial web blight</td>
<td>When disease first appears. Under severe disease pressure, make a 2nd application 14 days after the first.</td>
</tr>
<tr>
<td>Dry edible beans</td>
<td>Rust</td>
<td>At the first detection of disease and a 2nd application 14 – 21 days later.</td>
</tr>
</tbody>
</table>
FRUIT AND SPECIALTY CROP USES:

<table>
<thead>
<tr>
<th>Crop</th>
<th>Diseases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cranberries</td>
<td>Cottonball (<em>Monilinia oxycocci</em>)</td>
</tr>
<tr>
<td>Kentucky bluegrass grown for seed</td>
<td>Powdery mildew</td>
</tr>
<tr>
<td>Lowbush blueberries</td>
<td><em>Monilinia</em> blight (mummy berry)</td>
</tr>
<tr>
<td>Highbush blueberries</td>
<td><em>Mummy berry</em> (<em>Monilinia vaccinii-corymbosi</em>)</td>
</tr>
<tr>
<td>Peaches, Nectarines, Plums, Apricots</td>
<td>Brown rot blossom blight, Fruit brown rot</td>
</tr>
<tr>
<td>Sweet and sour cherries</td>
<td>Brown rot blossom blight, Fruit brown rot, Cherry leaf spot (<em>Blumeriella jaapii</em>)</td>
</tr>
<tr>
<td>Plums, Sour cherries</td>
<td>Black knot (<em>Apiosporina morbosa</em>) (suppression only)</td>
</tr>
<tr>
<td>Rutabagas</td>
<td>Powdery mildew</td>
</tr>
<tr>
<td>Asparagus</td>
<td>Rust (<em>Puccinia asparagi</em>)</td>
</tr>
<tr>
<td>Saskatoon berries</td>
<td>Entomosporium leaf and berry spot, Saskatoon juniper rust</td>
</tr>
<tr>
<td>Western red cedar</td>
<td>Keithia foliar blight</td>
</tr>
</tbody>
</table>

WATER VOLUME:
- Ground: minimum 80 L/ac
- Aerial: 16 – 20 L/ac

RAINFASTNESS: 1 hour

SUPPORTED TANK MIXES:

Herbicides:
- 2,4-D amine
- 2,4-D ester
- Bromoxynil + MCPA ester (*BADGE® II*)

Insecticides:
- Lambda-cyhalothrin (*SILENCER® 120 EC*)
- Ripcord™

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 ¾ 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.

CROP ROTATIONS: No restrictions.

PRE-HARVEST INTERVALS:
- Beans: 28 days
- Canola: 60 days
- Cereal crops (wheat, barley, oats): 45 days
- Corn: 14 days
- Soybeans: 50 days

GRAZING RESTRICTIONS: Do not graze livestock within 3 days of spraying.

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.

Always read and follow pesticide label directions.
CUSTODIA™

A multi-mode of action fungicide offering preventative and curative protection of the flag leaf against all major leaf diseases in wheat and barley.

ACTIVE INGREDIENTS:
Tebuconazole and azoxystrobin

CHEMISTRY GROUPS:
Group 3 and Group 11

APPLICATION RATES AND PACKAGING:
- Wheat: 0.19 L/ac – 0.25 L/ac
- Packaging: 2 x 10.08 L case

REGISTERED CROPS:
- Wheat (spring, winter, durum)  
  - Barley

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.

CROP STAGING:

<table>
<thead>
<tr>
<th>Crop</th>
<th>Diseases</th>
<th>Application Timing</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat (spring, winter, durum)</td>
<td>Leaf rust, Stem rust, Stripe rust, Septoria leaf blotch, Tan spot</td>
<td>Apply CUSTODIA™ to leaf foliage at the first sign or very early stage of disease, up to the beginning of heading. Use of the higher rate should be considered when weather conditions are conducive to heavy disease development.</td>
<td>0.19 L/ac – 0.25 L/ac</td>
</tr>
<tr>
<td>Barley</td>
<td>Net blotch, Spot blotch, Leaf rust, Stem rust, Stripe rust, Septoria leaf blotch, Tan spot</td>
<td>Apply CUSTODIA™ to leaf foliage at the first sign or very early stage of disease, up to the beginning of heading. Use of the higher rate should be considered when weather conditions are conducive to heavy disease development.</td>
<td>0.19 L/ac – 0.25 L/ac</td>
</tr>
</tbody>
</table>
WATER VOLUME:
- Ground: 40 L/ac or 10 gal/ac
- Aerial: 20 L/ac or 5 gal/ac

RAINFASTNESS:
Avoid application when heavy rain is forecast.

MIXING INSTRUCTIONS:
1. For ground application use 40 L/ac, for aerial use 20 L/ac.
2. Use a 50-mesh (or coarser) filter screen.
3. Fill the spray tank ¾ full with water.
4. Add the required amount of CUSTODIA™ Foliar Fungicide into the sprayer.
5. Agitate until the fungicide is thoroughly mixed.
6. Continue agitation and add the required amount of the tank-mix partner.
7. Complete filling the tank to the desired level with water.
8. 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.
9. Repeat sprayer cleanout process using an appropriate spray system cleaner.

CROP ROTATIONS:
No restrictions.

PRE-HARVEST INTERVALS:
- Mature grains: 36 days
- Forage, hay: 6 days

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:
- Store above 5 C 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 from freezing.

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 ORIUS™ 430 SC 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.
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: Folpet
CHEMISTRY GROUP: Group M

APPLICATION RATES AND PACKAGING:
- 0.5 – 2 kg/ac
- 0.5 kg/ac – 20 ac/pack
- 2 kg/ac – 5 ac/pack
- 10 kg pack

REGISTERED CROPS:
- Apples
- Azalea
- Carnation
- Chrysanthemum
- Crabapples
- Field cucumbers
- Field tomatoes
- Grapes
- Iris
- Marigold
- Melons
- Poinsettia
- 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
- Gray mold
- 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.

APPLICATION TIMING AND CROP STAGING:

<table>
<thead>
<tr>
<th>Crop</th>
<th>Diseases</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apples, Crabapples</td>
<td>Alternaria leaf spot, Black rot, Brooks spot, Fly-speck, Scab, Sooty blotch</td>
<td>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.</td>
</tr>
<tr>
<td>Cranberries</td>
<td>Fruit rot</td>
<td>Apply when 5% of blossoms are open. Repeat 10 – 14 days later when 50 – 75% of blossoms are open.</td>
</tr>
<tr>
<td>Grapes</td>
<td>Dead arm</td>
<td>Apply when new shoots are 1 – 2 inches long and repeat when growth is 4 – 6 inches long.</td>
</tr>
<tr>
<td>Black rot, Downy mildew</td>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>Powdery mildew</td>
<td></td>
<td>Apply in a tank mix with Kumulus® DF at first sign of mildew and repeat after 10 days.</td>
</tr>
</tbody>
</table>
APPLICATION TIMING AND CROP STAGING (continued):

<table>
<thead>
<tr>
<th>Crop</th>
<th>Diseases</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field cucumbers, Melons, Pumpkins, Squash</td>
<td>Anthracnose, Downy mildew</td>
<td>Apply when first true leaves appear. Repeat at 7-day intervals until crop is harvested.</td>
</tr>
<tr>
<td>Field tomatoes</td>
<td>Anthracnose</td>
<td>Apply during first bloom and repeat at 7-day intervals until harvest.</td>
</tr>
<tr>
<td>Strawberries</td>
<td>Gray mold, Fruit rot, Leaf spot</td>
<td>Apply before first infection and repeat at 7-day intervals to protect crop until harvest.</td>
</tr>
<tr>
<td>Carnation, Poinsettia, Azalea, Marigold, Zinnia, Chrysanthemum, Iris, Snapdragon</td>
<td>Blight, Phythium root rot, Stem rot, Alternaria leaf spot, Septoria leaf spot, Didymellina leaf spot, Anthracnose (depending on ornamental)</td>
<td>Generally, apply when ornamental emerges and repeat at regular intervals. Consult label for timing on specific disease and ornamental.</td>
</tr>
</tbody>
</table>

WATER VOLUME:
Ground application only: 400 – 1200 L/ac

RAINFASTNESS:
No restrictions.

SUPPORTED TANK MIXES:
- Most commonly used insecticides, adjuvants and fungicides.
  Check compatibilities before making tank mixes.
- Fungicidal activity is reduced if combined with strongly alkaline materials such as hydrated lime.
- Do not use in combination with or closely following an oil spray.

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

CROP ROTATIONS:
No restrictions.

GRAZING RESTRICTIONS:
No restrictions.

STORAGE:
No restrictions.

PRE-HARVEST INTERVALS:
- Cranberries: 30 days
- Field cucumbers: 1 day
- Field tomatoes: 1 day
- Grapes: 1 day
- Melons: 1 day
- Pumpkins: 1 day
- Squash: 1 day
- Strawberries: 1 day

QUICK TIPS:
FOLPAN® 80 WDG can be combined with most commonly used insecticides, adjuvants and fungicides. Check compatibility before tank mixing.

Always read and follow pesticide label directions.
**FUNGICIDE**

**ORIUS™ 430 SC**

Your tool of choice. ORIUS™ 430 SC is a new fungicide offering 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  
**CHEMISTRY GROUP:** Group 3

**APPLICATION RATES AND PACKAGING:**
- Wheat: 89 ml/ac – 118 ml/ac
- Barley: 89 ml/ac – 118 ml/ac
- Oats: 89 ml/ac
- Packaging: 2 x 9.44 L case

**REGISTERED CROPS:**
- Wheat (spring, winter, durum)  
- Barley  
- Oats

**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, durum), barley and oats for the suppression of fusarium head blight and control of foliar diseases.

**CROP STAGING:**

<table>
<thead>
<tr>
<th>Crop</th>
<th>Diseases</th>
<th>Application Timing</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat (spring, winter, durum)</td>
<td>For suppression of Fusarium head blight, for control of Septoria glume blotch</td>
<td>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. <strong>Spray coverage is essential:</strong> Ensure thorough coverage of all wheat heads.</td>
<td>118 ml/ac</td>
</tr>
<tr>
<td>Rusts (leaf, stem, stripe), Septoria (leaf blotch), Tan spot</td>
<td>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. Considered using the higher rate when weather conditions are conducive to heavy disease development.</td>
<td>89 – 118 ml/ac</td>
<td></td>
</tr>
<tr>
<td>Powdery mildew</td>
<td></td>
<td></td>
<td>118 ml/ac</td>
</tr>
<tr>
<td>Barley</td>
<td>Net blotch, Spot blotch, Scald, Rusts (leaf, stem and stripe), Septoria leaf blotch, Powdery mildew</td>
<td>Apply ORIUS™ 430 SC Foliar Fungicide at the very early stages of disease development. Considered using the higher rate when weather conditions are conducive to heavy disease development.</td>
<td>89 – 118 ml/ac</td>
</tr>
<tr>
<td>Oats</td>
<td>Stem rust</td>
<td>Apply ORIUS™ 430 SC Foliar Fungicide at the very early stages of disease development.</td>
<td>89 ml/ac</td>
</tr>
</tbody>
</table>
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 Foliar Fungicide is recommended to be used with a registered non-ionic surfactant, such as Agral® 90 or Ag-Surf®, at 0.125% v/v.

WATER VOLUME:
- Ground: minimum 40 L/ac or 10 gal/ac
- Aerial: minimum 20 L/ac or 5 gal/ac

RAINFASTNESS:
Avoid application when heavy rain is forecast.

SUPPORTED TANK MIXES
ORIUS™ 430 SC Foliar Fungicide is recommended to be used with a registered non-ionic surfactant, such as Agral® 90 or Ag-Surf®, at 0.125% v/v.

MIXING INSTRUCTIONS:
1. Use 40 L/ac of water for ground applications and 20 L/ac of water if an aerial application.
2. Use a 50-mesh (or coarser) filter screen.
3. Fill the spray tank ¾ full with water.
4. Add the required amount of ORIUS™ 430 SC Foliar Fungicide into the sprayer.
5. Agitate until the fungicide is thoroughly mixed.
6. Continue agitation and add the required amount of the tank-mix partner.
7. Continue agitation while adding the required amount of recommended non-ionic surfactant at 0.125% v/v.
8. Complete filling the tank to the desired level with water.
9. 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.
10. Repeat sprayer cleanout process using an appropriate spray system cleaner.

CROP ROTATIONS:
No restrictions.

PRE-HARVEST INTERVALS:
Wheat, barley, oats: Applications may not be made within 36 days of harvest.

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:
- Store above 5 C 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 from freezing.

Always read and follow pesticide label directions.
TOPNOTCH™

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

ACTIVE INGREDIENTS:
Azoxystrobin and propiconazole

CHEMISTRY GROUPS:
Group 3 (propiconazole) and Group 11 (azoxystrobin)

APPLICATION RATES AND PACKAGING:
· 2 x 8.6 L jugs/case

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

1 Suppression only.

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

APPLICATION TIMING AND CROP STAGING:

<table>
<thead>
<tr>
<th>Crop</th>
<th>Diseases</th>
<th>Application Timing</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barley</td>
<td>Barley net blotch, Barley scald, Septoria leaf spot, Stripe rust, Barley leaf rust, Tan spot</td>
<td>Apply once between stem elongation and half-head emergence (Growth stage 29–55).</td>
<td>0.21 L/ac</td>
</tr>
<tr>
<td>Beans, Field peas, Lentils, Soybeans</td>
<td>Mycosphaerella blight, Anthracnose</td>
<td>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.</td>
<td>0.31–0.62 L/ac</td>
</tr>
<tr>
<td></td>
<td>Powdery mildew, White mould (suppression only)</td>
<td></td>
<td>0.31 L/ac</td>
</tr>
<tr>
<td>Oats</td>
<td>Barley net blotch, Crown rust, Septoria leaf spot</td>
<td>Apply once between stem elongation and half-head emergence (Growth stage 29–55).</td>
<td>0.21 L/ac</td>
</tr>
</tbody>
</table>
### Crop Diseases Application Timing Rate

<table>
<thead>
<tr>
<th>Crop</th>
<th>Diseases</th>
<th>Application Timing</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rye</td>
<td>Septoria leaf spot, Barley scald, Tan spot</td>
<td>Apply once between stem elongation and half-head emergence (Growth stage 29 – 55).</td>
<td>0.21 L/ac</td>
</tr>
<tr>
<td>Triticale</td>
<td>Septoria leaf spot, Tan spot</td>
<td>Apply once between stem elongation and half-head emergence (Growth stage 29 – 55).</td>
<td>0.21 L/ac</td>
</tr>
<tr>
<td>Wheat</td>
<td>Septoria leaf spot, Tan spot, Stripe rust, Wheat leaf rust</td>
<td>Apply once between stem elongation and half-head emergence (Growth stage 29 – 55).</td>
<td>0.21 L/ac</td>
</tr>
<tr>
<td>Durum wheat</td>
<td>Septoria leaf spot, Tan spot, Stripe rust</td>
<td>Apply once between stem elongation and half-head emergence (growth stage 29 – 55)</td>
<td>0.21 L/ac</td>
</tr>
</tbody>
</table>

**WATER VOLUME:**
- Ground: minimum 100 L/ha or 40 L/ac
- Aerial: 45 L/ha or 20 L/ac

**RAINFASTNESS:**
- Do not apply when rain is imminent.
- Leaf coverage and penetration is critical for use.

**MIXING INSTRUCTIONS:**
1. Fill spray tank ½ – 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.

**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:**
- Cereals: 45 days
- Field peas, Beans, Soybeans: 15 days
- Lentils: 30 days

**GRAZING RESTRICTIONS:**
No restrictions.

**STORAGE:**
Do not store below 0°C.

**QUICK TIPS:**
Good spray coverage and canopy penetration are important to achieve the best results.

⚠️ Always read and follow pesticide label directions.
TANK-MIXING INSTRUCTIONS

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

| W | Wettable powders, dispersible granules, soluble granules (WG, DF, SG, WP, SP) |
| A | Agitate tank mix thoroughly |
| M | Micro-encapsulated suspensions (ME) |
| L | Liquid flowables and suspensions (SC, SL, SN, LI, SU, SE) |
| E | Emulsifiable concentrate formulations (EC) |

Fill spray tank nearly full with water.

| G | Glyphosate formulations |
| S | Surfactants |

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 **W.A.M.L.E.G.S 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.
<table>
<thead>
<tr>
<th>Metric Unit</th>
<th>Multiply by</th>
<th>Imperial Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>LINEAR centimetre (cm)</td>
<td>x 2.54</td>
<td>inch</td>
</tr>
<tr>
<td>AREA square metre (m²)</td>
<td>x 0.39</td>
<td>square yard</td>
</tr>
<tr>
<td></td>
<td>x 1.2</td>
<td>acres</td>
</tr>
<tr>
<td></td>
<td>x 2.5</td>
<td>hectares</td>
</tr>
<tr>
<td>VOLUME litre (L)</td>
<td>x 0.22</td>
<td>Imperial gallon</td>
</tr>
<tr>
<td></td>
<td>x 0.27</td>
<td>U.S. gallon</td>
</tr>
<tr>
<td>PRESSURE kilopascals (kPa)</td>
<td>x 0.14</td>
<td>psi</td>
</tr>
<tr>
<td></td>
<td>x 26.56</td>
<td>oz</td>
</tr>
<tr>
<td></td>
<td>x 2.20</td>
<td>lb</td>
</tr>
<tr>
<td>WEIGHT gram (g)</td>
<td>x 0.04</td>
<td>oz</td>
</tr>
<tr>
<td></td>
<td>x 2.20</td>
<td>lb</td>
</tr>
<tr>
<td>AGRICULTURAL litres per hectare (L/ha)</td>
<td>x 0.09</td>
<td>Imperial gallons per acre</td>
</tr>
<tr>
<td></td>
<td>x 0.11</td>
<td>U.S. gallons per acre</td>
</tr>
<tr>
<td></td>
<td>x 0.36</td>
<td>quarts per acre</td>
</tr>
<tr>
<td></td>
<td>x 0.71</td>
<td>pints per acre</td>
</tr>
<tr>
<td></td>
<td>x 1.41</td>
<td>Imperial fl. oz per acre</td>
</tr>
<tr>
<td></td>
<td>x 70.17</td>
<td>U.S. fl. oz per acre</td>
</tr>
<tr>
<td></td>
<td>x 73.05</td>
<td>lb per acre</td>
</tr>
<tr>
<td></td>
<td>x 0.014</td>
<td>oz per acre</td>
</tr>
</tbody>
</table>

EXAMPLE: To convert centimetres to inches, multiply by 0.39; conversely, to convert inches to centimetres, multiply by 2.54.
## PHENOXY USE RATES

<table>
<thead>
<tr>
<th>Active Ounces per Acre</th>
<th>Formulation (ml per acre)</th>
<th>Acres Treated per 10 L jug</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>300 400 500 600 700</td>
<td>300 400 500 600 700</td>
</tr>
<tr>
<td>1</td>
<td>94 70 57 47 41 107 142</td>
<td>107 177 212 247</td>
</tr>
<tr>
<td>2</td>
<td>187 140 113 94 81 53 71</td>
<td>142 177 212 247</td>
</tr>
<tr>
<td>3</td>
<td>281 211 170 121 162 36</td>
<td>211 177 212 247</td>
</tr>
<tr>
<td>4</td>
<td>374 281 227 189 142 36</td>
<td>281 211 170 121 162 36</td>
</tr>
<tr>
<td>5</td>
<td>468 351 283 236 202 21</td>
<td>351 283 236 202 21</td>
</tr>
<tr>
<td>6</td>
<td>562 421 340 283 243 18</td>
<td>421 340 283 243 18</td>
</tr>
<tr>
<td>7</td>
<td>655 491 397 331 283 15</td>
<td>491 397 331 283 15</td>
</tr>
<tr>
<td>8</td>
<td>749 562 453 378 324 13</td>
<td>562 453 378 324 13</td>
</tr>
<tr>
<td>9</td>
<td>842 632 425 364 305 11</td>
<td>632 425 364 305 11</td>
</tr>
<tr>
<td>10</td>
<td>936 702 572 472 405 11</td>
<td>702 572 472 405 11</td>
</tr>
</tbody>
</table>

Recommended rates have been rounded to whole numbers.
CONTACT INFO

PROSAR (U.S. & Canada):
1.800.331.3148

INFOTRAC: 1.800.535.5053

PROVINCIAL AG OFFICES:

Agriculture and Agri-Food Canada
1541 Baseline Road
Ottawa, ON K1A 0C5
Toll-free: 1.855.773.0241
Email: info@agr.gc.ca
agr.gc.ca

Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA)
1 Stone Road West
Guelph, ON N1G 4Y2
Phone: 519.826.3100
Toll-free in Ontario: 1.888.466.2372
Email: ag.info.omafra@ontario.ca
omafra.gov.on.ca

Nova Scotia Department of Agriculture
6th Floor (Suite 605), WTCC
Halifax, NS B3J 3N8
Phone: 902.424.4560
Toll-free: 1.800.279.0825
novascotia.ca/agri

New Brunswick Agriculture, Aquaculture and Fisheries
Agricultural Research Station
(Experimental Farm)
P.O. Box 6000
Fredericton, NB E3B 5H1
Phone: 506.453.2666
Email: DAAF-MAAP@gnb.ca
gnb.ca/AgricultureAquaculture Fisheries

Prince Edward Island Department of Agriculture and Fisheries
5th Floor, Jones Building
11 Kent Street
P.O. Box 2000
Charlottetown, PEI C1A 7N8
Phone: 902.368.4880
Email: peiextension@gov.pe.ca
gov.pe.ca/agriculture

ASSOCIATIONS AND COUNCILS:

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Email: gfpotato@potatoesnb.com
potatoesnb.com

Prince Edward Island Potato Board
West Royalty Business Park
90 Hillstrom Avenue
Charlottetown, PE C1E 2C6
Phone: 902.892.6551
Email: potato@pei potato.org
pei potato.org

Soy Canada
130 Albert Street, Suite 1607
Ottawa, ON K1P 5G4
Phone: 613.233.0500
Email: info@soycanada.ca
soycanada.ca

Grain Growers of Canada
350 Sparks Street, Suite 912
Ottawa, ON K1R 7S8
Phone: 613.233.9954
Email: president@ggc-pgc.ca
ggc-pgc.ca

Grain Farmers of Ontario
679 Southgate Drive
Guelph, ON N1G 4S2
Phone: 519.767.6537
Toll-free: 1.800.265.0550
Email: info@gfo.ca
gfo.ca

Atlantic Grains Council
381 Killam Drive
Moncton, NB E1C 3T1
Phone: 506.381.5404
Email: info@atlanticgrainscouncil.ca
atlanticgrainscouncil.ca
Cereals Canada  
604-167 Lombard Avenue  
Winnipeg, MB  R3B 0V3  
Phone: 204.942.2166  
Email: info@cerealscanada.ca  
cerealscanada.ca  

Ontario Bean Growers  
302-660 Speedvale Avenue West  
Guelph, ON  N1K 1E5  
Phone: 519.803.9847  
ontariobeans.on.ca  

Canadian Special Crops Association  
1215-200 Portage Avenue  
Winnipeg, MB  R3C 0A5  
Phone: 204.925.3780  
specialcrops.mb.ca  

Pulse Canada  
1212-220 Portage Avenue  
Winnipeg, MB  R3C 0A5  
Phone: 204.925.4455  
Email: office@pulsecanada.com  
pulsecanada.com  

Ontario Fruit and Vegetable Growers’ Association  
105-355 Elmira Road North  
Guelph, ON  N1K 1S5  
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