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IMPORTANT NOTICE: This information is provided for reference only and does not supply sufficient information for application. Always read and follow label directions.
## FRUIT GROWER PRODUCT GUIDE

### INSECTICIDES
- Closer™ insecticide
- Delegate™ insecticide
- Entrzymać™ insecticide
- GF-120™ Fruit Fly Bait
- Intrepid™ insecticide
- Lomate™ insecticide
- Lorsban™ 50W insecticide
- Lorsban™ NT insecticide
- Success™ insecticide
- TwinGuard™ insecticide
- Vydate™ insecticide

### FUNGICIDES
- Dithane™ Rainshield™ fungicide
- Fontelis™ fungicide
- Indar™ fungicide
- Nova™ fungicide
- Quintec™ fungicide
- Tanos™ fungicide

### HERBICIDES
- Goal™ 2XL herbicide
- Kerb® SC herbicide
- Lontrel® 360/Lontrel® XC herbicide
- Primg® SG herbicide
- VP480 herbicide

*Non-bearing trees. Always read the label for rates, instructions and precautions. Please call the Solutions Center at 1-800-667-3852 or visit corteva.ca for more information.
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<td>Lettuce - head and leaf</td>
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<td>Onion - green</td>
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<td>Onion - dry bulb</td>
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<td>Parsley</td>
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<td>Pea/Bean (field and canning)</td>
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<td>Pepper - green</td>
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<td>Potatoes</td>
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<td>Pumpkin</td>
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<td>Radish</td>
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<td>Rutabaga</td>
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<td>Shallots - dry bulb</td>
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<td>Sweet potato</td>
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<td>Swiss chard</td>
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<td>Tomato - greenhouse</td>
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<td>Turnip</td>
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Always read the label for rates, instructions and precautions. Please call the Solutions Center at 1-800-667-3852 or visit corteva.ca for more information.
INSECTICIDES
**SUPER FAST APHID KNOCKDOWN.**

For control of aphids and scale insects in vegetable, fruit and field crops. Isoclast™ active, discovered by and proprietary to Corteva Agriscience™, Agriculture Division of Dow DuPont, is a member of a new chemical class of insecticides, the sulfoximines. Isoclast is being globally developed for use in all major crop groups, including apples, stone fruit, cereals, leafy vegetables, cole crops, grapes and many other crops. Closer™ insecticide controls economically important and difficult-to-control sap-feeding insects.

**TARGET PESTS**
- Aphids
- Leafhoppers
- Mullein bug
- San Jose scale
- Woolly apple aphid

**CROPS**
- Corn (field, sweet, seed and popping)
- Brassica (cole) leafy vegetables
- Grape
- Leafy vegetables
- Pome fruits
- Root and tuber vegetables
- Stone fruits
- Tree nuts

**FORMULATION AND PACKAGING**
- Suspension concentrate
- 12 x 1 L jugs
<table>
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<th>Crop</th>
<th>Pests</th>
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</table>
| Brassica (cole) leafy vegetables                                     | Aphids                          | 100-150 mL/ha | • Do not make more than 2 applications per crop. Do not apply more than 300 mL/ha per season.  
• Do not apply during flowering.                                      |
| Leafy vegetables                                                    |                                 |            |                                                                                                                                                                                                           |
| Sorghum and Corn (field, sweet, seed and popping)                   | Aphids                          | 75-150 mL/ha | • Do not make more than 2 applications per growing season.  
• Do not apply this product during crop flowering period or when flowering weeds are present in the treatment area.                               |
| Grape                                                               | Leafhoppers (suppression)        | 200-400 mL/ha | • Do not make more than 2 applications per crop. Do not apply more than 800 mL/ha per season.  
• Do not apply during flowering.                                      |
| Pome fruits                                                         | Aphids – Apple aphid, Rosy apple aphid, Spirea aphid | 100-200 mL/ha | • Do not make more than 2 applications per crop. Do not apply more than 800 mL/ha per crop.  
• Do not apply during flowering.                                      |
|                                                                      | Mullen bug (campyloamma verbasci) | 400 mL/ha   |                                                                                                                                                                                                           |
|                                                                      | San Jose scale                   | 200-400 mL/ha |                                                                                                                                                                                                           |
|                                                                      | Woolly apple aphid              | 400 mL/ha   | • Make two applications of Closer 14 days apart at a rate of 400 mL/ha and in combination with an adjuvant.  
• An adjuvant must be added if pest pressure is high. For applications at or before green tip stage, add dormant oil containing mineral oil at a rate of 90 L/ha. For applications made after green tip stage, add methylated seed oil (MSO) or other horticulture oil at 0.2 % v/v. Follow mixing instructions as directed on the adjuvant label. |
| Root and tuber vegetables                                           | Aphids                          | 50-150 mL/ha | • Do not make more than 2 applications per crop. Do not apply more than 300 mL/ha per season.  
• Do not apply during flowering, except for potato where applications during crop flowering are allowed. |
|                                                                      | Leafhoppers                      | 300 mL/ha   |                                                                                                                                                                                                           |
| Stone fruits                                                        | Aphids – Green peach aphid, Mealy plum aphid, Black cherry aphid | 100-200 mL/ha | • Do not make more than 2 applications per crop. Do not apply more than 800 mL/ha per season.  
• Do not apply during flowering.                                      |
|                                                                      | San Jose scale                   | 200-400 mL/ha |                                                                                                                                                                                                           |
| Tree nuts                                                           | Aphids                          | 100-200 mL/ha | • Do not make more than 2 applications per crop. Do not apply more than 800 mL/ha per season.  
• Do not apply during flowering.                                      |
|                                                                      | San Jose scale                   | 200-400 mL/ha |                                                                                                                                                                                                           |
Rapid cessation of feeding by green peach aphid

![Bar chart showing percentage reduction in honeydew production over time for Closer™ insecticide, Movento®, and Beleaf®.](image)

% reduction in honeydew produced compared with untreated

- 100 –
- 80 –
- 60 –
- 40 –
- 20 –
- 0 –

2 Hours | 4 Hours | 24 Hours

- Closer™ insecticide
- Movento®
- Beleaf®

Source: Corteva Agriscience trials.

Nothing works faster
When an aphid outbreak occurs, it’s critical to knock them down fast – before they can transmit viruses that will damage both quality and yield.

In lab studies evaluating the cessation of honeydew production, within two hours of treatment, the Closer™ insecticide treatments resulted in 97 percent less honeydew compared to a non-treated check. Within four hours, there was 99 percent less honeydew production. By 24 hours all honeydew production had ceased. This means that aphids stop feeding quickly, minimizing virus transmission and maximizing yield and quality.

Add Closer to integrated pest management programs
Isoclast™ active is a Class 4C insecticide and is effective on insect populations resistant to other insecticide classes such as neonicotinoids, organophosphates and pyrethroids and will be a valuable rotational partner with other chemistries.

Closer exhibits complex and unique interactions with important receptors in the insect’s central nervous system different from those observed with neonicotinoids.

It exhibits no cross-resistance in insects that are resistant to neonicotinoids, a tremendous advantage for managing resistant populations.
Tank mixes
• No registered tank mixes.
• In some cases, tank mixing a pest control product with another pest control product or a fertilizer can result in biological effects that could include, but are not limited to, reduced pest efficacy or increased host crop injury. The user should contact Corteva Agriscience™ at 1-800-667-3852 or corteva.ca for information before mixing any pesticide or fertilizer that is not specifically recommended on the label. The user assumes the risk of losses that result from the use of tank mixes that do not appear on this label or that are not specifically recommended by Corteva Agriscience.

Mixing instructions
• Fill the spray tank with water to about 1/2 of the required spray volume.
• Start agitation and add the required amount of Closer™ insecticide.
• Continue agitation while mixing and filling the spray tank to the required spray volume.
• Maintain sufficient agitation during application to ensure uniformity of the spray mix.
• Do not allow water or spray mixture to back-siphon into the water source.

Optimizing performance
• DO NOT apply during periods of dead calm. Avoid application of this product when winds are gusty.
• Boom height must be 60 cm or less above the crop or ground.
• Apply in sufficient spray solution to ensure thorough coverage of plant foliage.
• Use a minimum of 100 L of water per hectare for field sprayer applications.
• Use a minimum of 500 L of water per hectare for airblast applications.
• Aerial application – See label for specific recommendations.

Crop rotation
• A period of 30 days must elapse between the treatment of primary crops and the planting of secondary crops not on the label.

Pre-harvest interval
• Brassica (cole) leafy vegetables, leafy vegetables – Do not apply within three days of harvest.
• Grape – Do not apply within seven days of harvest.
• Pome fruits, stone fruits, corn – Do not apply within seven days of harvest.
• Root and tuber vegetables – Do not apply within seven days of harvest.
• Tree nuts – Do not apply within seven days of harvest.

Precautions
• Do not make applications less than seven days apart.
• DO NOT apply this product during crop flowering period or when flowering weeds are present in the treatment area (except for potatoes where applications during crop flowering period are allowed).
• Re-entry interval (REI) is 12 hours or until sprays have dried.
• No buffer zones are required.
Delegate™ insecticide is a proven fruit and vegetable insecticide from the spinosyn chemistry class that provides long-lasting control of a broad spectrum of insect pests. Insects are controlled two ways – by contact and ingestion – for quick knockdown and residual activity. Delegate also possesses translaminar ability, giving extra protection against insects that feed from the underside of leaves, and increased resistance to washoff by rain.

Delegate™ insecticide is registered for aerial application in potatoes and corn (field, sweet, seed and popping).

THE BEST INSECT CONTROL IN FRUIT AND VEGETABLE CROPS.

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<th>Rate</th>
<th>Guidelines</th>
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</table>
| Pome fruit           | Codling moth, oriental fruit moth          | 420 g/ha | • For the control of each generation, apply at first egg hatch based on pheromone trap catches and degree–days after biofix dates. These pests must be controlled before the larvae penetrate the fruit so early timing is critical.  
• Repeat at 14–day intervals to maintain control depending on pest pressure. |
|                      | Oblique–banded leafroller, Threeline leafroller | 210–420 g/ha | • Overwintering (spring) generation control – Apply when larvae have emerged and are actively feeding, but before they roll up in the leaves. Under high insect pressure, an application timed to target the overwintering generation is recommended to reduce summer populations.  
• Summer generation control – Apply at first egg hatch as determined by monitoring adult moth flights.  
• Repeat in 14 days if monitoring of populations indicates a second application is required. Use the higher rate under high pest pressure. |
|                      | European leafroller, fruittree leafroller  | 210–420 g/ha | • Monitor egg masses to determine the time of hatching. Apply at egg hatch.  
• Repeat in 14 days if monitoring of populations indicates a second application is required. Use the higher rate under high pest pressure. |
|                      | Eye-spotted bud moth                       | 210–420 g/ha | • Apply after the insect begins to feed actively at the green tip to calyx stage.  
• An application timed to target the spring generation is recommended to reduce summer populations.  
• For the control of the summer generation of bud moth, apply at first egg hatch as determined by monitoring.  
• Repeat in 14 days if populations warrant. |
|                      | Spotted tentiform leafminer, Western tentiform leafminer | 210–420 g/ha | • Apply at egg hatch as determined by monitoring. Target the sap–feeding stage. Use the higher rate under high pest pressure. |
|                      | Apple maggot (suppression)                | 420 g/ha | • Apply 7 to 10 days after trap capture of the first apple maggot fly.  
• Repeat in 14 days if populations warrant. |
|                      | Plum curculio (suppression)               | 420 g/ha | • Monitor trees along the edge of the orchard or adjacent wild trees for the first sign of feeding damage after bloom.  
• Repeat in 14 days if populations warrant. |
|                      | Dogwood borer (control), Apple clearwing moth (suppression) | 420 g/ha | • Direct spray to cover the lower trunk of the tree, particularly the graft union and any pruning cuts. Thorough coverage is essential.  
• Apply 1 to 2 applications at a 14–day interval targeting the first instar larvae stage (in–season/summer). |
|                      | European apple sawfly                     | 420 g/ha | • Apply as a foliar spray pre–bloom and/or post–bloom when thresholds have been reached.  
• Apply a maximum of three applications at 14– to 21–day intervals. |
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<th>Crop</th>
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<tr>
<td>Stone fruit</td>
<td>Cherry fruit fly (suppression)</td>
<td>420 g/ha</td>
<td><strong>• Apply within 5 days of first fly capture as determined by monitoring.</strong></td>
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</table>
|                               | Oriental fruit moth                        | 420 g/ha              | **• Apply at first egg hatch of each generation based on pheromone trap catches and degree-days.**  
|                               |                                            |                       | **• Repeat at 14-day intervals if required.**                                    |
|                               | Oblique-banded leafroller, Three-lined leafroller | 210–420 g/ha        | **• Apply at first egg hatch as determined by monitoring.**                 |
|                               |                                            |                       | **• Repeat in 14 days if monitoring of populations indicate a second application is required. Use the higher rate for high pest pressure.** |
|                               | Spotted wing drosophila                    | 420 g/ha              | **• Apply based on the presence of adult pests (flies) as determined by local monitoring in a minimum of 1,000 L of water per hectare.** |
| Fruiting vegetables           | Cabbage looper                             | 140–200 g/ha          | **• Time the application to coincide with peak egg hatch. Repeat applications based on population monitoring. Use the higher rate for heavy infestations or advanced growth stages of the target pest.** |
| Greenhouse cucumber, greenhouse fruiting vegetables | Cabbage looper, European corn borer (control), Western flower thrips (suppression) | 92–132 g/1,000 L of water | **• Apply when cabbage looper or European corn borer eggs hatch and first instar larvae are present.**  
|                               |                                            |                       | **• Apply when western flower thrips first appear.**                           |
|                               |                                            |                       | **• Do not apply by a fogger or mister.**                                    |
|                               |                                            |                       | **• A repeat application may be required if the pest pressure is high.**      |
| Greenhouse lettuce            | Cabbage looper                             | 92–132 g/1,000 L of water | **• Apply when cabbage looper eggs hatch and first instar larvae are present.**  
<p>|                               |                                            |                       | <strong>• Do not apply by a fogger or mister.</strong>                                    |
|                               |                                            |                       | <strong>• A repeat application may be required if the pest pressure is high.</strong>      |
| Caneberries                   | Oblique-banded leafroller                  | 100–200 g/ha          | <strong>• Apply at egg hatch or to small larvae. Use the higher rate for high populations and/or larger larvae. Reapply if populations warrant.</strong> |
| Caneberry subgroup (Crop group 13–07A) | Spotted wing drosophila                   | 315–420 g/ha          | <strong>• Apply based on the presence of adult pests (flies) as determined by local monitoring.</strong> |
| Asparagus                     | Asparagus beetle (suppression)             | 140–280 g/ha          | <strong>• Make applications to the asparagus ferns only. Application timing is at egg hatch or to small larvae.</strong> |
| Bushberries                   | Blueberry spanworm (suppression)           | 100–200 g/ha          | <strong>• Monitor insect populations to determine application timing.</strong>            |
|                               | Oblique-banded leafroller, Winter moth (highbush blueberry only) | 100–200 g/ha          | <strong>• Apply at egg hatch or to small larvae. Use the higher rate for high populations and/or larger larvae. Reapply if populations warrant.</strong> |
|                               | Blueberry flea beetle                      | 200 g/ha              | <strong>• Begin application when flea beetles are in the early larval stage.</strong>    |
|                               |                                            |                       | <strong>• Monitor insect populations to determine if an additional application is required.</strong> |</p>
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<tr>
<td>Bushberry subgroup (Crop group 13-07B)</td>
<td>Spotted wing drosophila</td>
<td>315-420 g/ha</td>
<td>• Apply based on the presence of adult pests (flies) as determined by local monitoring.</td>
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<tr>
<td>Lowbush cranberry</td>
<td>Blackheaded fireworm, Sparganothis fruitworm</td>
<td>420 g/ha</td>
<td>• Target eggs at hatch or small larvae. • Monitoring is critical for proper timing of application. Repeat applications as determined by further monitoring of pest pressure.</td>
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<td></td>
<td>Cranberry tipworm (suppression)</td>
<td>420 g/ha</td>
<td>• For application by chemigation, please see label.</td>
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<tr>
<td>Low-growing berry subgroup (Crop group 13-07G)</td>
<td>Spotted wing drosophila</td>
<td>280 g/ha</td>
<td>• Apply based on the presence of adult pests (flies) as determined by local monitoring.</td>
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<tr>
<td>Bulb vegetables (Crop group 3)</td>
<td>Onion thrips (suppression)</td>
<td>200-336 g/ha</td>
<td>• Apply when onion thrips first appear targeting eggs at hatch and small nymphs.</td>
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<td>Leek moth (suppression)</td>
<td>200-336 g/ha</td>
<td>• Apply 1 week after peak pheromone trap capture targeting eggs at hatch or small larvae.</td>
</tr>
<tr>
<td>Leafy vegetables (Crop group 4-13)</td>
<td>Diamondback moth, Cabbage looper, Imported cabbageworm</td>
<td>140-200 g/ha</td>
<td>• Apply when pests appear, targeting eggs at hatch or small larvae. Heavy infestations may require repeat applications. Use the higher rate for high infestations or advanced growth stages of the target pests.</td>
</tr>
<tr>
<td></td>
<td>Onion thrips (suppression)</td>
<td>200-336 g/ha</td>
<td>• Apply when pests appear, targeting eggs at hatch and small nymphs. Heavy infestations may require repeat applications. Use the higher rate for high infestations or advanced growth stages of the target pests.</td>
</tr>
<tr>
<td>Grape</td>
<td>Grapeberry moth (suppression)</td>
<td>280 g/ha</td>
<td>• Time the application for egg hatch of each generation. A repeat application may be required if populations of the pest are high and/or woodlots are near the vineyard. Apply in sufficient water to ensure thorough coverage of the foliage.</td>
</tr>
<tr>
<td>Root vegetables</td>
<td>Diamondback moth, Cabbage looper, Imported cabbageworm</td>
<td>140-200 g/ha</td>
<td>• Apply when pests appear, targeting eggs at hatch or small larvae. Heavy infestations may require repeat applications. Use the higher rate for heavy infestations or advanced growth stages of the target pests.</td>
</tr>
<tr>
<td></td>
<td>Flea beetle (suppression)</td>
<td>200 g/ha</td>
<td>• Apply when pests appear, targeting eggs at hatch and small larvae. Heavy infestations may require repeat applications.</td>
</tr>
<tr>
<td>Strawberry</td>
<td>Thrips (suppression)</td>
<td>200-280 g/ha</td>
<td>• Monitor insect population to determine when initial application is required. A 3- to 4-day re-treatment schedule may be necessary for thrips if there is a heavy pest pressure or if the pest population is increasing rapidly.</td>
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<tr>
<td>Crop</td>
<td>Pests</td>
<td>Rate</td>
<td>Guidelines</td>
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<tr>
<td>Leaves of root and tuber vegetables (Crop group 2)</td>
<td>Diamondback moth, Cabbage looper, Imported cabbageworm</td>
<td>140–200 g/ha</td>
<td>• Apply when pests appear, targeting eggs at hatch or small larvae. Heavy infestations may require repeat applications. Use the higher rate for heavy infestations or advanced growth stages of the target pests.</td>
</tr>
<tr>
<td>Brassica head and stem vegetables (Crop group 5-13)</td>
<td>Diamondback moth, Cabbage looper, Imported cabbageworm</td>
<td>140–200 g/ha</td>
<td>• Apply when pests appear, targeting eggs at hatch or small larvae. Heavy infestations may require repeat applications. Use the higher rate for heavy infestations or advanced growth stages of the target pests.</td>
</tr>
<tr>
<td></td>
<td>Onion thrips (suppression)</td>
<td>200–336 g/ha</td>
<td>• Apply when pests first appear, before populations build up. Heavy infestations may require repeat applications. Use the higher rate for high infestations or advanced growth stages of the target pests.</td>
</tr>
<tr>
<td>Snap bean</td>
<td>European corn borer</td>
<td>120–210 g/ha</td>
<td>• Monitor egg laying and egg hatch and time application to coincide with peak egg hatch.</td>
</tr>
<tr>
<td>Soybean</td>
<td>Armyworm</td>
<td>100–200 g/ha</td>
<td>• Time the initial application to target small larvae and use sufficient spray volume to ensure good coverage. Use the higher rate for heavy infestation and/or difficult spray coverage situations.</td>
</tr>
<tr>
<td>Cereals</td>
<td>Armyworm</td>
<td>100–200 g/ha</td>
<td>• Scout for the pest with enough regularity to monitor egg laying and egg hatch and treat when thresholds are reached. Applications perform best when timed to coincide with peak egg hatch and/or small larval stage of growth of each generation.</td>
</tr>
<tr>
<td>Basil, Dill, Mint</td>
<td>Thrips (suppression)</td>
<td>200–280 g/ha</td>
<td>• Apply at egg hatch or to small nymphs. • Heavy infestations may require repeat applications. Use the higher rate for high infestations or advanced growth stages of the target pests. • Repeat in 7 to 10 days if populations warrant.</td>
</tr>
<tr>
<td></td>
<td>Cabbage looper</td>
<td>140–200 g/ha</td>
<td>• Apply at egg hatch or to small larvae. • Heavy infestations may require repeat applications. Use the higher rate for high infestations or advanced growth stages of the target pests. • Repeat in 7 to 10 days if populations warrant.</td>
</tr>
<tr>
<td>Corn (sweet, seed and popcorn)</td>
<td>European corn borer, Western bean cutworm</td>
<td>120–210 g/ha</td>
<td>• Apply at egg hatch or to small larvae. • Heavy infestations may require repeat applications. Use the higher rate for high infestations or advanced growth stages of the target pests.</td>
</tr>
<tr>
<td>Potatoes</td>
<td>Colorado potato beetle larvae</td>
<td>160–240 g/ha</td>
<td>• Target early larval stages before insect damage. • Depending on severity of the pest infestation, a repeat application may be required 7 to 14 days later. • Heavy infestations, larger larvae and rapid plant growth will require the use of the higher rate, and will shorten the interval between applications. The highest application rate will provide faster insect knockdown.</td>
</tr>
<tr>
<td>Crop</td>
<td>Pests</td>
<td>Rate</td>
<td>Guidelines</td>
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</table>
| Potatoes (cont.)                          | European corn borer larvae                                            | 160 g/ha | • Target early larval stages before insect damage.  
• Depending on severity of the pest infestation, a repeat application may be required 7 to 14 days later.  
• Heavy infestations, larger larvae and rapid plant growth will require the use of the higher rate, and will shorten the interval between applications. The highest application rate will provide faster insect knockdown. |
| Tree nuts (except pine nuts) (Crop group 14-11) | Codling moth                                                         | 420 g/ha | • For the control of each generation, apply at first egg hatch based on pheromone trap catches and degree-days after biofix dates. This pest must be controlled before the larvae penetrate the nut so early timing is critical.  
• Repeat at 14-day intervals to maintain control depending on pest pressure. |
| Oblique-banded leafroller, Three-lined leafroller | 210-420 g/ha                                                       |       | • Overwintering (spring) generation control – Apply when larvae have emerged and are actively feeding, but before they roll up in the leaves. Under high insect pressure an application timed to target the overwintering generation is recommended to reduce summer populations.  
• Summer generation control – Apply at first egg hatch as determined by monitoring adult moth flights.  
• Repeat in 14 days if monitoring of populations indicates a second application is required. Use the higher rate under high pest pressure and/or when larger larvae are present. |
| European leafroller, Fruittree leafroller  | 210-420 g/ha                                                       |       | Apply when larvae have emerged and are actively feeding, but before they roll up in the leaves. Use the higher rate under high pest pressure and/or when larger larvae are present.  
• Repeat application in 14 days if required based on population monitoring. |
| Black walnut curculio, Butternut curculio (suppression) | 420 g/ha                                                            |       | • Monitor trees along the edge of the orchard or adjacent wild trees and apply at the first sign of damage after bloom.  
• Repeat in 14 days if populations warrant. |
| Walnut husk fly (suppression)              | 420 g/ha                                                            |       | • Apply 7 to 10 days after the first walnut husk fly is caught on yellow scented sticky boards near or in the orchard.  
• Repeat in 14 days if populations warrant. |
| Non-bearing nursery stock                 | Dogwood borer, Apple clearwing moth (suppression), Peachtree borer, Lesser peachtree borer (suppression) | 420 g/ha | • A spray volume of 1,500–2,000 L/ha is recommended. Using a handgun or backpack sprayer only, direct the spray to cover the tree trunk and any scaffold limbs from ground level to 1.5 m above ground, particularly the graft union and any pruning cuts. Thorough coverage is essential. |
Tank mixes
- No registered tank mixes.
- In some cases, tank mixing a pest control product with another pest control product or a fertilizer can result in biological effects that could include, but are not limited to, reduced pest efficacy or increased host crop injury. The user should contact Corteva Agriscience™ at 1-800-667-3852 or corteva.ca for information before mixing any pesticide or fertilizer that is not specifically recommended on the label. The user assumes the risk of losses that result from the use of tank mixes that do not appear on this label or that are not specifically recommended by Corteva Agriscience.

Mixing instructions
- Apply in sufficient water to ensure thorough coverage.
- Fill the spray tank with water to 1/2 the total spray volume required. Start agitation.
- Ensure the pH of the water is between 5 and 9. Adjust if necessary.
- Add required amount of product per hectare.
- Continue mixing and agitation while filling the spray tank to the required volume.

Optimizing performance
- Rainfast when spray solution has dried on the vegetation – two hours.
- Spray solution pH can affect the performance of Delegate™ insecticide.
  - A pH between 5 and 9 is preferred for optimal performance.
  - If required, adjust spray solution pH prior to the addition of Delegate to the spray tank.
- Ground application: Use spray equipment capable of thorough coverage of the crop, ensuring uniform coverage of the target pest.
- Aerial application: Registered for aerial application in potatoes and corn (field, sweet, seed and popcorn).

Crop rotation
- No re-cropping restrictions.

Pre-harvest interval
Fruit crops
- Pome fruit, grape – Do not apply within seven days of harvest.
- Cherry – Do not apply within five days of harvest
- Bushberries, plums, prunes, apricots – Do not apply within three days of harvest.
- Peach, nectarine, canebberries, strawberry – Do not apply within one day of harvest.
- Cranberry – Do not apply within 21 days of harvest.
- Tree nuts – Do not apply within 14 days to harvest.

Vegetable crops
- Brassica head and stem vegetables, fruiting vegetables, leafy vegetables, sweet corn, basil – Do not apply within one day of harvest.
- Bulb vegetables, snap bean, leaves of root and tuber vegetables – Do not apply within three days of harvest.
- Asparagus – Do not apply within 60 days of harvest.
- Root vegetables – Do not apply within five days of harvest.
- Potatoes – Do not apply within seven days of harvest.
- Greenhouse cucumber, greenhouse fruiting vegetables, greenhouse lettuce – Do not apply within two days of harvest.
- Popcorn – Do not apply within 28 days of harvest.
- Dill seed – Do not apply within 14 days of harvest.

Field crops
- Soybean – Do not apply within 28 days of harvest.
- Cereals – Do not apply within 21 days of harvest.
- Seed corn – Do not apply within one day of harvest.
**Precautions**
- Maximum of three applications per year depending on crop.
- Pome fruit, stone fruit, cranberry, leaves of root and tuber vegetables, bulb vegetables, potatoes, basil, dill, bushberries subgroup (crop group 13-07B), caneberries subgroup (crop group 13-07A), low growing berry subgroup (13-07G), greenhouse cucumber, greenhouse fruiting vegetables, greenhouse lettuce, snap bean – Minimum treatment interval of seven days.
- Bushberries – Minimum treatment interval of six days.
- Grape, caneberries, brassica (cole) leafy vegetables, asparagus, fruiting vegetables, leafy vegetables, root vegetables, soybean, cereals, corn – Minimum treatment interval of five days.
- Strawberry – Minimum treatment interval of three days.
- Delegate™ insecticide is toxic to bees exposed to direct treatment, drift, or residues on flowering crops or weeds. Do not apply this product to flowering crops or weeds if bees are visiting the treatment area. Minimize spray drift to reduce harmful effects on bees in habitats close to the application site.
- Do not make more than two consecutive applications of Group 5 insecticides (spinetoram and spinosad).
- The worker restricted entry interval (REI) is 12 hours for all crops. Do not enter, or allow workers, adults, children or pets to enter into treated areas for 12 hours after application.

**Outstanding control of codling moth**
Delegate has been included in hundreds of university and independent field trials and has shown outstanding control of codling moth. Performance – based on fruit injury (stings and entries) – has been equal to the industry standard. Performance has generally been better than other insecticides used for codling moth control.

**Unique mode of action**
Spinetoram, the active ingredient in Delegate, is derived from fermentation of *Saccharopolyspora spinosa* as are other spinosyns. Fermentation is followed by chemical modification to create the unique active ingredient in Delegate. Spinetoram affects the insect nervous system. No other class of products – organophosphates, carbamates, pyrethroids, neonicotinoids – affects the insect nervous system with the same mode of action as spinetoram.

Spinetoram causes excitation of the nervous system by altering the function of nicotinic and GABA-gated ion channels. It does not interact with the known binding sites of other classes of insecticide.

**IPM compatible**
Dozens of field trials done in key crops have shown that Delegate has low impact on populations of key arthropod natural enemies, including big-eyed bugs, damsel bugs, ladybugs and lacewings.

**Excellent control of insect pests in potatoes**
Delegate is registered for use on potatoes to control Colorado potato beetle and European corn borer. Independent research studies demonstrated that Delegate provides excellent control of both of these potentially devastating pests.
A NATURAL CHOICE FOR FRUIT AND VEGETABLE GROWERS TO CONTROL INSECT PESTS.

Entrust™ insecticide provides the performance organic growers have come to trust. Entrust is active on several important insects, with a unique mode of action that is safe to beneficial insects making it a perfect fit in integrated pest management systems. It has an excellent environmental profile in terms of safety to humans, mammals, birds, aquatic organisms and groundwater.

The active ingredient in Entrust is spinosad, the first of an entirely new and revolutionary class of insect control products called Naturalyte™. These insect control products are natural metabolites derived from living organisms. Spinosad is produced by fermentation of naturally occurring bacteria (Saccharopolyspora spinosa).

Listed by Organic Materials Review Institute (OMRI) to be used for the protection of certified organically grown crops.

TARGET PESTS
- Asparagus beetle
- Blackheaded fireworm
- Blueberry fleabane
- Cabbage looper
- Cabbage maggot
- Cherry fruit fly
- Clearwing moth
- Codling moth
- Colorado potato beetle
- Cranberry fruitworm
- Crucifer flea beetle
- Diamondback moth
- European corn borer
- Eye-spotted budmoth
- Grapeberry moth
- Imported cabbageworm
- Leafroller species (oblique-banded, three-lined, fruittree and European)
- Leek moth
- Peach twig borer
- Spanworm
- Sparganothis fruitworm
- Spotted wing drosophila
- Swede midge
- Thrips
- Tuber flea beetle
- Western flower thrip
- Winter moth

CROPS
- Apple
- Asparagus
- Basil
- Brassica (cole) leafy vegetables
- Broccoli greenhouse transplants
- Bulb vegetables
- Bushberry
- Caneberry
- Cherry – sweet and tart
- Cranberry
- Dill seed
- Fruiting vegetables
- Ginseng
- Grape
- Greenhouse vegetables, lettuce, cucumber, pepper, tomato and eggplant
- Leafy vegetables
- Low-growing berry
- Pome fruits
- Potatoes
- Root and tuber vegetables
- Snap beans
- Stone fruits
- Sweet corn
- Walnuts

FORMULATION AND PACKAGING
- Suspension concentrate
- 12 x 1 L bottles
<table>
<thead>
<tr>
<th>Crop</th>
<th>Pests</th>
<th>Rate</th>
<th>Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potatoes</td>
<td>Colorado potato beetle larvae</td>
<td>167-334 mL/ha</td>
<td>• Target early larval stages before insect damage.</td>
</tr>
<tr>
<td></td>
<td>European corn borer larvae</td>
<td>250 mL/ha</td>
<td>• Depending on severity of the pest infestation, a second application</td>
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<tr>
<td></td>
<td>Cabbage looper (control), Tuber flea beetle (suppression)</td>
<td>334 mL/ha</td>
<td>may be required 7 to 10 days later.</td>
</tr>
<tr>
<td>Pome fruits (Crop group 11-09)</td>
<td>Leafroller species (Oblique-banded, Three-lined, Fruittree, European), Eye-spotted budmoth (control), Codling moth (suppression)</td>
<td>364 mL/ha</td>
<td><strong>For control of the overwintering generation:</strong></td>
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<td>• Monitor leafroller populations in the spring and apply product when</td>
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<td>they begin emerging and are actively feeding, but before they roll up in</td>
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<td>the leaves.</td>
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<td><strong>For control of the summer generation:</strong></td>
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<td></td>
<td>• Monitor adult moth flights and larval densities to determine correct</td>
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<td>timing for application.</td>
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<td>• Monitor the moth flight by setting pheromone traps in orchards before</td>
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<td>the earliest known flight. This will assist in determining biofix.</td>
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<td>• Spray first application 180 to 220 degree-days after first moth catch,</td>
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<td>typically 10 to 12 days after biofix.</td>
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<td>• A repeat application may be required 7 to 10 days later.</td>
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<td>• For codling moth, larvae must be controlled before they enter the fruit.</td>
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<tr>
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<td></td>
<td>Apply at first egg hatch and repeat at 7- to 10-day intervals.</td>
</tr>
<tr>
<td>Apple</td>
<td>Clearwing moth</td>
<td>250 mL/ha</td>
<td>• Adult activity may occur approximately from early June to mid-August,</td>
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<td>but monitoring is required to ensure proper timing.</td>
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<td>• Make the first application within 10 days of the first adult emergence</td>
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<td>and repeat applications at 7- to 10-day intervals throughout the period of</td>
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<td>adult activity up to a maximum of 7 applications.</td>
</tr>
<tr>
<td>Grape</td>
<td>Spotted wing drosophila</td>
<td>364 mL/ha</td>
<td>• Application should be based on the presence of adult pests (flies) as</td>
</tr>
<tr>
<td></td>
<td>Western flower thrip, Grapeberry moth</td>
<td>364 mL/ha</td>
<td>determined by local monitoring.</td>
</tr>
<tr>
<td>Asparagus</td>
<td>Asparagus beetle</td>
<td>294 mL/ha</td>
<td>• For grapeberry moth, make initial application at egg hatch.</td>
</tr>
<tr>
<td>Root and tuber vegetables</td>
<td>Cabbage looper, Imported cabbageworm, Diamondback moth, Flea beetles (suppression)</td>
<td>364 mL/ha</td>
<td>• For thrips, begin applications when monitoring indicates treatment is</td>
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<td>required.</td>
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<td>• Make applications to the asparagus ferns only. Application timing is at</td>
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<td>egg hatch or to small larvae.</td>
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<td></td>
<td>• Monitor larval population and apply when treatment thresholds are</td>
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<td>exceeded.</td>
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<td>• Ensure thorough and complete coverage of the foliage.</td>
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<td></td>
<td>• Allow 7 to 10 days between applications.</td>
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<tr>
<td>Crop</td>
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</tbody>
</table>
| Sweet corn                    | European corn borer                                                  | 167 mL/ha     | • Scout to monitor egg laying and egg hatch.  
• Applications must be timed to coincide with peak egg hatch.  
• A second application 7 to 10 days after the initial application may be necessary to achieve effective control. |
| Leafy greens (subgroup 4-13A) | Cabbage looper, Imported cabbageworm, Diamondback moth              | 364 mL/ha     | • Monitor larval population and apply when treatment thresholds are exceeded.  
• Allow 7 to 10 days between applications.                                                             |
| Fruiting vegetables (Crop group 8-09) | European corn borer                                                  | 167 mL/ha     | • Scout to monitor egg laying and egg hatch.  
• Applications must be timed to coincide with peak egg hatch.  
• A second application 7 to 10 days after the initial application may be necessary to achieve effective control.  
• For this pest, apply a maximum of 2 applications per year. |
| Colorado potato beetle         |                                                                     | 167 mL/ha     | • Monitor larval population and apply when treatment thresholds are exceeded.  
• Allow 7 to 10 days between applications.                                                             |
| Cabbage looper, Imported cabbageworm, Diamondback moth, Spotted wing drosophila |                                                                     | 364 mL/ha     | • Monitor larval population and apply when treatment thresholds are exceeded.  
• Allow 7 to 10 days between applications.                                                             |
| Greenhouse lettuce            | Cabbage looper (control), European corn borer (suppression), Western flower thrip (suppression) | 240 mL/ha     | • Apply when eggs hatch and first instar larvae are present.  
• Repeat applications as determined by further monitoring of pest pressure. |
| Greenhouse cucumber, pepper, tomato, eggplant | Cabbage looper                                                     | 240 mL/ha     | • Apply when eggs hatch and first instar larvae are present.  
• European corn borer: Apply when eggs hatch and first instar larvae are present.  
• For western flower thrip, apply when the pest first appears.  
• Monitoring is critical for the proper timing of the insecticide. Applications must be made in water volumes which ensure thorough coverage. |
| Broccoli greenhouse transplants | Cabbage maggot                                                       | 25 mL in 2 L of water per 1,000 plants | • Apply as a drench before transplanting to the field.  
• Immediately after application, apply 2 L of water per 1,000 plants to rinse the product off the plants and into the soil. |
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| Brassica leafy vegetables (subgroup 4-13B), Brassica head and stem vegetables (Crop group 5-13), Kohlrabi | Cabbage looper, Imported cabbageworm, Diamondback moth (control), Crucifer flea beetle (suppression) | 364 mL/ha | • Monitor larval population and apply when treatment thresholds are exceeded.  
• For crucifer flea beetles, apply at the emergence of adult flea beetles.  
• Reapply in 7- to 10-day intervals as required. |
| Thrips (control), Swede midge (reduction in damage) | | 292 mL/ha | • For thrips, apply when the pest first appears.  
• For Swede midge, apply when local treatment thresholds have been reached as determined by monitoring.  
• Reapply in 7- to 10-day intervals as required. |
| Stone fruits (Crop group 12-09) | Leafroller species (Oblique banded, Three-lined, Frutt.tree, European), Eye-spotted budmoth, Spotted wing drosophila (control) | 364 mL/ha | • Monitor leafroller populations in the spring and apply product when they begin emerging and are actively feeding, but before they roll up in the leaves.  
**For control of the summer generation:**  
• Monitor adult moth flights and larval densities to determine correct timing for application.  
• Apply only if treatment thresholds are exceeded. |
| Peach | Peach twig borer (suppression) | 364 mL/ha | • For overwintering generations monitor larval population in the spring and apply when overwintering larvae become active, from early petal fall to husk fall.  
• For summer generations, monitor adult moth flight and apply at first egg hatch. |
| Nectarines | Western flower thrip (suppression) | 364 mL/ha | • Apply from early petal fall to husk fall. Consult provincial guidelines and local extension experts for monitoring protocols and thresholds for treatment. |
| Cherry – sweet and tart | Cherry fruit fly | 364 mL/ha | • Monitor for adult cherry fruit fly and apply as a foliar spray within 6 days of first fly emergence.  
• Allow 5 to 7 days between applications, shortening the interval during rainy periods and as the fruit ripens. |
| Snap beans | European corn borer | 167 mL/ha | • Scout to monitor egg laying and egg hatch.  
• Applications must be timed to coincide with peak egg hatch.  
• A second application 7 to 10 days after the initial application may be necessary to achieve effective control. |
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| Cranberry                     | Cranberry fruitworm (suppression)          | 727 mL/ha  | • Based on phonological stage of the plant, apply 3 to 7 days after the fruit set has reached 50%, which corresponds to the beginning of egg hatch.  
• If cranberry fruitworm is present at the same time as blackheaded fireworm or sparganothis fruitworm, the higher rate of 727 g/ha in a minimum of 500 L of water may be used. |
| Blackheaded fireworm, Sparganothis fruitworm | 364 mL/ha  | • Apply in 500 L/ha of solution to ensure thorough coverage of the foliage. |
| Bushberry subgroup (Crop group 13-07B) | Oblique-banded leafroller, Spanworm, Winter moth | 267-364 mL/ha | • Apply at egg hatch or small larvae stage. Use the upper rate under high insect pressure and/or on large larvae.  
• Repeat applications at 7- to 10-day intervals if necessary. |
| Blueberry flea beetle (suppression) – lowbush blueberry only | 334-440 mL/ha  | • Apply when the blueberry flea beetles are in the early larval stage.  
• Allow 7 to 10 days between applications.  
• Ensure thorough and complete coverage of the foliage. |
| Spotted wing drosophila       | 334-440 mL/ha  | • Apply based on the presence of adult pests (flies) as determined by local monitoring. |
| Low-growing berry subgroup (Crop group 13-07G) | Oblique-banded leafroller, Cabbage looper, Winter moth | 267-364 mL/ha | • Apply at egg hatch or small larvae stage. Use the upper rate under high insect pressure and/or on large larvae.  
• Repeat applications at 7- to 10-day intervals if necessary. |
| Spotted wing drosophila       | 292-364 mL/ha  | • Apply based on the presence of adult pests (flies) as determined by local monitoring. |
| Bulb vegetables (Crop group 3-07) | Onion thrip (suppression), Leek moth (suppression) | 437-527 mL/ha | • Thrips: Apply when thrips first appear targeting egg hatch or small nymphs.  
• Leek moth: Apply one week after peak pheromone trap capture targeting egg hatch or small larvae.  
• Water volume: Apply at 300-500 L/ha. Use sufficiently high pressure to ensure the spray solution penetrates into the leaf axils. Use the higher rates when insect pressure is high and/or insects are in an advanced growth stage.  
• After application, monitor populations to determine if re-treatment is required.  
• Allow 7 to 10 days between applications.  
• Multiple applications may be required to achieve suppression of onion thrips and leek moth. |
| Basil (fresh and dried), dill seed | Cabbage looper (control), Thrips (suppression) | 364 mL/ha  | • Ensure complete coverage of the plant foliage. Repeat applications based on monitoring of insect populations.  
• Allow 7 to 10 days between applications. |
Crop Pests Rate Guidelines

**Walnuts**
- **Leafroller species (Oblique-banded, Three-lined, Fruit tree, European)**
- **Rate:** 364 mL/ha
- **Guidelines:** To control the overwintering/spring generation, apply when larvae have emerged and are actively feeding, but before they roll up in the leaves.

**For control of the summer generation:**
- Monitor adult moth flights and larval densities to determine correct timing for application.
- Apply only if treatment thresholds are exceeded.
- Reapply in 7 to 10 days if required based on population monitoring.

**Codling moth (suppression)**
- **Rate:** 364 mL/ha
- **Guidelines:** Apply at first egg hatch based on pheromone trap catches and degree-days after biofix dates. These pests must be controlled before the larvae penetrate the nut so early timing is critical.
- Repeat in 7 to 10 days if populations warrant.

**Ginseng**
- **Leafrollers**
- **Rate:** 290–364 mL/ha
- **Guidelines:** Apply at egg hatch or to small larvae.

**Caneberry subgroup (Crop group 13–07A)**
- **Oblique-banded leafroller, Cabbage looper, Spanworm, Winter moth**
- **Rate:** 267–364 mL/ha
- **Guidelines:** Ensure thorough coverage. Use the upper rate under high insect pressure and/or on large larvae.
- Apply at egg hatch or small larvae. Repeat applications at 7- to 10-day intervals if necessary.

**Spotted wing drosophila**
- **Rate:** 334–440 mL/ha
- **Guidelines:** Apply based on the presence of adult pests (flies) as determined by local monitoring.

**Tank mixes**
- No registered tank mixes.
- In some cases, tank mixing a pest control product with another pest control product or a fertilizer can result in biological effects that could include, but are not limited to, reduced pest efficacy or increased host crop injury. The user should contact Corteva Agriscience™ at 1-800-667-3852 or corteva.ca for information before mixing any pesticide or fertilizer that is not specifically recommended on the label. The user assumes the risk of losses that result from the use of tank mixes that do not appear on this label or that are not specifically recommended by Corteva Agriscience.

**Mixing instructions**
- Apply in sufficient water to ensure thorough coverage.
- Fill the spray tank with water to 1/2 the total spray volume required. Start agitation.
- Ensure the pH of the water is between 6 and 8. Adjust if necessary.
- Add required amount of product per hectare.
- Continue mixing and agitation while filling the spray tank to the required volume.

**Optimizing performance**
- Spray solution pH can affect the performance of Entrust.
  - A pH between 6 and 8 is preferred for optimal performance.
  - If required, adjust spray solution pH prior to the addition of Entrust to the spray tank.
- Rainfast when spray solution has dried on the vegetation – two hours.
- For tree fruits use ground airblast equipment capable of thoroughly wetting all plant parts.
- Ground application: Apply product in a minimum of 1,000 L/ha of water. Ensure good coverage of all target foliage.
- Aerial application: Not registered for aerial application.

**Crop rotations**
- No re-cropping restrictions.
Pre-harvest interval

- Grape, pome fruit, potatoes, sweet corn – Do not apply within seven days of harvest.
- Stone fruits (except peach and nectarine), root and tuber vegetables, brassica (cole) leafy vegetables, snap bean, bushberry, low-growing berry, bulb vegetables, broccoli greenhouse transplants, bushberry subgroup – Do not apply within three days of harvest.
- Leafy vegetables, fruiting vegetables, low-growing berry subgroup, caneberry subgroup, peach, nectarine – Do not apply within one day of harvest.
- Walnuts, basil, dill seed – Do not apply within 14 days of harvest.
- Cranberry – Do not apply within 21 days of harvest.

Precautions

- Pome fruits, root and tuber vegetables, bulb vegetables, leafy vegetables, fruiting vegetables, brassica (cole) leafy vegetables, stone fruits (except sweet and tart cherry), cranberry, bushberry, low-growing berry, caneberry, walnuts, basil, dill seed – Do not exceed three applications per year.
- Sweet corn, snap bean – Do not exceed two applications per year.
- Grape – Do not exceed two to three applications per season depending on rate.
- Cherry (sweet and tart) – Do not exceed four applications per year.
- Broccoli greenhouse transplants – Do not exceed one application per year.

- The worker restricted entry interval (REI) is:
  - For sweet corn, do not enter, or allow worker entry, into treated areas within seven days after application to carry out detasselling or hand harvesting activities.
  - For crops in the brassica leafy greens crop subgroup 4-13B and brassica head and stem vegetables crop group 5-13 and kohlrabi, do not enter, or allow worker entry, into treated areas for three days to carry out hand harvesting, irrigating, pruning, topping, thinning, or tying activities.
  - For potatoes, greenhouse lettuce, cucumbers, peppers, tomatoes and eggplant do not enter, or allow worker entry, into treated areas during the restricted entry interval (REI) of 12 hours after application.
  - For grapes, do not enter, or allow worker entry, into treated areas within 15 days after application to carry out girdling or cane-turning activities or within seven days after application to carry out training, tying, hand harvesting, hand pruning and thinning. For all other activities including mechanical harvesting, do not enter, or allow worker entry, into treated areas until pesticide residues have dried.
  - For all other activities, do not enter, or allow workers, adults, children or pets to enter into treated areas until pesticide residues have dried.

Organic Materials Review Institute (OMRI)

Founded in 1997, the Organic Materials Review Institute (OMRI) provides organic certifiers, growers, manufacturers and suppliers an independent review of products intended for use in certified organic production, handling and processing. OMRI is a nonprofit organization.

OMRI reviews products against the National Organic Standards. Acceptable products are OMRI Listed® and appear on the OMRI Products List.

OMRI also provides subscribers guidance on the acceptability of various material inputs in general under the National Organic Program.
HIGH-PERFORMANCE, HIGHLY ATTRACTIVE BAIT FOR CHERRY FRUIT FLY, BLUEBERRY MAGGOT AND APPLE MAGGOT.

GF-120™ Fruit Fly Bait performs as a true bait, attracting only targeted insects. The goal is to strategically place large droplets where flies will find them in their normal search for food. Uniform coverage is not as critical as with conventional sprays. The application technique for GF-120 is an ultra low volume application, but with large droplets. Large droplets (5 or more millimetres in diameter) help the product remain viable in the field for longer periods of time.

Listed by Organic Materials Review Institute (OMRI) to be used for the protection of certified organically grown crops.
<table>
<thead>
<tr>
<th>Crop</th>
<th>Pests</th>
<th>Rate</th>
<th>Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cherry</td>
<td>Cherry fruit flies (Cherry fruit fly,</td>
<td>1-1.5</td>
<td>• The application rate depends on the infestation level. The highest rate of GF-120™ Fruit Fly Bait should be used when eradication is desired.</td>
</tr>
<tr>
<td></td>
<td>Western cherry fruit fly, Black cherry</td>
<td>L/ha</td>
<td>• Begin application as soon as monitoring traps indicate flies are present or 2 to 3 weeks before fruit begins to ripen.</td>
</tr>
<tr>
<td></td>
<td>fruit fly)</td>
<td></td>
<td>• Repeat applications every 7 days, shortening the application interval during rainy periods and as fruit ripens.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Maintain applications while flies are present.</td>
</tr>
<tr>
<td>Blueberry</td>
<td>Blueberry maggot</td>
<td>1-1.5</td>
<td>• Begin applications when pest is present.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>L/ha</td>
<td>• Reapply every 7 days, or following a rain that is greater than 10 mm.</td>
</tr>
<tr>
<td>Apple</td>
<td>Apple maggot</td>
<td>1.5</td>
<td>• The application rate depends on the infestation level. The highest rate of GF-120 should be used when eradication is desired.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>L/ha</td>
<td>• Begin application as soon as monitoring traps indicate flies are present.</td>
</tr>
<tr>
<td>Walnut</td>
<td>Walnut husk fly</td>
<td>1.5</td>
<td>• Begin applications when the first husk fly is captured in yellow sticky monitoring traps.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>L/ha</td>
<td>• Repeat on a weekly basis while flies are present.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Repeat applications if rainfall washes the droplets off the foliage.</td>
</tr>
</tbody>
</table>

### Total solutions for use with an ATV using a 1:4 ratio per hectare

<table>
<thead>
<tr>
<th>Treatment area</th>
<th>1 ha</th>
<th>2 ha</th>
<th>3 ha</th>
<th>4 ha</th>
<th>5 ha</th>
<th>6 ha</th>
<th>7 ha</th>
<th>8 ha</th>
<th>9 ha</th>
<th>10 ha</th>
</tr>
</thead>
<tbody>
<tr>
<td>GF-120 at 1.5 L/ha</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Litres of water</td>
<td>6.0</td>
<td>12.0</td>
<td>18.0</td>
<td>24.0</td>
<td>30.0</td>
<td>36.0</td>
<td>42.0</td>
<td>48.0</td>
<td>54.0</td>
<td>60.0</td>
</tr>
<tr>
<td>Litres of GF-120</td>
<td>1.5</td>
<td>3.0</td>
<td>4.5</td>
<td>6.0</td>
<td>7.5</td>
<td>9.0</td>
<td>10.5</td>
<td>12.0</td>
<td>13.5</td>
<td>15.0</td>
</tr>
<tr>
<td>Total litres of solution</td>
<td>7.5</td>
<td>15.0</td>
<td>22.5</td>
<td>30.0</td>
<td>37.5</td>
<td>45.0</td>
<td>52.5</td>
<td>60.0</td>
<td>67.5</td>
<td>75.0</td>
</tr>
</tbody>
</table>
**Tank mixes**
- No registered tank mixes.

**Mixing instructions**
- GF-120™ is a bait concentrate that must be diluted with water at a ratio of 1:4 parts water.
- Add water (1/2 of the volume to be mixed) to the spray tank or premixing tank and begin agitation. Then, add the full amount of GF-120 followed by the remainder of the required water. Allow agitation system to operate for at least five minutes before beginning application.
- Triple-rinse the GF-120 container, adding the rinsate to the spray solution.
- Constant agitation of the spray solution is recommended to ensure uniformity of spray mixture.

**Optimizing performance**
- This product is required to remain a liquid to be effective as a bait.
- This product resists wash off, but will lose effectiveness if exposed to rain and overhead irrigation.
- Once diluted, GF-120 should be used within 24 hours.
- Target the top 1/3 of the tree foliage providing the fruit flies with product closer to the places where they normally move. A band directed towards the upper and inner canopy will work best.
- Ground application: Droplets act like mini bait stations. Target large droplet size to ensure better attractiveness and longevity results. The targeted droplet size is a diameter of 5 mm using D1 or D2 nozzles with the swirl plates removed, and an operating pressure of 45–60 psi. If the droplets are too small, there will not be enough product to control the fly, and if the droplets are too large, the droplet will spread out and not be effective for control.
- Rainfast – Do not apply during periods when heavy rain is expected. Reapply immediately after a rain.
- Aerial application: Not registered for aerial application.

**Crop rotations**
- No re-cropping restrictions.

**Pre-harvest interval**
- There is no pre-harvest interval. GF-120™ can be applied up to and including the day of harvest.

**Precautions**
- Highly toxic to bees when exposed to direct treatment.
- Cherry – Do not exceed 10 applications per season.
- Blueberry – Do not exceed five applications per season.
- Apple and walnut – Do not exceed 10 applications per season.
- The worker restricted entry interval (REI) is zero hours for all crops.
EXTENDED CONTROL OF LEPIDOPTEROUS PESTS WITHOUT HARMING POLLINATORS.

Intrepid™ insecticide initiates a lethal premature molt in specific lepidopterous pests (caterpillars) while not adversely affecting beneficial insects such as bees, predatory mites, beetles, wasps and spiders, making it ideal for integrated pest management systems. It has an excellent environmental profile in terms of safety to humans, mammals, birds, aquatic organisms and groundwater. Intrepid controls many economically important pests through a novel mode of action (Molt Accelerating Compound).

Intrepid has both ovicidal and larvicidal activity. Ingestion is the main source of activity on pests causing the larvae to stop feeding within 24 hours and providing long residual control for 10 to 14 days after application.

TARGET PESTS

- Armyworm
- Blackheaded fireworm
- Cabbage looper
- Climbing cutworm
- Codling moth
- Cranberry fruitworm
- Diamondback moth
- European corn borer
- Garden web worm
- Grapeberry moth
- Imported cabbageworm
- Oblique-banded leafroller
- Oriental fruit moth
- Peach twig borer
- Spanworms
- Sparganothis fruitworm
- Spotted tentiform leafminer
- Three-lined leafroller
- Western tentiform leafminer
- Winter moth

CROPS

- Brassica (cole) leafy vegetables
- Bushberries
- Caneberry
- Corn – field, sweet, seed, popcorn
- Cranberry
- Cucurbit vegetables
- Dried beans
- Edible-podded legume vegetables
- Fruitling vegetables
- Grape
- Herbs (except chives)
- Leafy vegetables
- Pome fruits
- Stone fruits
- Succulent shelled peas and beans
- Tree nuts
- Tuberous and corm vegetables

FORMULATION AND PACKAGING

- Liquid suspension
- 4 x 4 L jugs
<table>
<thead>
<tr>
<th>Crop</th>
<th>Pests</th>
<th>Rate</th>
<th>Guidelines</th>
</tr>
</thead>
</table>
| Pome fruit crop group   | Over winter generation larvae of Oblique-banded leafroller, Three-lined leafroller | 0.75 L/ha     | • Apply during late bloom to early petal fall when larvae are actively feeding.  
• Apply before larvae roll up in the leaves. |
|                         | Summer generation larvae of Oblique-banded leafroller (control), Three-lined leafroller (suppression) | 0.75 L/ha     | • Apply at first egg hatch or at 110 to 170 degree-days after biofix.  
• Apply a second application 10 to 14 days later if needed. |
| Apple                   | Codling moth (control)                                               | 1.0 L/ha      | • For first generation codling moth, apply before first egg hatch or at 80 to 110 degree-days after biofix.  
• Depending on the severity of the infestation, a second application may be required 10 to 14 days later. |
|                         | Winter moth (suppression)                                            | 0.75 L/ha     | • Apply at egg hatch or the first generation.                                                   |
|                         | Spotted tentiform leafminer, Western tentiform leafminer (first generation only) | 0.5 L/ha      | • Apply at egg hatch or the first generation.                                                   |
| Apple, Pear             | Oriental fruit moth                                                  | 1.0 L/ha      | • Apply at first egg hatch.  
• Reapply a second application 10 to 14 days later if needed.                                  |
| Caneberry subgroup      | Oblique-banded leafroller, Three-lined leafroller                   | 0.5-0.75 L/ha | • Apply at egg hatch or small larvae. For overwintering larvae, apply as soon as they start feeding in the spring and before they roll up in leaves.  
For the summer generation, apply at first egg hatch as determined by monitoring adult moth flights.  
• Reapply at 7- to 14-day intervals if required based on population monitoring. |
<p>| (Crop group 13–07A)     |                                                                      |               |                                                                                              |
| Bushberries             | Spanworms                                                            | 0.5 L/ha      | • Apply when feeding damage is detected or when infestations reach thresholds as determined by local monitoring standards. Repeat applications after 7 to 14 days if required based on population monitoring. |
|                         | Oblique-banded leafroller                                           | 0.5 L/ha      | • Apply to overwintering larvae as soon as they start feeding in the spring or at the beginning of egg hatch for the summer generation. Repeat applications after 7 to 14 days if required based on population monitoring. |
|                         | Cranberry fruitworm (lowbush blueberry, highbush blueberry, highbush cranberry, huckleberry, lingonberry) | 0.5 L/ha      | • Apply at the beginning of egg hatch. Repeat applications after 7 to 14 days if required based on population monitoring. |</p>
<table>
<thead>
<tr>
<th>Crop</th>
<th>Pests</th>
<th>Rate</th>
<th>Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brassica (cole) leafy</td>
<td>Cabbage looper, Imported cabbageworm (control), Diamondback moth (suppression)</td>
<td>0.3–0.6 L/ha</td>
<td>• Apply at first sign of feeding damage or when infestations reach threshold levels as determined by insect monitoring. Tank mix with a nonionic surfactant such as Agral 90 or Companion at the rate of 0.25% v/v. Repeat applications after 7 to 14 days if required based on population monitoring. Use the higher rate for heavy infestations or advanced growth stages of the target pest.</td>
</tr>
<tr>
<td>Corn – field, sweet, seed, popcorn</td>
<td>European corn borer</td>
<td>0.3–0.6 L/ha</td>
<td>• Apply at the first signs of feeding damage before the insect enters the fruit. Monitoring of insect populations is key to controlling this pest. Direct application at the whorl for early season (first generation) infestations. Repeat applications after 5 to 10 days if required based on population monitoring. Use the higher rate for heavy infestations, or larger crop canopies.</td>
</tr>
<tr>
<td>Cranberry</td>
<td>Blackheaded fireworm, Sparganothis fruitworm, Cranberry fruitworm, Spanworms</td>
<td>0.75–1.16 L/ha</td>
<td>• Apply to overwintering generation larvae or at early egg hatch for summer generation insects. Apply before the larvae penetrate the fruit. Repeat applications after 10 to 18 days if required based on population monitoring to protect rapidly expanding fruit. Use the higher rate for heavy infestations or advanced growth stages of the target pest. • For chemigation please refer to label.</td>
</tr>
<tr>
<td>Cucurbit vegetables</td>
<td>Cabbage looper</td>
<td>0.3–0.6 L/ha</td>
<td>• Apply at the first sign of feeding damage or when infestations reach threshold levels as determined by insect monitoring. Repeat applications after 7 to 14 days if required based on population monitoring. Use the higher rate for heavy infestations or advanced growth stages of the target pest.</td>
</tr>
<tr>
<td>Fruiting vegetables</td>
<td>Cabbage looper</td>
<td>0.3–0.6 L/ha</td>
<td>• Apply at the first sign of feeding damage or when infestations reach threshold levels as determined by insect monitoring. Repeat applications after 7 to 14 days if required based on population monitoring. Use the higher rate for heavy infestations, advanced growth stages of the target pest or larger crop canopies.</td>
</tr>
<tr>
<td></td>
<td>European corn borer</td>
<td>0.3–0.6 L/ha</td>
<td>• Apply at the first signs of feeding damage before the insect enters the fruit. Monitoring of insect populations is key to controlling this pest. Repeat applications after 7 to 14 days if required based on population monitoring. Use the higher rate for heavy infestations or larger crop canopies.</td>
</tr>
<tr>
<td>Crop</td>
<td>Pests</td>
<td>Rate</td>
<td>Guidelines</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>--------------------------------------------</td>
<td>---------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Leafy vegetables</td>
<td>Cabbage looper</td>
<td>0.3–0.6 L/ha</td>
<td>• Apply at the first sign of feeding damage or when infestations reach threshold levels as determined by insect monitoring. Repeat applications after 7 to 14 days if required based on population monitoring. Use the higher rate for heavy infestations, advanced growth stages of the target pest or larger crop canopies.</td>
</tr>
<tr>
<td>Edible-podded legume</td>
<td>Cabbage looper</td>
<td>0.3–0.6 L/ha</td>
<td>• Apply at the first signs of feeding damage before the insect enters the pods. Monitoring of insect populations is key to controlling this pest. Repeat applications after 7 to 14 days if required based on population monitoring. Use the higher rate for heavy infestations or larger crop canopies.</td>
</tr>
<tr>
<td>vegetables, Succulent</td>
<td>Cabbage looper</td>
<td>0.3–0.6 L/ha</td>
<td>• Apply at the first signs of feeding damage before the insect enters the pods. Monitoring of insect populations is key to controlling this pest. Repeat applications after 7 to 14 days if required based on population monitoring. Use the higher rate for heavy infestations or larger crop canopies.</td>
</tr>
<tr>
<td>Shelled peas and beans,</td>
<td></td>
<td></td>
<td>Grapeberry moth 0.6 L/ha • Ensure thorough coverage of the foliage and fruit bunches. Reapply within 10 to 14 days to ensure complete coverage of rapidly expanding fruit and foliage.</td>
</tr>
<tr>
<td>Dried beans</td>
<td></td>
<td></td>
<td>Climbing cutworm 0.6 L/ha • Apply at the first signs of feeding damage in the early spring. Apply to cordons only from dusk to dawn. If required, reapply within 10 to 14 days to ensure complete coverage on cordons, unopened buds and tender shoots.</td>
</tr>
<tr>
<td>European corn borer</td>
<td></td>
<td></td>
<td><strong>Herbs (except chives) (crop subgroup 19-A)</strong></td>
</tr>
<tr>
<td></td>
<td>Cabbage looper, Armyworm, Garden</td>
<td>0.58–1.16 L/ha</td>
<td>Grapeberry moth 0.6 L/ha • Ensure thorough coverage of the foliage and fruit bunches. Reapply within 10 to 14 days to ensure complete coverage of rapidly expanding fruit and foliage.</td>
</tr>
<tr>
<td></td>
<td>webworm larvae</td>
<td></td>
<td>• Apply when larvae are small and actively feeding. Use the higher rate when insect pressure is high and/or when larvae are large. Repeat applications as required with a minimum of 10 days between treatments.</td>
</tr>
<tr>
<td>Tuberous and corm</td>
<td>Cabbage looper</td>
<td>0.3–0.6 L/ha</td>
<td>• Apply at the first sign of feeding damage or when infestations reach threshold levels as determined by insect monitoring. Repeat applications after 7 to 14 days if required based on population monitoring. Use the higher rate for heavy infestations or advanced growth stages of the target pest.</td>
</tr>
<tr>
<td>vegetables</td>
<td>Cabbage looper</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crop</td>
<td>Pests</td>
<td>Rate</td>
<td>Guidelines</td>
</tr>
<tr>
<td>--------------</td>
<td>----------------------------------------------------------------------</td>
<td>--------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Stone fruits</td>
<td>Oblique-banded leafroller, Three-lined leafroller</td>
<td>0.75 L/ha</td>
<td>• For overwintering larvae, apply when larvae are actively feeding and before they roll up in rapidly growing terminals. Apply at first egg hatch of the summer generation as determined by monitoring adult moth flights. Repeat in 10 to 14 days if monitoring of populations indicates a second application is required. Thorough coverage is necessary for optimal control.</td>
</tr>
<tr>
<td></td>
<td>Peach twig borer</td>
<td>0.75 L/ha</td>
<td>• For each generation, apply at initiation of egg hatch before larvae enter the shoots or fruit. Reapply in 10 to 14 days to ensure complete coverage of rapidly expanding fruits or foliage, or under conditions of high infestation or sustained moth flight.</td>
</tr>
<tr>
<td></td>
<td>Oriental fruit moth</td>
<td>1.5 L/ha</td>
<td>• For use in apricot, nectarine, peach and plum only.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Apply in a minimum of 1,000 L of water at first egg hatch of the targeted generation, 50–100 degree-days C (Base 7.2 C) after biofix (first sustained moth catch). Monitor for 10 to 14 days after application to determine whether another method of control is required.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Only apply once per season for oriental fruit moth.</td>
</tr>
<tr>
<td>Tree nuts</td>
<td>Oblique-banded leafroller, Three-lined leafroller (control), Codling moth (suppression) – Butternut, Black walnut and English walnut only</td>
<td>0.75 L/ha</td>
<td>• For overwintering larvae, apply when larvae are actively feeding and before they roll up in rapidly growing terminals. Apply at first egg hatch of the summer generation as determined by monitoring adult moth flights. Repeat in 10 to 14 days if monitoring of populations indicates a second application is required. Thorough coverage is necessary for optimal control.</td>
</tr>
</tbody>
</table>
Tank mixes

• No registered tank mixes.
• In some cases, tank mixing a pest control product with another pest control product or a fertilizer can result in biological effects that could include, but are not limited to, reduced pest efficacy or increased host crop injury. The user should contact Corteva Agriscience™ at 1-800-667-3852 or corteva.ca for information before mixing any pesticide or fertilizer that is not specifically recommended on the label. The user assumes the risk of losses that result from the use of tank mixes that do not appear on this label or that are not specifically recommended by Corteva Agriscience.

Mixing instructions

• Fill the spray tank 1/3 to 1/2 full of clean water and slowly pour Intrepid™ insecticide into the spray tank.
• Maintain agitation in the spray tank during mixing, loading and application.
• Triple-rinse empty container and add rinsate to the spray tank.

Optimizing performance

• The timing of targeting pests with Intrepid is important. Use proper scouting techniques to monitor adult moth flights, egg laying, egg hatch and degree-day models. Consult with provincial guidelines and local specialists for treatment thresholds and application timing.
• For good insect control, it is important to apply thorough, uniform spray coverage to all foliage and fruit. Good coverage is important as the main pathway for Intrepid is ingestion.
• When applying Intrepid for summer generation pests, target spray timing during egg laying to first egg hatch.
• Rainfast within six hours of application.
• Ground application: Make applications of Intrepid by conventional ground application equipment. Thorough, uniform coverage of all foliage and fruit is essential for good insect control. If adequate spray coverage of plant canopy requires less solution per hectare, adjust spray volume accordingly.
• Aerial application: Not registered for aerial application.

Crop rotations

• No re-cropping restrictions.

Pre-harvest interval

• Pre-harvest interval ranges from one to 30 days. Refer to label for specific crop.

Precautions

• Do not apply more than 2 L/ha of Intrepid per year.
• Maximum one to three applications per season.
• Intrepid may be applied to cranberry by chemigation. Please refer to label for application directions.
• Do not enter or allow worker entry into treated areas for 12 hours following application.
### TARGET PESTS
- Alfalfa looper
- Aphids
- Apple aphids
- Beet armyworm
- Brown marmorated
- Cabbage looper
- Codling moth
- Corn earworm
- Diamondback moth
- European corn borer
- Flea beetles
- Imported cabbage worm
- Leafhoppers
- Mullein bug
- Oblique-banded leafroller
- Pea aphid
- Slugs (larvae of grey garden slug)
- Spotted tentiform leafminer
- Stink bug
- Tomato fruit worm
- Variegated cutworm
- White apple leafhopper
- Winter moth

### CROPS
- Apples
- Broccoli
- Cauliflower
- Cabbage
- Canola
- Brussels sprouts
- Cereals
- Flax
- Lettuce (field)
- Peas
- Potatoes
- Snap beans
- Sweet corn
- Tobacco
- Tomatoes

### FORMULATION AND PACKAGING
- Water soluble
- 225 g bags
<table>
<thead>
<tr>
<th>Crop</th>
<th>Pests</th>
<th>Rate</th>
<th>PHI</th>
<th>Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apples</td>
<td>Apple aphids</td>
<td>0.4 kg/ac to 0.84 kg/ac</td>
<td>8 days</td>
<td>• Begin applications when thresholds have been reached.</td>
</tr>
<tr>
<td></td>
<td>Brown marmorated stink bug</td>
<td>0.84 kg/ac</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Codling moth</td>
<td>0.22 kg/ac to 0.84 kg/ac</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mullein bug</td>
<td>0.64 kg/ac to 1.6 kg/ha</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Oblique-banded leafroller</td>
<td>0.64 kg/ac to 1.6 kg/ha</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Spotted tentiform leafminer</td>
<td>0.64 kg/ac to 0.84 kg/ac</td>
<td></td>
<td>• Apply once at calyx using enough water to ensure adequate coverage but not over 4000 L/ha.</td>
</tr>
<tr>
<td></td>
<td>White apple leafhopper</td>
<td>0.56 kg/ac to 1.4 kg/ha</td>
<td></td>
<td>• Apply when larvae appear just after petals fall or when pheromone traps indicate adults are increasing. A second application may be required 2 weeks later.</td>
</tr>
<tr>
<td></td>
<td>Winter moth</td>
<td>0.24 kg/ac to 0.6 kg/ha</td>
<td></td>
<td>• First generation – apply at the calyx stage when the mines become visible on undersurface of leaves.</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td>• First generation nymphs – apply shortly after petal fall. Second generation nymphs – apply when nymphs appear.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Spray at late tight cluster to early pink stage using enough water to ensure adequate coverage</td>
</tr>
<tr>
<td>Broccoli Cauliflower</td>
<td>Cabbage looper</td>
<td>0.11 kg/ac to 0.22 kg/ac</td>
<td>7 days</td>
<td>• Begin applications when thresholds have been reached.</td>
</tr>
<tr>
<td>Cabbage</td>
<td>Diamondback moth</td>
<td>0.22 kg/ac to 0.54 kg/ha</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Imported cabbage worm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brussels sprouts</td>
<td>Cabbage looper</td>
<td>0.11 kg/ac to 0.22 kg/ac</td>
<td>7 days</td>
<td>• Begin applications when thresholds have been reached.</td>
</tr>
<tr>
<td></td>
<td>Diamondback moth</td>
<td>0.22 kg/ac to 0.54 kg/ha</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Imported cabbage worm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Slugs (larvae of grey garden slug)</td>
<td>0.31 kg/ac</td>
<td>30 days</td>
<td>• Apply one application and use sufficient water volumes to obtain good coverage. For slugs, make application late in the evening.</td>
</tr>
<tr>
<td>Lettuce (field)</td>
<td>Beet armyworm</td>
<td>0.21 kg/ac to 0.4 kg/ac</td>
<td>7 days</td>
<td>• Begin applications when thresholds have been reached.</td>
</tr>
<tr>
<td></td>
<td>Cabbage looper</td>
<td>0.4 kg/ac to 1 kg/ha</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Refer to the Lannate™ insecticide label for complete use instructions.
<table>
<thead>
<tr>
<th>Crop</th>
<th>Pests</th>
<th>Rate</th>
<th>PHI</th>
<th>Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peas</td>
<td>Alfalfa looper</td>
<td>0.21 kg/ac (0.51 kg/ha)</td>
<td>1 day</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Brown marmorated stink bug</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pea aphid</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potatoes</td>
<td>Aphids</td>
<td>0.22 kg/ac (0.54 kg/ha)</td>
<td>3 days</td>
<td>· Begin applications when thresholds have been reached.</td>
</tr>
<tr>
<td></td>
<td>Flea beetles</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Leafhoppers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Variegated cutworm</td>
<td>0.11 kg/ac to 0.22 kg/ac (0.27 kg/ha to 0.54 kg/ha)</td>
<td>3 days</td>
<td>· Begin applications when thresholds have been reached.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Spraying early morning and/or late evening is recommended, since pests are more active in the crop.</td>
</tr>
<tr>
<td>Snap beans</td>
<td>Brown marmorated stink bug'</td>
<td>0.22 kg/ac (0.55 kg/ha)</td>
<td>7 days</td>
<td>· Spray at 3- to 7-day intervals or as needed.</td>
</tr>
<tr>
<td></td>
<td>European corn borer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sweet Corn</td>
<td>Aphids</td>
<td>0.17 kg/ac to 0.25 kg/ac (0.43 kg/ha to 0.62 kg/ha)</td>
<td>3 days</td>
<td>· Begin applications when thresholds have been reached.</td>
</tr>
<tr>
<td></td>
<td>Corn earworm</td>
<td></td>
<td></td>
<td>For aphids apply at 5 day intervals. For corn earworm, apply 4 sprays at 2- to 4-day intervals, beginning when 25% of the ears show silk. Direct spray on the silks.</td>
</tr>
<tr>
<td></td>
<td>European corn borer</td>
<td>0.25 kg/ac (0.62 kg/ha)</td>
<td>3 days</td>
<td>· Apply at 5-day intervals when egg masses begin to hatch, but no later than when the first feeding damage is seen on leaves. Sprays should be directed into the whorl of the plant. After tassels appear, direct spray at the ear zone. In areas where the second-generation borers may be a problem, late plantings should be treated before tassels are visible. Repeat at 5 day intervals until the early silk stage.</td>
</tr>
<tr>
<td>Tobacco</td>
<td>Aphids</td>
<td>0.22 kg/ac (0.54 kg/ha)</td>
<td></td>
<td>· For aphids, use drop pipes and 3 to 5 nozzles for under leaf coverage.</td>
</tr>
<tr>
<td></td>
<td>Tomato hornworm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tomatoes</td>
<td>Aphids</td>
<td>0.11 kg/ac to 0.22 kg/ac (0.27 kg/ha to 0.54 kg/ha)</td>
<td>1 day</td>
<td>· Begin applications when thresholds have been reached.</td>
</tr>
<tr>
<td></td>
<td>Tomato fruit worm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Variegated cutworm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Brown marmorated stink bug'</td>
<td>0.22 kg/ac (0.54 kg/ha)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹ Suppression.
NEW FORMULATION. THREE UNIQUE MODES OF ACTION FOR THE BEST POSSIBLE INSECT CONTROL.

Lorsban™ NT insecticide uses innovative technology to produce a low-odour, water-based formulation of Lorsban™ 4E insecticide. Like its predecessor, Lorsban NT offers superb versatility in controlling a wide variety of pests across numerous crops.

Lorsban NT offers the same great efficacy, quick knockdown and residual control that growers have come to expect from the Lorsban brand for over 30 years. It offers all the same benefits – but now has the added advantage of lower odour. Lorsban NT controls insects not only by contact but also through ingestion and vapour inhalation. In a wide range of crops, on many pests, Lorsban is the most trusted insecticide in the world.

TARGET PESTS
• Army cutworm
• Black cutworm
• Cabbage maggot
• Colorado potato beetle (larvae)
• Darksided cutworm
• Filbert aphid
• Onion maggot
• Pale western cutworm
• Potato flea beetle
• Redbacked cutworm
• Seed weevil
• Strawberry cutworm (crown borer)
• Tarnished plant bug

CROPS
• Asian radish
• Broccoli
• Brussels sprouts
• Bulb onion
• Cabbage
• Carrot
• Cauliflower
• Celery
• Chinese broccoli
• Chinese cabbage
• Corn – field and sweet
• Cucumber
• Filberts
• Garlic
• Green onion
• Green pepper
• Pak-choi
• Potatoes
• Radish
• Rutabaga
• Strawberry
• Sugar beet
• Sunflower
• Tobacco

FORMULATION AND PACKAGING
• Emulsifiable concentrate
• 2 x 10 L jugs
<table>
<thead>
<tr>
<th>Crop</th>
<th>Pests</th>
<th>Rate</th>
<th>Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strawberry</td>
<td>Strawberry cutworm (crown borer)</td>
<td>1.2 L/ha</td>
<td>• Apply once as a foliar spray in 2,000 L/ha of spray solution between June 1 and June 15. Application of large volumes of water is desirable to ensure full wetting of the crown area of the plants.</td>
</tr>
<tr>
<td>Sugar beet</td>
<td>Redbacked cutworm, Pale western cutworm</td>
<td>1.2-2.4 L/ha</td>
<td>• Apply once to the soil or foliage in 50-200 L/ha of spray solution.</td>
</tr>
<tr>
<td>Sunflower</td>
<td>Redbacked cutworm, Pale western cutworm, Army cutworm</td>
<td>1.2 L/ha</td>
<td>• Apply once to the soil or foliage in 50-200 L/ha spray solution.</td>
</tr>
</tbody>
</table>
|              | Seed weevil                                | 1.2 L/ha | **Ground application:**  
  • Apply 1.2 L/ha in at least 20 L of water.  
  • Apply in late July to early August when populations of weevils are observed in the sunflower heads.  
**Aerial application:**  
  • Use a boom configuration that maximizes spray coverage of the target. |
| Tobacco      | Darksided cutworm                          | 1.2 L/ha | • Apply once as a foliar spray in 200-400 L/ha of spray solution on a cover crop when 10-15 cm high, 4 to 5 days before plough down.  
  • Application should also be made to fencerows and a 15 m strip into adjacent cover crop.  
  • Use nozzle pressure of 200 to 350 kPa. |
|              | Darksided cutworm, Black cutworm, Redbacked cutworm | 2.4-4.8 L/ha | **Soil treatment:**  
  • Apply once in 200-400 L/ha spray solution 3 to 7 days before planting or transplanting.  
  • Application should also be made to a 15 m strip into adjacent cover crop and to fencerows.  
  • Use the 2.4 L rate except under conditions of low soil moisture.  
  • If the top 1 cm of soil is dry, use the 4.8 L rate. |
<table>
<thead>
<tr>
<th>Crop</th>
<th>Pests</th>
<th>Rate</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Pak-Choi, Broccoli, Brussels sprout, Cabbage, Cauliflower, Chinese cabbage</td>
<td>Darksided cutworm</td>
<td>2.4 L/ha</td>
<td><strong>Pre-planting treatment:</strong></td>
</tr>
<tr>
<td></td>
<td>Black cutworm, Redbacked cutworm</td>
<td>1.2-2.4 L/ha</td>
<td>• Apply once in 200–400 L/ha spray solution 3 to 7 days before transplanting.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• DO NOT INCORPORATE.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Application should be made to a 15 m strip into adjacent fencerows.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Seedling treatment:</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Apply once in 200–400 L/ha spray solution at the 2- to 5-leaf stage of the crop.</td>
</tr>
<tr>
<td>Celery, Cucumber, Green pepper, Garlic, Rutabaga</td>
<td>Darksided cutworm</td>
<td>2.4 L/ha</td>
<td><strong>Pre-planting treatment:</strong></td>
</tr>
<tr>
<td></td>
<td>Black cutworm, Redbacked cutworm</td>
<td>1.2-2.4 L/ha</td>
<td>• Apply once in 200–400 L/ha spray solution 3 to 7 days before transplanting.</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>• DO NOT INCORPORATE.</td>
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<td>• Application should be made to a 15 m strip into adjacent fencerows.</td>
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<td></td>
<td><strong>Seedling treatment:</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Apply once in 200–400 L/ha spray solution at the 2- to 5-leaf stage of the crop.</td>
</tr>
<tr>
<td>Potatoes</td>
<td>Darksided cutworm</td>
<td>2.4 L/ha</td>
<td><strong>Pre-planting treatment:</strong></td>
</tr>
<tr>
<td></td>
<td>Black cutworm, Redbacked cutworm</td>
<td>1.2-2.4 L/ha</td>
<td>• Apply once in 200–400 L/ha spray solution 3 to 7 days before transplanting.</td>
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<tr>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Seedling treatment:</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Apply once in 200–400 L/ha spray solution at the 2- to 5-leaf stage of the crop.</td>
</tr>
<tr>
<td>Corn – field and sweet (seedling treatment only)</td>
<td>Darksided cutworm</td>
<td>2.4 L/ha</td>
<td><strong>Pre-planting treatment:</strong></td>
</tr>
<tr>
<td></td>
<td>Black cutworm, Redbacked cutworm</td>
<td>1.2-2.4 L/ha</td>
<td>• Apply once in 200–400 L/ha spray solution 3 to 7 days before transplanting.</td>
</tr>
<tr>
<td></td>
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<td><strong>Seedling treatment:</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Apply once in 200–400 L/ha spray solution at the 2- to 5-leaf stage of the crop.</td>
</tr>
<tr>
<td>Crop</td>
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<td>Rate</td>
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</tr>
<tr>
<td>-------------------------------</td>
<td>------------------------------------------</td>
<td>------------------------</td>
<td>--------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Broccoli, Cauliflower, Cabbage, Brussels sprouts, Rutabaga, Chinese cabbage, Pak-choi | Cabbage maggot                           | 210 mL/1,000 m row    | • Apply one drench spray in 1,000 L/ha spray solution, 10 cm on each side of the plant 7 to 10 days after seeding or 3 days after transplanting.  
**Post planting drench treatment:**  
• Mix 1.68 L of Lorsban™ NT insecticide in enough water to make 1,000 L of finished spray solution. Apply 12.5 L/100 m of row on soil, 10 cm on each side of the plant as directed.  
• Do not apply to harvestable portions of the crop.  
• Do not apply more than twice per season to broccoli, cabbage, cauliflower, Chinese cabbage and pak-choi.  
• Do not apply more than three times per season to Brussels sprouts.  
• Do not apply more than four times per season to rutabagas.  
• If no granular treatment used at seeding: For broccoli, Brussels sprouts, cabbage, cauliflower, Chinese cabbage and pak-choi apply a drench treatment within 3 days of transplanting (after plant recovery) or 7 to 10 days after seeding. Repeat 21 days after the transplanting drench or 28 days after the seeding drench. For rutabagas apply drench treatments at 10, 28, 49 and 70 days after seeding.  
• If granular treatment of Lorsban 15G insecticide is used at seeding: For broccoli, Brussels sprouts, cabbage and cauliflower apply a drench treatment 21 days after seeding. For rutabagas apply a drench treatment 28, 49 and 70 days after seeding.                                                                 |
| Garlic                        | Onion maggot                             | 3.5 L/ha               | • Apply as a ground drench treatment over the row in 1,000 L/ha of spray solution.           |
| Green onion                   | Onion maggot                             | 150 mL/1,000 m row     | • Apply as a drench banded over the row in 800 L/ha spray solution.                         
• Apply at the time of set planting or 7 to 10 days after seeding. |
| Bulb onion, Carrot            | Darksided cutworm, Black cutworm, Redbacked cutworm | 2.4–4.8 L/ha          | • Apply in 200–400 L/ha of spray solution.                                                  
**Soil treatment:**  
• Apply once before planting or transplanting.  
• Application should be made to a 15 m strip into adjacent fencerows.  
• Use the 2.4 L rate except under conditions of low soil moisture.  
• If the top 1 cm of soil is dry, use the 4.8 L rate.  
**Seedling treatment:**  
• Apply at the 2- to 5-leaf stage of the crop.  
• Repeat as necessary.  
• Do not use on bunching onions. |
| Potatoes                      | Potato flea beetle, Tarnished plant bug, Colorado potato beetle (larvae) | 1.04 L/ha              | • Apply weekly as a foliar spray in 400–800 L/ha spray solution.                           
• Do not make more than 9 applications per season. |
### Crop Pests Rate Guidelines

<table>
<thead>
<tr>
<th>Crop</th>
<th>Pests</th>
<th>Rate</th>
<th>Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filberts</td>
<td>Filbert aphid</td>
<td>4.2-4.8 L/ha</td>
<td>• Apply as a foliar spray using an airblast sprayer.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Direct nozzles of air blast sprayer into the orchard when spraying the border.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Do not use aerial application equipment.</td>
</tr>
<tr>
<td>Asian radish</td>
<td>Cabbage maggot</td>
<td>210 mL/1,000 m row</td>
<td>• Apply as a drench over seeded rows at 7, 20 and 35 days after seeding.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Do not apply more than 3 applications per season.</td>
</tr>
<tr>
<td>Radish</td>
<td>Cabbage maggot</td>
<td>85 mL/1,000 m row</td>
<td>• Apply in 380 L of water/1,000 m row.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Apply as a drench with seed at planting time.</td>
</tr>
<tr>
<td>Chinese broccoli</td>
<td>Cabbage maggot</td>
<td>85 mL/1,000 m row</td>
<td>• Apply in 800 L of water/1,000 m row.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Apply only once per season as a band over the row, 5 to 7 days after seeding.</td>
</tr>
</tbody>
</table>

### Tank mixes

- No registered tank mixes.

### Mixing instructions

- To prepare the spray, add approximately 1/4 of the required amount of water to the spray tank and with agitation add the Lorsban. Complete filling the tank with the balance of water needed. Maintain sufficient agitation during both mixing and application to ensure uniformity of the spray mixture.

### Optimizing performance

- Rainfast in four to six hours for foliar treatments. Soil treatments should not be applied if heavy rain is forecast. Light rainfall during or after application is helpful.
- Soil treatment: The higher rate of Lorsban should be used when the soil surface is extremely dry or the insect infestation is heavy. When a preplant soil application of Lorsban is being made to muck soil, do not incorporate. Incorporation on mineral soils should be no deeper than 5 cm.
- Ground application: Best results will be obtained when application is made when the target pest is active. Apply as a broadcast application in sufficient water to ensure thorough coverage of the foliage. Ensure uniform application.
- Aerial application:
  - Apply only by fixed-wing or rotary aircraft equipment that has been functionally and operationally calibrated for the atmospheric conditions of the area and the application rates and conditions of the label.
  - Ensure uniform application. To avoid streaked, uneven or overlapped application, use appropriate marking or guidance devices.
  - Coarse sprays are less likely to drift, so avoid combinations of pressure and nozzle type that will result in fine particles (mist).
  - Do not allow the pilot to mix chemicals to be loaded onto the aircraft. Loading of premixed chemicals with a closed system is permitted.
Crop rotations
• No re-cropping rotation restrictions.

Pre-harvest interval
• Potatoes – Do not apply within seven days of harvest.
• Filberts – Do not apply within 15 days of harvest.
• Chinese cabbage, pak-choi – Do not apply within 15 days of harvest.
• Radish, Chinese broccoli – Do not apply within 21 days of harvest.
• Strawberry – Do not apply within 20 days of harvest.
• Rutabaga (post plant drench treatment) – Do not apply within 28 days of harvest.
• Green onion, rutabaga (pre-plant or seedling treatment) – Do not apply within 30 days of harvest.
• Asian radish, broccoli, Brussels sprouts, cabbage, cauliflower – Do not apply within 32 days of harvest.
• Green pepper – Do not apply within 40 days of harvest.
• Sunflower – Do not apply within 42 days of harvest.
• Garlic – Do not apply within 50 days of harvest.
• Cucumber, bulb onion, carrot – Do not apply within 60 days of harvest.
• Celery, sweet and field corn (seedling treatment only) – Do not apply within 70 days of harvest.
• Sugar beet – Do not apply within 90 days of harvest.

Precautions
• This product is not to be used in and around homes or other residential areas such as parks, school grounds or playing fields. It is not for use by homeowners or other uncertified users.
• Do not apply to any body of water. Avoid drifting of spray onto any body of water or other non-target areas. Specified buffer zones should be observed.
• This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Avoid use when bees are actively foraging.
• Do not apply during periods of dead calm or when wind velocity and direction pose a risk of spray drift.
• The worker restricted entry interval (REI) is 24 hours for all crops except cauliflower (10 days) and Filbert (two days). Workers who must enter fields within this time period should wear a long-sleeved shirt, long pants, chemical-resistant gloves and an approved respirator with a cartridge capable of removing organic compounds.
LORSBAN™ 15G INSECTICIDE

**DEPENDABLE PRE-EMERGENT INSECT CONTROL.**

Lorsban™ 15G insecticide is an insecticidal row treatment for control of larval pests. It is non-systemic in plants, so the active ingredient is not taken up by the plant.

**TARGET PESTS**
- Cabbage maggot (larvae)
- Cutworm
- Northern corn rootworm (larvae)
- Onion maggot (larvae)
- Western corn rootworm (larvae)

**CROPS**
- Broccoli
- Brussels sprouts
- Cabbage
- Cauliflower
- Corn – field, seed and sweet
- Onion
- Rutabaga

**FORMULATION AND PACKAGING**
- Granule
- 22.7 kg bag
**Crop Pests Rate Guidelines**

**Corn – field, seed, sweet**
- Northern and Western corn rootworm larvae (control), Cutworm (suppression)
- 75 g/100 m row
  - Apply at planting as a band (row) treatment.
  - Only apply once per season.

**Onion**
- Onion maggot larvae
- 32-64 g/100 m row
  - Apply as in-furrow at-plant treatment.
  - Only apply once per season.

**Broccoli, Brussels sprouts, Cabbage, Cauliflower, Rutabaga**
- Cabbage maggot larvae
- 60-100 g/100 m row
  - Apply as in-furrow at-plant treatment.
  - Only apply once per season.

**Shallots**
- Onion maggot
- 32-64 g/100 m row
  - Apply as in-furrow at-plant treatment.
  - Only apply once per season.

**Tank mixes**
- No registered tank mixes.

**Optimizing performance**
- Ground application: Lorsban™ 15G insecticide can be applied through properly calibrated ground application equipment as an in-furrow treatment. Follow the guidelines below to calibrate the application equipment:
  1. Fill the hopper of the applicator with Lorsban 15G.
  2. Attach a plastic bag to the tube openings to catch metered product from each row outlet.
  3. Set the planter to the manufacturer’s initial settings for the desired application rate.
  4. Measure off 100 metres and drive the planter the pre-measured distance at the desired speed for application.
  5. Measure product that was metered into the bags. Each bag should contain the weight of product as listed in the rate chart for a 100 m row. For example, if the target rate was 75 g/100 m row, the bags should all contain 75 grams of product. NOTE: Lorsban 15G granules have a density where 75 grams (weight) of product will be approximately 100 mL (volume).
  6. If the application rate is over or under the desired rate, adjust the settings and repeat the calibration.

**Crop rotations**
- No re-cropping restrictions.

**Pre-harvest interval**
- Rutabaga – Do not apply within 30 days of harvest.
- Broccoli, Brussels sprouts, cabbage, cauliflower – Do not apply within 32 days of harvest.
- Field, seed and sweet corn – Do not apply within 70 days of harvest.
- Pickling onion – Do not apply within 97 days of harvest.
- Dry onion, shallots – Do not apply within 109 days of harvest.

**Precautions**
- Granules should be completely incorporated. Granule deposits from spills and accumulation at row ends should be covered with soil.
- This product is toxic to bees exposed to direct treatment, drift or residues on blooming plants. Do not use on flowering crops or weeds.
- Do not apply directly to water or wetlands as this pesticide is toxic to birds and wildlife and extremely toxic to fish and aquatic organisms.
- This product is not to be used in and around homes or other residential areas such as parks, school grounds or playing fields. It is not for use by homeowners or other uncertified users.
- The worker restricted entry interval (REI) is 24 hours for all crops, except cauliflower which is 10 days. Workers who must enter fields within this time period should wear a long-sleeved shirt, long pants, chemical-resistant gloves and an approved respirator with a cartridge capable of removing organic compounds.
RELIABLE, EASY-TO-USE INSECT CONTROL.

The active ingredient in Lorsban™ 50W insecticide, chlorpyrifos, was registered in 1965 and has been on the market for nearly 50 years.

TARGET PESTS
- Black cutworm
- Cabbage maggot
- Colorado potato beetle larvae
- Darksided cutworm
- Oriental fruit moth
- Potato flea beetle
- Redbacked cutworm
- Seedcorn maggot
- Strawberry cutworm (crown borer)
- Tarnished plant bug

CROPS
- Broccoli
- Brussels sprouts
- Cabbage
- Carrot
- Cauliflower
- Celery
- Chinese cabbage
- Cucumber
- Field corn
- Green pepper
- Nectarine
- Onion (excluding bunching onions)
- Peach
- Potatoes
- Rutabaga
- Strawberry
- Sweet corn
- Tobacco

FORMULATION AND PACKAGING
- Wettable powder
- 4 x 2 kg bags
<table>
<thead>
<tr>
<th>Crop</th>
<th>Pests</th>
<th>Rate</th>
<th>Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broccoli, Brussels sprouts, Cabbage, Chinese cabbage, Cauliflower, Celery, Cucumbers, Green pepper, Rutabaga, Corn – field and sweet</td>
<td>Darksided cutworm, Black cutworm, Red-backed cutworm</td>
<td>1.125-2.25 kg (1 water-soluble packet per 0.2-0.4 ha)</td>
<td>• Apply once in 200-400 L of water/ha at the seedling (2- to 5-leaf) stage when damage first appears.</td>
</tr>
<tr>
<td>Carrot, Onion (excluding bunching onions)</td>
<td>Darksided cutworm, Black cutworm, Red-backed cutworm</td>
<td>2.25-4.5 kg (1 water-soluble packet per 0.1-0.2 ha)</td>
<td>• Apply once in 200-400 L of water/ha at the seedling stage when damage first occurs.</td>
</tr>
</tbody>
</table>
| Tobacco                      | Seed-corn maggot                           | 400-480 g (1 water-soluble packet per 1.0-1.25 ha) | • Mix 27.5 g of product with 200 L of water and apply 200 mL with each plant at transplanting.  
• Do not use with starter fertilizers or lindane.  
• Apply once per season. |
| Cabbage                      | Cabbage maggot                             | 1.55-1.625 kg (1 water-soluble packet per 0.3 ha) | • Mix 65 g of product with 200 L of water and apply 200 mL with each plant at transplanting.  
• Do not use with starter fertilizers or lindane.  
• Apply once per season. |
| Strawberry                   | Strawberry cutworm (crown borer)          | 1.125 kg (1 water-soluble packet per 0.4 ha) | • Apply once in 2,000 L of water/ha between June 1 and June 15.  
• Large volumes of water are desirable to ensure full wetting of the crown area of the plant. |
| Potatoes                     | Potato flea beetle, Tarnished plant bug, Colorado potato beetle (larvae) | 1.125-2.25 kg (1 water-soluble packet per 0.2-0.4 ha) | • Apply weekly as needed in 200-400 L/ha of water. Do not make more than 9 applications per season. |
Crop | Pests | Rate | Guidelines
---|---|---|---
Peach, Nectarine | Oriental fruit moth | 3.5 kg/ha | RESTRICTED USE: To be used only in the Oriental Fruit Moth Resistance Management Program in the Regional Municipality of Niagara and Essex County coordinated by the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA).
- Best results will be obtained when application of Lorsban is timed for egg hatch or first instar larvae of first generation oriental fruit moth usually around shuck to shuck-split.
- Growers should consult a local OMAFRA pest management specialist for exact timing of applications.
- Make 1 to 2 applications as needed. Apply as ground application only using an airblast sprayer.
- Apply product in 1,000–2,000 L water/ha (amount of water will vary depending on tree size).
- Direct nozzles of air blast sprayer into the targeted peach/nectarine tree orchard when spraying border rows.

Tank mixes
- No registered tank mixes.

Mixing instructions
- Lorsban™ insecticide mixes readily with water to form a suspension. Do not apply Lorsban with liquid fertilizer or oil as a carrier.
- Fill the spray tank 1/3 full of water. Activate the agitation system.
- Add the required number of water-soluble packets to the spray tank. Complete filling the spray tank while the water-soluble packets dissolve and the Lorsban disperses. Before beginning to spray, make sure the Lorsban has dispersed and the water-soluble packets have dissolved. Maintain sufficient agitation during both mixing and application to ensure uniformity of the spray mixture.
- Depending on the water temperature and degree of agitation, the water-soluble packets and Lorsban should be completely dispersed within approximately five minutes from the time they were added to the water.
- Lorsban contains a wetting agent. Do not use additional wetting agents, spreaders or stickers.

Optimizing performance
- Rainfast in four to six hours for foliar treatments. Soil treatments should not be applied if heavy rain is forecast. Light rainfall during or after application is helpful.
- The over-pack contains 4 x 500 g water-soluble packets. Do not allow water-soluble packets to become wet prior to adding to the spray tank. Wear gloves when handling water-soluble packets. Do not handle water-soluble packets with wet gloves. Do not excessively handle water-soluble packets since this may cause breakage. Reseal over-pack to protect remaining water-soluble packets.
- Ground application: Best results will be obtained when application is made during the early evening. Apply as a broadcast application in sufficient water to ensure thorough coverage of the foliage. Ensure uniform application. To avoid streaked, uneven or overlapped application, use appropriate marking devices. Coarse sprays are less likely to drift, so avoid combinations of pressure and nozzle type that will result in fine particles (mist).
- Aerial application: Not registered for aerial application.
Crop rotations
• No re-cropping restrictions.

Pre-harvest interval
• Potatoes – Do not apply within seven days of harvest.
• Strawberry – Do not apply within 20 days of harvest.
• Peach, nectarine – Do not apply within 21 days of harvest.
• Rutabaga – Do not apply within 30 days of harvest.
• Cabbage, Chinese cabbage, cauliflower, broccoli, Brussels sprouts – Do not apply within 32 days of harvest.
• Green pepper – Do not apply within 40 days of harvest.
• Carrot, cucumber, onion – Do not apply within 60 days of harvest.
• Celery, corn (field and sweet) – Do not apply within 70 days of harvest.

Precautions
• Do not apply by air.
• Water-soluble packets may become brittle when stored below 0 C.
• This product is highly toxic to bees exposed to direct treatment, drift or residues on blooming plants. Do not use on flowering crops or weeds.
• Observe buffer zones – Keep out of lakes, streams, ponds and other waterways.
• This product is not to be used in and around homes or other residential areas such as parks, school grounds or playing fields. It is not for use by homeowners or other uncertified users.
• The worker restricted entry interval (REI) is 24 hours for all crops, except cauliflower which is 10 days, peaches and nectarines 4 days. Workers who must enter fields within this time period should wear a long-sleeved shirt, long pants, chemical-resistant gloves and an approved respirator with a cartridge capable of removing organic compounds.
NATURALYTE INSECT PROTECTION FOR USE IN GREENHOUSE, TREE FRUIT AND VEGETABLES.

Success™ insecticide is a revolutionary bio-insecticide, active on several important insects, with a unique mode of action. It is safe to beneficial insects making it a perfect fit in integrated pest management systems.

The active ingredient in Success is spinosad, the first of an entirely new and revolutionary class of insect control products called Naturalyte. These insect control products are natural metabolites derived from living organisms. Spinosad is produced by fermentation of naturally occurring bacteria (Saccharopolyspora spinosa).

TARGET PESTS

- Asparagus beetle
- Blueberry fleabeanle
- Blackheaded fireworm
- Cabbage looper
- Cabbage maggot
- Clearwing moth
- Colorado potato beetle larvae
- Cranberry fruitworm
- Diamondback moth
- European corn borer larvae
- Eye-spotted budmoth
- Flea beetle
- Grapeberry moth
- Imported cabbageworm
- Leafroller species (oblique-banded, three-lined, fruittree and European)
- Leek moth
- Peach twig borer
- Potato stem borer
- Prairie tent caterpillar
- Spanworm
- Sparganothis fruitworm
- Spotted wing drosophila
- Swede midge
- Thrips
- Winter moth

CROPS

- Asparagus
- Basil
- Brassica (cole) leafy vegetables
- Broccoli greenhouse transplants
- Bulb vegetables
- Bushberries
- Caneberries
- Chokecherry
- Cranberry
- Dill seed
- Fruiting vegetables
- Ginseng
- Grape
- Greenhouse ornamentals
- Greenhouse vegetables
- Leafy vegetables
- Low growing berries
- Onions
- Pome fruit
- Potatoes
- Rhubarb
- Root and tuber vegetables
- Snap bean
- Strawberry
- Stone fruits
- Sweet corn

FORMULATION AND PACKAGING

- Liquid suspension
- 16 x 1 L jugs
<table>
<thead>
<tr>
<th>Crop</th>
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</table>
| Pome fruits, Stone    | Oblique-banded leafroller larvae, Three-lined leafroller, Fruittree leafroller, European leafroller, Eye-spotted budmoth | 182 mL/ha       | For control of the overwintering generation:  
  - Monitor leafroller populations in the spring and apply product when they begin emerging and are actively feeding, but before they roll up in the leaves.  
  - Target early larval stages before insect damage.  
  - Depending on severity of the pest infestation, a second application may be required 7 to 10 days later.  
  For control of the summer generation:  
  - Monitor adult moth flights and larval densities to determine correct timing for application.  
  - Monitor the moth flight by setting pheromone traps in orchards before the earliest known flight. This will assist in determining biofix.  
  - Spray first application 180 to 220 degree-days after first moth catch, typically 10 to 12 days after biofix.  
  - A repeat application may be required 7 to 10 days later.  
  - For codling moth, larvae must be controlled before they enter the fruit. Apply at first egg hatch and repeat at 7- to 10-day intervals. |
| Stone fruits          | Spotted winged drosophila                                            | 182 mL/ha       | • Apply based on the presence of adult pests (flies) as determined by local monitoring.                                                   |
| Apple                 | Clearwing moth                                                       | 125 mL/ha       | • Adult activity may occur approximately from early June to mid-August, but monitoring is required to ensure proper timing.  
  • Make the first application within 10 days of the first adult emergence and repeat applications at 7- to 10-day intervals throughout the period of adult activity up to a maximum of 7 applications. |
| Peach                 | Peach twig borer (suppression)                                       | 182 mL/ha       | • For overwintering generations monitor larval population in the spring, and apply when overwintering larvae become active, from early petal fall to husk fall.  
  • For summer generations, monitor adult moth flight, and apply at first egg hatch. |
| Asparagus             | Asparagus beetle                                                     | 145 mL/ha       | • Make applications to the asparagus ferns only. Application timing is at egg hatch or to small larvae.                                    |
| Potatoes              | Colorado potato beetle larvae, European corn borer larvae            | 83-166 mL/ha    | • Target spray at first egg hatch to third instar for Colorado potato beetle.  
  • Target egg hatch for control of European corn borer larvae.  
  • Depending on severity of the infestation, a second application may be required in 7 to 10 days. |
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</table>
| Root and tuber vegetables   | Cabbage looper, Imported cabbageworm, Diamondback moth (control), Flea beetle (suppression) | 182 mL/ha | • Monitor larval population and apply when treatment thresholds are exceeded.  
• Re-treatment may be required in 7 to 10 days. |
| Sweet corn                  | European corn borer                                                  | 83 mL/ha | • Scout for European corn borer to monitor egg laying and egg hatch. In order to achieve effective control, applications must be timed to coincide with peak egg hatch.  
• Do not exceed 83 mL/ha per application.  
• Re-treatment may be required in 7 to 10 days. |
| Leafy vegetables            | Cabbage looper, Imported cabbageworm, Diamondback moth              | 182 mL/ha | • Monitor larval population and apply when treatment thresholds are exceeded.  
• Re-treatment may be required in 7 to 10 days. |
| Brassica (cole) leafy vegetables | Thrips (suppression), Swede midge reduction in damage               | 146 mL/ha | • For thrips, apply when the pest first appears.  
• For Swede midge, apply when local treatment thresholds have been reached as determined by monitoring.  
• Reapply at 7- to 10-day intervals if monitoring indicates this is necessary. |
|                            | Cabbage looper, Imported cabbageworm, Diamondback moth              | 182 mL/ha | • For thrips, apply when the pest first appears.  
• For Swede midge, apply when local treatment thresholds have been reached as determined by monitoring.  
• Reapply at 7- to 10-day intervals if monitoring indicates this is necessary. |
| Rhubarb                     | Potato stem borer                                                   | 182 mL/ha | • Larvae of potato stem borer are active from early May to mid-July. The insect feeds on plants around cultivated fields and later move into rhubarb fields feeding on the petioles.  
• Success™ insecticide must be applied to the foliage as soon as monitoring indicates that larvae are beginning to move into the crop.  
• Re-treatment may be required in 7 to 10 days. |
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</table>
| Fruiting vegetables | European corn borer, Colorado potato beetle | 83 mL/ha | • Scout fields to monitor egg laying and egg hatch.  
• Target spray at first egg hatch to third instar for Colorado potato beetle.  
• Target egg hatch for control of European corn borer larvae.  
• Depending on severity of the infestation, a second application may be required in 7 to 10 days.  
• Do not exceed 83 mL/ha per application. |
| Cabbage looper, imported cabbageworm, Diamondback moth | 182 mL/ha | • Monitor larval population and apply when treatment thresholds are exceeded.  
• Re-treatment may be required in 7 to 10 days. |
| Chokecherry (Prairie provinces only) | Prairie tent caterpillar | 25 mL/ha | • Spot application only.  
• Apply directly into the web and the surrounding foliage for at least 1 metre around the tents.  
• Applications should be made early when webs are first observed. |
| Nectarine | Western flower thrip (suppression) | 182 mL/ha | • Apply from early petal fall to husk fall.  
• Re-treatment may be required in 7 to 10 days.  
• Do not exceed 1 application per year for this pest. |
| Snap bean | European corn borer | 83 mL/ha | • Scout fields to monitor egg laying and egg hatch.  
• Target egg hatch for control of European corn borer larvae.  
• Depending on severity of the infestation, a repeat application may be required in 7 to 10 days.  
• Do not exceed 83 mL/ha per application. |
| Greenhouse ornamentals | Exposed western flower thrips | 50 mL/ha | • Monitor population and apply early at first sign of infestation.  
• Ensure thorough coverage.  
• Depending on severity of the infestation, a repeat application may be required in 7 to 10 days. |
| Greenhouse vegetables (lettuce, pepper, cucumber, tomato, eggplant) | Cabbage looper | 120 mL/ha | • Apply when eggs hatch and first instar larvae are present.  
• For European corn borer, apply when eggs hatch and first instar larvae are present.  
• For western flower thrip, apply when the pest first appears.  
• Monitoring is critical for the proper timing of the insecticide. Applications must be made in water volumes that ensure thorough coverage. |
| Brassica Leafy Greens, Greenhouse Transplants (Crop Subgroup 4-13B) | Cabbage maggot | 12.5 mL in 2 L of water per 1,000 plants | • Apply as a drench before transplanting to the field.  
• Immediately after application, apply 2 L of water per 1,000 plants to rinse the product off the plants and into the soil. |
<table>
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<tr>
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</tr>
</thead>
</table>
| Grape                       | Grapeberry moth (suppression), Thrips (suppression) | 182 mL/ha | • Scout to monitor egg laying and egg hatch.  
• Applications must be timed to coincide with peak egg hatch.                                                                     |
|                             | Spotted wing drosophila                         | 182 mL/ha | • Apply based on the presence of adult pests (flies) as determined by local monitoring.                                                 |
| Cranberry                   | Cranberry fruitworm (suppression)               | 365 mL/ha | • Based on phenological stage of the plant, apply 3 to 7 days after the fruit set has reached 50%, which corresponds to the beginning of egg hatch.  
• If cranberry fruitworm is present at the same time as blackheaded fireworm or sparganothis fruitworm, the higher rate of 365 mL/ha in a minimum of 500 L of water may be used. |
|                             | Blackheaded fireworm, Sparganothis fruitworm    | 182 mL/ha | • Apply in 500 L/ha of solution to ensure thorough coverage of the foliage.                                                               |
| Lowbush blueberry           | Blueberry flea beetle (suppression)              | 165-220 mL/ha | • Apply when the blueberry flea beetles are in the early larval stage.  
• Allow 7 to 10 days between applications.  
• Ensure thorough and complete coverage of the foliage.                                                                            |
| Caneberry subgroup (Crop group 13-07A) | Oblique-banded leafroller, Cabbage looper, Spanworm, Winter moth | 145-182 mL/ha | • Monitor the population of the pest on a regular schedule and time treatment for control at egg hatch or small larvae.  
• Use the upper rate under high insect pressure and/or on large larvae.                                                           |
|                             | Spotted wing drosophila                         | 165-220 mL/ha | • Apply based on the presence of adult pests (flies) as determined by local monitoring.                                                  |
| Bushberry subgroup (Crop group 13-07B) | Oblique-banded leafroller, Spanworm, Winter moth | 145-182 mL/ha | • Monitor the population of the pest on a regular schedule and time treatment for control at egg hatch or small larvae.  
• Use the upper rate under high insect pressure and/or on large larvae.                                                           |
|                             | Spotted wing drosophila                         | 165-220 mL/ha | • Apply based on the presence of adult pests (flies) as determined by local monitoring.                                                  |
| Low-growing berry subgroup (Crop group 13-07G) | Oblique-banded leafroller, Cabbage looper, Winter moth | 145-182 mL/ha | • Monitor the population of the pest on a regular schedule and time treatment for control at egg hatch or small larvae.  
• Use the upper rate under high insect pressure and/or on large larvae.                                                           |
| Low-growing subgroup – strawberry (Crop group 13-07G) | Spotted wing drosophila                        | 145-182 mL/ha | • Apply based on the presence of adult pests (flies) as determined by local monitoring.                                                  |
### Crop Pests Rate Guidelines

<table>
<thead>
<tr>
<th>Crop</th>
<th>Pests</th>
<th>Rate</th>
<th>Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulb vegetables</td>
<td>Onion thrip (suppression),</td>
<td>218–262 mL/ha</td>
<td>• For onion thrip, apply when they first appear, targeting egg hatch or small nymphs.</td>
</tr>
<tr>
<td></td>
<td>Leek moth (suppression)</td>
<td></td>
<td>• For leek moth, apply 1 week after peak pheromone trap capture, targeting eggs at hatch or small larvae.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Apply in sufficiently high water volume and pressure to ensure the spray solution penetrates into the leaf axils.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Multiple applications may be required to achieve suppression of onion thrip and leek moth.</td>
</tr>
<tr>
<td>Basil (fresh and dried),</td>
<td>Cabbage loopers (control),</td>
<td>182 mL/ha</td>
<td>• Apply at egg hatch or to small larvae.</td>
</tr>
<tr>
<td>dill seed</td>
<td>Thrips (suppression)</td>
<td></td>
<td>• Allow 7 to 10 days between applications.</td>
</tr>
<tr>
<td>Ginseng</td>
<td>Leafrollers</td>
<td>145–182 mL/ha</td>
<td>• Ensure thorough and complete coverage of the foliage.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Use the upper rate under high insect pressure and/or for large larvae.</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>• Repeat applications based on monitoring of insect populations. Reapply in 7 to 10 days if required.</td>
</tr>
</tbody>
</table>
Tank mixes
• No registered tank mixes.

Mixing instructions
• Apply in 1,000 L/ha of water (unless specifically noted).
• Fill the spray tank with water to 1/2 the total spray volume required. Start agitation.
• Ensure the pH of the water is between 6 and 8. Adjust if necessary.
• Add required amount of product per hectare.
• Continue mixing and agitation while filling the spray tank to the required volume.

Optimizing performance
• Spray solution pH can affect the performance of Success.
  – A pH between 6 and 8 is preferred for optimal performance.
  – If required, adjust spray solution pH prior to the addition of Success to the spray tank.
• Rainfast when spray solution has dried on the vegetation – two hours.
• Ground application: Use ground airblast equipment capable of thorough coverage of all plant parts.
• Aerial application: Registered for aerial application in potatoes only.

Crop rotations
• No crop rotation restrictions.

Pre-harvest interval
• Cranberry – Do not apply within 21 days of harvest.
• Pome fruit, potatoes, chokecherry, grape, sweet corn – Do not apply within seven days of harvest.
• Cherry, brassica vegetables, root and tuber vegetables, bulb vegetables, bushes, bean, ginseng, bushberry subgroup – Do not apply within three days of harvest.
• Peach, nectarine, plum, apricot, leafy vegetables, fruiting vegetables, onions, basil, dill seed, strawberry, caneberry subgroup – Do not apply within one day of harvest.

Precautions
• Avoid use when bees are actively foraging.
• Sweet corn, fruiting vegetables – Do not exceed two applications per year.
• Broccoli greenhouse transplants – Do not exceed one application per year.
• Other registered crops – Do not exceed three applications per year.
• The worker restricted entry interval (REI) is: For sweet corn, do not enter, or allow worker entry, into treated areas within seven days after application to carry out detasselling or hand harvesting activities. For crops in the brassica leafy greens crop subgroup 4-13B and brassica head and stem vegetables crop group 5-13 and kohlrabi, do not enter, or allow worker entry, into treated areas for three days to carry out hand harvesting, irrigating, pruning, topping, thinning, or tying activities. For potatoes, greenhouse lettuce, cucumbers, peppers, tomatoes and eggplant, do not enter, or allow worker entry, into treated areas during the restricted entry interval (REI) of 12 hours after application. For all other activities, do not enter, or allow workers, adults, children or pets to enter into treated areas until pesticide residues have dried.
UNMATCHED SPEED AND EFFECTIVENESS.
When outbreaks occur, it’s important to knock insects down fast — before yield and quality are compromised. TwinGuard™ insecticide is the new standard for fast, effective, broad-spectrum control of both sucking and chewing pests for stone fruit and pome fruit growers.

TwinGuard delivers fast, effective control plus improved flexibility and peace of mind in IPM programs. It works through two modes of action, combining innovative Isoclast active with spinetoram, another Corteva Agriscience active ingredient from a different chemistry group.

TwinGuard is easy to use, is compatible with many fungicides and micronutrients and offers ultimate tank mix flexibility. Even though it’s tough on both sucking and chewing insects, it has an excellent applicator and environmental profile and is easy on beneficial insects.
<table>
<thead>
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</table>
| Pome fruit             | Aphids – Green apple aphid, Rosy apple aphid, Spirea aphid | 250 g/ha | • Monitor the crop on a regular basis. Consult local authorities to determine threshold numbers and the most effective time to apply control measures in your local area. Thorough coverage is essential for good control.  
• For San Jose scale, apply when crawlers are active. |
| San Jose scale         |                                            | 250-500 g/ha |                                                                             |
| Woolly apple aphid     |                                            | 500 g/ha | • Make two applications 14 days apart in combination with an adjuvant. An adjuvant must be added if pest pressure is high. For applications at or before green tip stage, add dormant oil containing mineral oil at a rate 90 L/ha. For applications made after green tip stage, add methylated seed oil (MSO) or other horticulture oil at 0.2 % v/v. Follow mixing instructions as directed on the adjuvant label. |
| Codling moth, Oriental fruit moth |                                            | 500 g/ha | • For the control of each generation, apply at first egg hatch based on pheromone trap catches and degree-days after biofix dates. These pests must be controlled before the larvae penetrate the fruit so early timing is critical. Repeat at 14-day intervals to maintain control depending on pest pressure. |
| Oblique-banded leafroller, Three-lined (pandemis) leafroller |                                            | 250-500 g/ha | • For control of the overwintering (spring) generation, apply when larvae have emerged and are actively feeding but before they roll up in the leaves. Under high insect pressure, an application timed to target the overwintering generation is recommended to reduce summer populations.  
• For control of the summer generation, apply at first egg hatch as determined by monitoring adult moth flights. Repeat in 14 days if populations indicate a second application is required. Use the higher rate under high pest pressure and/or larger larvae. |
<p>| Spotted leafminer, Western tentiform leafminer |                                            | 250-500 g/ha | • Apply at egg hatch as determined by monitoring or at the first sign of sap-feeding on the leaves to control leafminers. Use the higher rate under high pest pressure. |
| Apple maggot           |                                            | 500 g/ha | • Apply 7 to 10 days after the first apple maggot fly is caught on yellow, scented sticky boards near or in the orchard. Repeat in 14 days if populations warrant. |
| Plum curculio          |                                            | 500 g/ha | • Monitor trees along the edge of the orchard or adjacent wild trees for the first sign of feeding damage after bloom. Repeat in 14 days if populations warrant. |</p>
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<tbody>
<tr>
<td>Potatoes</td>
<td>Aphids</td>
<td>200 g/ha</td>
<td>• Monitor the crop on a regular basis. Consult local authorities to determine threshold numbers and the most effective time to apply control measures in your local area. Thorough coverage is essential for good control.</td>
</tr>
<tr>
<td>Colorado potato beetle</td>
<td>200–300 g/ha</td>
<td></td>
<td>• Apply at egg hatch or small larvae. Use the higher rate for higher pest pressure or for larger larvae. Reapply in 7 to 14 days if necessary depending on pest pressure.</td>
</tr>
<tr>
<td>European corn borer</td>
<td>200 g/ha</td>
<td></td>
<td>• Monitor egg laying and egg hatch to determine application timing. Time the application to coincide with peak egg hatch.</td>
</tr>
<tr>
<td>Stone fruit</td>
<td>Oriental fruit moth</td>
<td>500 g/ha</td>
<td>• For the control of each generation, apply at first egg hatch based on pheromone trap catches and degree-days after biofix dates. These pests must be controlled before the larvae penetrate the fruit so early timing is critical. Repeat at 14-day intervals to maintain control depending on pest pressure.</td>
</tr>
</tbody>
</table>
| Oblique-banded leafroller, Three-lined (pandemis) leafroller | 250–500 g/ha                                               |           | • For control of the overwintering (spring) generation, apply when larvae have emerged and are actively feeding but before they roll up in the leaves. Under high insect pressure, an application timed to target the overwintering generation is recommended to reduce summer populations.  
  • For control of the summer generation, apply at first egg hatch as determined by monitoring adult moth flights. Repeat in 14 days if monitoring of populations indicates a second application is required. Use the higher rate under high pest pressure and/or larger larvae. |
| Aphids – Green peach aphid, Mealy plum aphid, Black cherry aphid | 250 g/ha                                                   |           | • Monitor the crop on a regular basis. Consult local authorities to determine threshold numbers and the most effective time to apply control measures in your local area. Thorough coverage is essential for good control.                                                                 |
| San Jose scale           | 250–500 g/ha                                               |           | • For San Jose scale, apply when crawlers are active.                                                                                                                                                                                                                                                                                     |
**Tank mixes**

- No registered tank mixes.
- In some cases, tank mixing a pest control product with another pest control product or a fertilizer can result in biological effects that could include, but are not limited to, reduced pest efficacy or increased host crop injury. The user should contact Corteva Agriscience™ at 1-800-667-3852 or corteva.ca for information before mixing any pesticide or fertilizer that is not specifically recommended on the label. The user assumes the risk of losses that result from the use of tank mixes that do not appear on this label or that are not specifically recommended by Corteva Agriscience.

**Mixing instructions**

- Apply in sufficient water to ensure thorough coverage.
- Fill the spray tank with water to 1/2 the total spray volume required. Start agitation.
- Add required amount of the product.
- Continue mixing and agitation while filling the spray tank to the required spray volume.
- Do not allow water or spray mixture to back-siphon into the water source.

**Optimizing performance**

- Ground application: Use spray equipment capable of thorough coverage of the crop, ensuring uniform coverage of the target pest.
- Aerial application: Registered for aerial application in potatoes only.
- Carefully read, understand and follow label use rates and restrictions.
- Use a minimum of 100 L of water per hectare for field sprayer applications and 500 L of water per hectare for airblast applications.
- Apply as a foliar spray at the rate indicated for the target pest with properly calibrated spray equipment. The low rates may be used for light infestations of the target pests and the higher rates for moderate to heavy infestations.
- Proper application techniques help ensure thorough spray coverage and correct dosage for optimum insect control.
- Do not enter or allow entry into treated areas during the restricted-entry interval (REI) of 12 hours or until sprays have dried.

**Crop rotations**

- No re-cropping restrictions.

**Pre-harvest interval**

- Observe a minimum pre-harvest interval of seven days.

**Precautions**

- Do not apply during periods of dead calm or when winds are gusty.
- Do not apply when wind speed is greater than 16 km/h at the application site as measured outside of the treatment area on the upwind side.
- Do not direct spray above plants to be treated.
- Turn off outward pointing nozzles at row ends and outer rows.
- Apply in sufficient spray solution to ensure thorough coverage of plant foliage.
- Do not make more than two applications per growing season.
- DO NOT apply this product during crop flowering period or when flowering weeds are present in the treatment area (except potatoes where applications during crop flowering period are allowed).
EFFECTIVE CONTROL OF VARIOUS INSECTS, INCLUDING COLORADO POTATO BEETLE AND NEMATODES.

Vydate™ insecticide, a Group 1A (carbamate) product, effectively controls various insect pests in non-bearing apple trees, potatoes and raspberries.

In non-bearing apple trees, Vydate controls root-lesion nematodes, apple rust mites, European red mites, green apple aphid, leafhoppers, leafrollers, rosy apple aphid, tarnished plant bug, tentiform leafminers and two spotted spider mites.

In potatoes, Vydate controls aphids (green peach, potato), flea beetles, potato leafhopper, tarnished plant bug and Colorado potato beetle. Note: Colorado potato beetles resistant to carbamates will not be controlled.

In raspberries, Vydate suppresses raspberry root-lesion nematode.

TARGET PESTS
- Aphids (green peach, potato)
- Apple rust mites
- Colorado potato beetle
- European red mites
- Flea beetles
- Foliar treatment
- Green apple aphid
- Leafhoppers
- Leafrollers
- Potato leafhopper
- Raspberry root-lesion nematode
- Root-lesion nematodes
- Rosy apple aphid
- Soil drench treatment
- Tarnished plant bug
- Tentiform leafminers
- Two spotted spider mites

CROPS
- Non-bearing apple trees
- Potatoes
- Raspberries

FORMULATION AND PACKAGING
- Water soluble liquid
- 10 L jug
<table>
<thead>
<tr>
<th>Crop</th>
<th>Pests</th>
<th>Rate</th>
<th>PHI</th>
<th>Application Information</th>
</tr>
</thead>
</table>
| Non-bearing apple trees       | Root-lesion nematodes Soil drench treatment                          | 1.25 L per 1000 L of water                         | N/A | • Apply drench at a rate of 3.5 to 10 L in a circle approximately 1 metre in diameter around the base of each tree to cover the root zone.  
  • Apply in spring just as active root and green leaf growth commences on young whips and non-bearers already established. Temperatures should be over 7°C. Do not apply to trees under water stress or if not actively growing.  
  • Do not dip nursery stock. For best results apply a soil drench and one foliar spray at the high rate. Apply both treatments when growth commences. |
| Root-lesion nematodes Foliar treatment | 4.1 to 7 L per 1000 L of water and apply as a dilute spray                |                                                    |     | • Spray to runoff. Apply first spray at first full leaf or when plants are in a period of active growth.  
  • Apply on a 2 to 3 week schedule for a total of three applications.  
  • Do not apply to plants under water stress or to plants not actively growing. |
| Apple rust mites European red mites Green apple aphid Leafhoppers Leafrollers Rosy apple aphid Tarnished plant bug Tentiform leafminers Two spotted spider mites | 1.5 to 3 L per 1000 L of water |                                                    |     | • Apply as a dilute spray. Spray to runoff.  
  • Apply as needed to maintain control. |
| Potatoes                      | Aphids (green peach, potato) Colorado potato beetle Flea beetles Potato leafhopper Tarnished plant bug | 0.92 L/ac to 1.2 L/ac (2.3 L/ha to 3 L/ha)          | 7 days | • Thorough coverage is very important. Apply sufficient volume of spray solution to thoroughly wet the foliage. Make applications when insects first appear and repeat weekly or as needed. Use the low rate for light infestations of insects. Use the higher rate for severe infestations or if aphids are the primary pest.  
  • Do not make more than 2 applications per season. |
| Raspberries                   | Raspberry root-lesion nematode Soil drench treatment                  | 3.74 L/ac (9.35 L/ha)                              | N/A | • Apply one application in fall before October 31 as a soil drench over raspberry roots. Apply only once during a 12 month period. Do not apply in the spring.  
  • No workers in treated area during REI of 12 hours. |

1 Colorado potato beetles resistant to carbamates will not be controlled.  
2 Suppression.
SPEED, AGILITY AND EXCEPTIONAL COVERAGE.

- Acapela™ fungicide has one-of-a-kind movement properties that help provide superior coverage to deliver reliable disease control under a variety of conditions
  - Rapid uptake, excellent xylem systemic movement and redistribution over the leaf surface
- Acapela provides control of important foliar diseases including Northern leaf blight
- Acapela helps to deliver healthier crops and higher yield potential

TARGET DISEASES
- Anthracnose in lentils
- Ascochyta blight in lentils
- Asian soybean rust
- Mycosphaerella blight on field peas
- Northern corn leaf blight
- Sclerotinia rot (white mould)

CROPS
- Canola
- Cereals (barley, oats, rye, triticale, wheat)
- Corn (field, seed, sweet, popcorn)
- Soybeans
- Dry edible beans

CROP ROTATION
- Any crop the following year

FORMULATION AND PACKAGING
- Suspension concentrate
- 2 x 9.6 L jugs
<table>
<thead>
<tr>
<th>Crop</th>
<th>Diseases</th>
<th>Rate</th>
<th>Guidelines</th>
</tr>
</thead>
</table>
| Corn sweet               | Northern corn leaf blight                     | 0.21 to 0.32 L/ac (0.53 to 0.8 L/ha) | • Begin applications prior to disease development and continue on a 7- to 14-day interval. Use higher rate and shorter interval when disease pressure is high.  
• For optimal disease control, apply at full tassel (VT) to milk stage (R3) corn. |
| Dry legumes: Adzuki bean, Blackeyed pea, Broad bean (dry), Catjang, Chickpea, Cowpea, Crowder pea, Field bean, Field pea, Grain lupin, Guar, Kidney bean, Lablab bean, Lentil, Lima bean, Moth bean, Mung bean, Navy bean, Pigeon pea, Pinto bean, Rice bean, Southern pea, Sweet lupin, Tepary bean, Urd bean, White lupin | Mycosphaerella blight on field peas  
Asian soybean rust  
Anthracnose in lentils  
Ascochyta blight in lentils | 0.24 to 0.35 L/ac (0.6 to 0.88 L/ha) | • Begin applications prior to disease development and continue on a 7- to 14-day interval. Use higher rate and shorter interval when disease pressure is high. |
|                          | Sclerotinia rot' (white mould)                | 0.35 L/ac (0.88 L/ha)     | • For white mould, make initial preventive application at beginning bloom and follow with second application 7 to 10 days later at full bloom.                                                             |

Refer to the Acapela label for complete use instructions.

1 Suppression.
CURZATE HAS BEEN BEATING BLIGHT FOR OVER 40 YEARS.

Curzate™ fungicide is highly effective with its locally systemic activity. It rapidly penetrates the foliage and stem surfaces to provide multi-levels of fast-acting disease control. Curzate can help stop disease post-infection but cannot reverse damage already done, so make sure you apply prior to symptoms appearing. Always tank-mix with a preventative broad-spectrum fungicide to control early blight.

- Employs a combination of preventative, post-infection and antisporulant activity
- Management at point sources of infection
- Unique post-infection activity
- Registered for aerial application

TARGET DISEASES
- Early blight
- Late blight

CROPS
- Potatoes

FORMULATION AND PACKAGING
- Dry flowable
- 1.8 kg bag
<table>
<thead>
<tr>
<th>Crop</th>
<th>Diseases</th>
<th>Rate</th>
<th>PHI</th>
<th>Guidelines</th>
</tr>
</thead>
</table>
| Potatoes | Early blight'     | Apply Curzate at 90 g/ac (225 g/ha) in a tank mix with a registered Group M fungicide, such as Dithane™ Rainshield™ fungicide. | 8 days | • Initial applications should start when local conditions indicate that late blight is imminent; make additional applications at 5- to 7-day intervals, however at least 20 days must pass between the second and third application.  
• If disease conditions are present during this 20 day period, a fungicide other than Curzate must be used to protect the crop during this period.  
• Apply no more than 4 applications per crop.  
• May be applied by air. Apply by air with a minimum water volume of 50 L/ha.  
• Do not handle more than 50 kg of Curzate fungicide per day for aerial applications.  
• Maximum for ground application is 38 kg. |

Refer to the Curzate™ insecticide label for complete use instructions.

1 Early blight is controlled by the registered tank-mix with a Group M fungicide.
Dithane™ Rainshield™ fungicide provides broad-spectrum disease control and acts on six enzymatic pathways in the fungal cell to inhibit spore germination. It is a high quality mancozeb contact fungicide with broad registrations on more than 30 vegetable, fruit, field, vine and specialty crops. Dithane’s unique multi-site activity explains why no fungal resistance has developed in over 40 years of use. In the field, that means consistent performance and reliable protection throughout the season, right up to harvest.

Dithane Rainshield contains innovative formulation technology that contributes to greater adhesion, better nozzle flow, quick dispersion, suspendability in the spray tank and less foaming.

**TARGET DISEASES**
- Algae leaf
- Alternaria leaf spot and blight
- Anthracnose
- Black rot
- Blue mold
- Botrytis leaf blight
- Cedar apple rust
- Coryneum blight
- Dieback
- Downy mildew
- Early blight
- Gummy stem blight
- Honeysuckle blight
- Keithia blight
- Late blight
- Leaf blight
- Leaf rust
- Leaf spot diseases
- Lophodermium needle cast
- Onion smut
- Pear trellis rust
- Quince rust
- Rhabodcline needle cast
- Scab
- Septoria leaf blotch
- Stem spot disease
- Stemphyllium
- Tan spot
- Twig blight

**CROPS**
- Alfalfa (seed production)
- Apples
- Carrots
- Celery
- Cucurbits
- Ginseng
- Grape
- Herbs
- Honeysuckle
- Onion
- Ornamentals
- Potatoes
- Tobacco
- Tomatoes
- Wheat

**FORMULATION AND PACKAGING**
- Dispersible granule
- 20 kg bag
<table>
<thead>
<tr>
<th>Crop</th>
<th>Diseases</th>
<th>Rate</th>
<th>Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potatoes</td>
<td>Early and late blight</td>
<td>1.1-2.25 kg/ha</td>
<td>• 40 L of water/ha for aerial applications.</td>
</tr>
<tr>
<td>Tomato</td>
<td>Early and late blight, Anthracnose, Stemphyllium (grey leaf spot)</td>
<td>1.10-3.25 kg/ha</td>
<td></td>
</tr>
<tr>
<td>Onion</td>
<td>Botrytis leaf blight (leaf spot or blast)</td>
<td>2.25-3.25 kg/ha</td>
<td></td>
</tr>
<tr>
<td>Onion</td>
<td>Onion smut</td>
<td>4.4-8.8 kg/ha</td>
<td>• Apply as a granular, in-furrow treatment at time of seeding.</td>
</tr>
<tr>
<td>Celery</td>
<td>Early and late blight</td>
<td>2.25 kg/ha</td>
<td>• Apply in 3- to 5-day intervals until plants are established.</td>
</tr>
<tr>
<td>Carrot</td>
<td>Leaf spot diseases</td>
<td>2.25 kg/ha</td>
<td>• Continue regular weekly applications.</td>
</tr>
<tr>
<td>Cantaloupe, Cucumber, Pumpkin, Squash, Melons, Watermelon</td>
<td>Downy mildew, Anthracnose, Scab, Gummy stem blight, Alternaria leaf spot</td>
<td>1.10-3.25 kg/ha</td>
<td></td>
</tr>
<tr>
<td>Apple</td>
<td>Apple scab, Cedar apple rust, Quince rust</td>
<td>4.5-5.5 kg/ha</td>
<td></td>
</tr>
<tr>
<td>Grape</td>
<td>Downy mildew, Black rot</td>
<td>2.13 kg/ha</td>
<td>• Apply when new shoots are 20-25 cm long.</td>
</tr>
<tr>
<td>Tobacco (greenhouse)</td>
<td>Blue mold</td>
<td>50-100 grams in 25-50 L of water per 100 m²</td>
<td>• Wet seedlings without run-off.</td>
</tr>
<tr>
<td>Ginseng</td>
<td>Alternaria leaf blight</td>
<td>4.4 kg in 2,000 L/ha of water</td>
<td>• Start spraying when plants are 1.5 cm across and then twice per week until transplanting.</td>
</tr>
<tr>
<td>Honeysuckle</td>
<td>Honeysuckle blight (Herpobasidium deformans)</td>
<td>2 kg per1,000 L of water</td>
<td>• Begin application at green tip to 1.25 cm (half inch) green leaf. Reapply in 10- to 14-day intervals if required.</td>
</tr>
</tbody>
</table>

DITHANE™ RAINSHIELD™ FUNGICIDE
<table>
<thead>
<tr>
<th>Crop</th>
<th>Diseases</th>
<th>Rate</th>
<th>Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alfalfa (grown for seed)</td>
<td>Leaf spot, Stem spot</td>
<td>1.46 kg/ha</td>
<td>• Apply prior to 50% bloom. Reapply 7 to 10 days after the first application and 10 days after the second application. Not for human or animal consumption (including grazing the treated crop or cutting for hay, alfalfa sprout crops for human consumption, or for using seed crop residue for animal consumption).</td>
</tr>
<tr>
<td>Junipers (British Columbia only)</td>
<td>Pear trellis rust</td>
<td>2.8-3.5 kg in 1,000 L/ha of water</td>
<td>• Make 3 applications annually (apply in the third week of August, the second week of September, and the fourth week of September).</td>
</tr>
<tr>
<td>Arborvitae, Juniper, Douglas fir</td>
<td>Coryneum blight, Keithia blight, Dieback, Rhabodcline needle cast</td>
<td>2.75-3.5 kg in 1,000 L/ha of water</td>
<td>• Spray at 10- to 14-day intervals during April, May and early June to protect new growth.</td>
</tr>
</tbody>
</table>
| Ash, Oak, Sycamore  | Anthracnose (Gloeosporium spp.)               | 2.75-3.5 kg in 1,000 L/ha of water | • Spray at 10- to 14-day intervals beginning just prior to bud burst.  
• Continue if wet weather persists.                                                                                                                  |
| Haworthorn           | Leaf blight (Diplocarpon spp.)                | 2.75-3.5 kg in 1,000 L/ha of water | • Spray at 10- to 14-day intervals as required beginning at bud burst.                                                                                                                                   |
| Holly                | Algae leaf, Twig blight (Phytophthora ilicis) | 1.8-2.5 kg in 1,000 L/ha of water | • Spray as required.  
• Avoid applications close to harvest to avoid visible residues.                                                                                                                                         |
| Ivy                  | Leaf spot (Hedera spp.)                       | 1.25-2.25 kg in 1,000 L/ha of water | • Spray as required.                                                                                                                                                                                        |
| Pine                 | Lophodermium needle cast                      | 2.5 kg in 1,000 L/ha of water  | • Spray every 2 to 3 weeks during July, August and September.                                                                                                                                              |
| Wheat                | Tan spot, Septoria leaf blotch, Leaf rust     | Early: 1.1 kg/ha Late: 2.25 kg/ha | • Early: 3- to 6-leaf (tillering) stage.  
• Late: Head fully emerged but prior to flowering.                                                                                                                                                    |
**Tank mixes**
- Dithane™ Rainshield™ fungicide is compatible with many common pesticides. Thorough mixing in the spray tank is essential for good disease control.
- Check tank-mix partner labels for registered crops and additional restrictions.

**Mixing instructions**
- Field sprayers should be properly calibrated and capable of uniform application at recommended water volumes. Good spray tank agitation is required. By-pass agitation is not sufficient.
- Ground application:
  1. Pour Dithane slowly into a 1/4 filled spray tank while the agitator is running.
  2. Completely fill tank with water.
  3. After Dithane has been mixed into a suspension, add other co-applied pesticides, growth regulators, micronutrients or spray adjuvants.
- Aerial application:
  1. Premix Dithane thoroughly in a nurse tank to create a slurry.
  2. Fill spray tank to 1/3 to 1/2 the desired final water volume.
  3. Add slurry from Step 1 to spray tank.
  4. Top off tank to desired final water volume.

**Optimizing performance**
- Rainshield technology ensures Dithane is rainfast when spray solution has dried on the vegetation – two hours.
- Ground application: Apply in 100-200 L/ha by ground. Higher water volumes result in better coverage and protection of the target foliage.
- Aerial application: Use only on potatoes and wheat. Apply in 40 L/ha by air. Higher water volumes result in better coverage and protection of the target foliage.
- Ensure uniform, complete coverage of the target foliage.
- Repeat applications will be required as dictated by weather conditions that favour disease development.

**Crop rotations**
- No re-cropping restrictions.

**Pre-harvest interval**
- Potatoes – Do not apply within one day of harvest.
- Tomato, carrot – Do not apply within seven days of harvest.
- Onion – Do not apply within 10 days of harvest.
- Celery, cantaloupe, cucumber, pumpkin, squash, melons, watermelon – Do not apply within 14 days of harvest.
- Ginseng, grape – Do not apply within 30 days of harvest.
- Wheat – Do not apply within 40 days of harvest.
- Apple – Do not apply within 45 days of harvest.

**Precautions**
- Rinse out tank, pump and nozzles at the end of the day so product does not settle out.
- Do not graze treated crops or cut for hay.
- The worker restricted entry interval (REI) is two hours (when spray has dried) for all crops.
**POWERFUL, FLEXIBLE DISEASE MANAGEMENT.**

- Fontelis™ fungicide provides residual, preventative and post-infection activity
- Provides translaminar and locally systemic protection
- Single mode of action allows for flexible application timing and disease management
- Good redistribution to protect both the treated and untreated parts of the plant
- Application and harvest flexibility
- Superior control of a broad-spectrum of key diseases, such as apple scab, powdery mildew and botrytis

**TARGET DISEASES**

- Alternaria (blight and leafspot)
- Anthracnose
- Ascochyta (blight and leafspot)
- Asian soybean rust
- Botrytis (blight, fleck, gray mold, leaf blight and rot)
- Brown rot blossom blight and fruit rot
- Cedar apple rust
- Cherry leaf spot (cherry only)
- Early blight
- Early leaf spot
- Gray mold
- Late leaf spot
- Lettuce drop
- Mummy berry
- Powdery mildew
- Purple blotch
- Rust
- Scab
- Sclerotinia (blight and stem rot)
- Septoria late blight (celeriac and celery)
- Southern stem rot
- Web blotch

**CROPS**

- Alfalfa
- Low growing berries
- Bulb vegetables (green, dry)
- Brassica (cole) leafy vegetables
- Cucurbit vegetables
- Fruiting vegetables
- Leafy vegetables
- Legume vegetables
- Pome fruits
- Root vegetables and leaves
- Stone fruit
- Tree nuts
- Peanuts

**PACKAGING**

- 4 x 3.79 L jugs
<table>
<thead>
<tr>
<th>Crop</th>
<th>Diseases</th>
<th>Rate</th>
<th>PHI</th>
<th>Guidelines</th>
</tr>
</thead>
</table>
| Berries  | Botrytis gray mold, Powdery mildew (strawberry only) | 0.4 to 0.7 L/ac (1 to 1.75 L/ha) | 0 days | • Begin applications prior to disease development and continue on a 7- to 10-day interval. Use higher rate and shorter interval when disease pressure is high.  
• Do not apply by air. |
| Blueberry (lowbush) | Mummy berry | 0.7 L/ac (1.75 L/ha) | 0 days | • Begin applications prior to disease development and continue on a 7- to 14-day interval. Use higher rate and shorter interval when disease pressure is high.  
• May be applied by air. |
| Bulb Vegetables (Green, dry)  
Chive, fresh leaves; chive, Chinese, fresh leaves; daylily, bulb; elegans hosta; fritillaria, bulb; fritillaria, leaves; garlic, bulb; garlic, great-headed, bulb; garlic, serpent, bulb; kurrat; lady’s leek; leek; leek, wild; lily, bulb; onion, Beltsville bunching; onion, bulb; onion, Chinese, bulb; onion, fresh; onion, green; onion, macrostem; onion, pear; onion, potato, bulb; onion, tree, tops; onion, Welsh, tops; shallot, bulb; shallot, fresh leaves Cultivars, varieties, and/or hybrids of these | Botrytis fleck, Purple blotch, Botrytis leaf blight | 0.5 to 0.7 L/ac (1.25 to 1.75 L/ha) | 3 days | • Begin applications prior to disease development and continue on a 7- to 14-day interval. Use higher rate and shorter interval when disease pressure is high.  
• Do not apply by air. |
| Brassica (Cole) (Leafy Vegetables)  
Broccoli; Broccoli, cavalo broccolo, Chinese (gailon); Broccoli raab (rapini); Brussels sprouts; cabbage; cabbage, Chinese (bok choy); cabbage, Chinese (napa); cabbage, Chinese mustard (gai choy); cauliflower; collards; kale; kohlrabi; mizuna; mustard greens; mustard spinach; rape greens; turnip greens | Gray mold  
Sclerotinia stem rot  
Alternaria leaf spot  
Powdery mildew | 0.5 to 0.9 L/ac (1.25 to 2.25 L/ha) | 0 days | • Begin applications prior to disease development and continue on a 7- to 14-day interval. Use higher rate and shorter interval when disease pressure is high.  
• Do not apply by air. |

Refer to the Fontelis™ fungicide label for complete use instructions.
1 Suppression.
<table>
<thead>
<tr>
<th>Crop</th>
<th>Diseases</th>
<th>Rate</th>
<th>PHI</th>
<th>Guidelines</th>
</tr>
</thead>
</table>
| Curcubit Vegetables                      | Gray mold                    | 0.4 to 0.6 L/ac (1 to 1.5 L/ha) | 1 day | • Begin applications prior to disease development and continue on a 7- to 14-day interval. Use higher rate and shorter interval when disease pressure is high.  
• Do not apply by air. |
|                                          | Powdery mildew               | 0.5 L/ac (1.25 L/ha)      |       |                                                                             |
| Fruiting Vegetables                      | Gray mold                    | 0.5 to 0.7 L/ac (1.25 to 1.75 L/ha) | 0 days| • Begin applications prior to disease development and continue on a 7- to 10-day interval. Use higher rate and shorter interval when disease pressure is high.  
• Do not apply by air. |
|                                          | Early blight'                |                           |       |                                                                             |
| Leafy Vegetables                         | Gray mold                    | 0.5 to 0.7 L/ac (1.25 to 1.75 L/ha) | 3 days| • Begin applications prior to disease development and continue on a 7- to 10-day interval, or a 7- to 14-day interval for septoria late blight. Use higher rate and shorter interval when disease pressure is high.  
• Do not apply by air. |
|                                          | Lettuce drop'                |                           |       |                                                                             |
|                                          | Septoria late blight (celery only) | 0.4 to 0.7 L/ac (1 to 1.75 L/ha) |       |                                                                             |

Refer to the Fontelis™ fungicide label for complete use instructions.

' Suppression.
<table>
<thead>
<tr>
<th>Crop</th>
<th>Diseases</th>
<th>Rate</th>
<th>PHI</th>
<th>Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Begin applications prior to disease development and continue on a 7- to 14-day interval. Use higher rate and shorter interval when disease pressure is high.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• May be applied by air.</td>
</tr>
<tr>
<td>Legume Vegetables Succulent: includes jackbean, swordbean, soybean, immature pigeon pea</td>
<td>Alternaria blight, leafspot Gray mold</td>
<td>0.4 to 0.9 L/ac (1 to 2.25 L/ha)</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bean (Phaseolus): includes broad, succulent lima, green runner, snap bean, wax bean</td>
<td>Ascochyta blight, leafspot</td>
<td>0.4 to 0.6 L/ac (1 to 1.5 L/ha)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bean (Vigna): includes asparagus, blackeyed pea, Chinese longbean, cowpea, moth, southern pea, yardlong Pea: includes dwarf, edible-podded, English, field, garden, green, snowpea, sugar snap</td>
<td>Asian soybean rust</td>
<td>0.4 to 0.7 L/ac (1 to 1.75 L/ha)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bean (Phaseolus): includes broad, succulent lima, green, runner, snap, wax bean Bean (Vigna): includes asparagus, blackeyed pea, Chinese longbean, cowpea, moth, southern pea, yardlong</td>
<td>Angular leaf spot Anthracnose Rust</td>
<td>0.4 to 0.9 L/ac (1 to 2.25 L/ha)</td>
<td>0 days</td>
</tr>
<tr>
<td></td>
<td>Pome Fruits (Apple, Crabapple, Mayhaw, Pear, Pear (oriental), Quince)</td>
<td>Scab, apple or pear Powdery mildew Cedar apple rusts</td>
<td>0.4 to 0.6 L/ac (1 to 1.5 L/ha)</td>
<td>28 days</td>
</tr>
</tbody>
</table>

Refer to the Fontelis™ fungicide label for complete use instructions.

* Suppression.
<table>
<thead>
<tr>
<th>Crop</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Blackberry (including Andean blackberry, arctic blackberry,</td>
<td>Yellow Rust (Phragmidium rubi-idaei)</td>
<td>1.0 to 1.75 L/ha</td>
<td>0 days</td>
<td>• Begin applications prior to disease development and continue on a 7- to</td>
</tr>
<tr>
<td>bingleberry, black satin berry, boysenberry, brombeere, California</td>
<td>Late Yellow Rust (Pucciniastrum americanum)</td>
<td></td>
<td></td>
<td>10-day interval. Use higher rate and shorter interval when disease pressure</td>
</tr>
<tr>
<td>blackberry, Chesterberry, Cherokee blackberry, Cheyenne blackberry,</td>
<td></td>
<td></td>
<td></td>
<td>is high.</td>
</tr>
<tr>
<td>common blackberry, coryberry, darrowberry, dewberry, Dirksen</td>
<td></td>
<td></td>
<td></td>
<td>• Do not apply by air</td>
</tr>
<tr>
<td>thornless berry, evergreen blackberry, Himalayaberry, hullberry,</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>lavacaberry, loganberry, lowberry, Lucretiaberry, mammoth blackberry</td>
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<tr>
<td>marionberry, mora, mures deronce, nectarberry, Northern dewberry,</td>
<td></td>
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<tr>
<td>olallieberry, Oregon evergreen berry, phenomenalberry, rangeberry,</td>
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<tr>
<td>ravenberry, rossberry, Shawnee blackberry, Southern dewberry, tayberry</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>youngberry, zarzamora, and cultivars, varieties and/or hybrids of</td>
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<tr>
<td>these).</td>
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</tr>
<tr>
<td>Loganberry (Rubus loganobaccus)</td>
<td></td>
<td>0 days</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raspberry, black and red (Rubus spp.), Wild raspberry (Rubus muelleri)</td>
<td></td>
<td>0 days</td>
<td></td>
<td></td>
</tr>
<tr>
<td>and Cultivars (Rubus muelleri) and Cultivars, varieties and/or hybrids</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>of these.</td>
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<tr>
<td>Crop</td>
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<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Blueberry, highbush (Vaccinium spp.)</td>
<td>Botrytis gray mold (Botrytis cinerea)</td>
<td>1.0 to 1.75 L/ha</td>
<td>0 days</td>
<td>• Begin applications prior to disease development and continue on a 7- to 10-day interval. Use higher rate and shorter interval when disease pressure is high.</td>
</tr>
<tr>
<td></td>
<td>Mummy Berry (Monilinia vaccinii-corymbosi)</td>
<td></td>
<td></td>
<td>• Do not apply by air.</td>
</tr>
<tr>
<td></td>
<td>suppression</td>
<td></td>
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</tr>
<tr>
<td>Currant, black (Ribes nigrum) Currant,</td>
<td>Botrytis gray mold (Botrytis cinerea)</td>
<td></td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>red (Ribes rubrum) Elderberry (Sambucus</td>
<td></td>
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<td></td>
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<tr>
<td>spp.) Gooseberry (Ribes spp.) Huckleberry</td>
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</tr>
<tr>
<td>(Gaylussacia spp.) Aronia berry (Aronia</td>
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<tr>
<td>spp.) Buffalo currant (Ribes aureum)</td>
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<tr>
<td>Chilean guava (Myrtus ugni) European</td>
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<tr>
<td>barberry (Berberis vulgaris) Highbush</td>
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<tr>
<td>cranberry (Viburnum opulus var. Americanum</td>
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<tr>
<td>Aiton) Honeysuckle, edible (Lonicera</td>
<td></td>
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<tr>
<td>caerula var. emphylocalex) Jostaberry (Ribes</td>
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<tr>
<td>x nidigrolaria) Juneberry (Saskatoon berry)</td>
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<tr>
<td>(Amelanchier spp.) Lingonberry (Vaccinium</td>
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<tr>
<td>visit-idaea) Native currant (Acrotriche</td>
<td></td>
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<tr>
<td>depressa) Salal (Gaultheria shallon) Sea</td>
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<tr>
<td>buckthorn (Hippophae rhamnoides) Cultivars,</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>varieties and/or hybrids of these</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Root Vegetables and Leaves (except</td>
<td>Gray mold Powdery Mildew Septoria late blight</td>
<td>0.4 to 0.7 L/ac (1</td>
<td>0 days</td>
<td>• Begin applications prior to disease development and continue on a 7- to 14-day interval. Use higher rate and shorter interval when disease pressure is high.</td>
</tr>
<tr>
<td>sugarbeet) Beet (garden), Burdock (edible),</td>
<td>(celeriac only)</td>
<td>to 1.75 L/ha)</td>
<td></td>
<td>• Do not apply by air.</td>
</tr>
<tr>
<td>Carrot, Celeriac, Chervil (turnip-rooted),</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chicory, Ginseng, Horseradish, Parsley</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>(turnip-rooted), Parsnip, Radish,</td>
<td></td>
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</tr>
<tr>
<td>Radish (oriental), Rutabaga, Salsify,</td>
<td></td>
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<tr>
<td>Salsify (black), Salsify (Spanish), Skirret</td>
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<tr>
<td>Turnip)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Carrot</td>
<td>Alternaria leafspot and blight</td>
<td>0.5 to 0.9 L/ac (1.25</td>
<td>0 days</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>to 2.25 L/ha)</td>
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<td></td>
</tr>
<tr>
<td>Crop</td>
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<td>Rate</td>
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</tr>
<tr>
<td>Stone Fruits  (Apricot, Cherry (sweet, tart), Nectarine, Peach, Plum, Plum (Chickasaw), Plum (Damson), Plum (Japanese), Plumcot, Prune (fresh))</td>
<td>Brown rot blossom blight and fruit rot Powdery mildew</td>
<td>0.4 to 0.7 L/ac (1 to 1.75 L/ha)</td>
<td>0 days</td>
<td>• Begin applications prior to disease development and continue on a 7- to 14-day interval. Use higher rate and shorter interval when disease pressure is high. • Do not apply by air.</td>
</tr>
<tr>
<td></td>
<td>Scab</td>
<td>0.4 to 0.6 L/ac (1 to 1.5 L/ha)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Botrytis rots</td>
<td>0.5 to 0.7 L/ac (1.25 to 1.75 L/ha)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cherry leafspot’ (cherry only)</td>
<td>0.6 L/ac (1.5 L/ha)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tree Nuts  (Almond, Beech nut, Butternut, Chestnut, Chinquapin, Filbert (hazelnut), Hickory nut, Walnut (black and English))</td>
<td>Alternaria leafspot, blight’ Botrytis blight Brown rot blossom blight and fruit rot</td>
<td>0.4 to 0.6 L/ac (1 to 1.5 L/ha)</td>
<td>14 days</td>
<td>• Begin applications prior to disease development and continue on a 7- to 14-day interval. Use higher rate and shorter interval when disease pressure is high. • Do not apply by air.</td>
</tr>
<tr>
<td>Peanut</td>
<td>Early leafspot Late leafspot Southern stem rot Sclerotinia blight’ Web blotch’</td>
<td>0.5 to 0.7 L/ac (1.25 to 1.75 L/ha)</td>
<td>14 days</td>
<td>• Begin applications prior to disease development and continue on a 7- to 14-day interval. Use higher rate and shorter interval when disease pressure is high. • Do not apply by air.</td>
</tr>
</tbody>
</table>

Refer to the Fontelis™ fungicide label for complete use instructions.

’ Suppression.
EXCELLENT CONTROL OF BLOSSOM BLIGHT, FRUIT BROWN ROT AND BLACK KNOT IN STONE FRUITS.

Indar™ fungicide provides protection of blossom blight, fruit brown rot and black knot in stone fruits.

TARGET DISEASES
- Black knot
- Blossom blight
- Fruit brown rot
- Mummy berry

CROPS
- Apricot
- Cherry
- Highbush blueberry
- Nectarine
- Peach
- Plum

FORMULATION AND PACKAGING
- Wettable powder
- 12 x 454 g bags

KEY FEATURES
- Excellent protection of the fruit and leaf by remaining on the fruit and leaf surface longer.
- Protectant control with some locally systemic and curative activity.
- Strong residual activity.
- Excellent rainfastness.
- Outstanding control of fruit diseases, such as brown rot on stone fruits and scab, rusts, sooty blotch and flyspeck on apples.
- Easy-to-use liquid formulation (although there are no tank mixes registered, it is tank-mix compatible with other crop protection products).
<table>
<thead>
<tr>
<th>Crop</th>
<th>Diseases</th>
<th>Rate</th>
<th>Guidelines</th>
</tr>
</thead>
</table>
| Apricot, Cherry – sweet and tart, Nectarine, Peach, Plum | Blossom blight, Fruit brown rot | 140 g/ha | • Begin application at early red bud stage before infection occurs.  
• If conditions are favourable for disease development, apply again at full bloom at petal-fall.  
• Begin applications 3 weeks before harvest using a 7- to 10-day spray interval. |
| Cherry – tart                             | Black knot                      | 140 g/ha | • Begin at petal fall and continue applications at 7-day spray intervals until mid to late June.  
• Continual coverage of young growing shoot tissue is essential for disease control. |
| Peach                                     | Blossom blight, Fruit brown rot | 140 g/ha | • Begin application at early red bud stage before infection occurs.  
• If conditions are favourable for disease development, apply again at full bloom at petal-fall.  
• Begin applications 3 weeks before harvest using a 7- to 10-day spray interval. |
| Plum, Chickasaw plum, Damson plum, Japanese plum, Fresh prune | Black knot                      | 140 g/ha | • Begin at white popcorn stage and continue applications at 7-day spray intervals for a 5- to 6-week period.  
• Continual coverage of young growing shoot tissue is essential for disease control. |
| Highbush blueberry                        | Mummy berry                     | 140 g/ha | • Apply at early green tip and make a second application 10 to 14 days later.  
• A third application can be made at early bloom with a fourth application 10 to 14 days later. |
**Tank mixes**
- No registered tank mixes.

**Mixing instructions**
- Sprayers should be properly calibrated and capable of uniform application at recommended water volumes. Use a minimum of 500 L of water or sufficient water volume to ensure thorough coverage. Good spray tank agitation is required. Bypass agitation is not sufficient.
- Add the required number of unopened pouches as determined by the dosage recommendations into the spray tank with agitation. Depending on the water temperature and the degree of agitation, the pouches should dissolve completely within approximately 10 minutes from the time they are added to the water.

**Optimizing performance**
- Rainfast in one hour.
- Ground application:
  1. Pour Indar slowly into a 1/4 filled spray tank while the agitator is running.
  2. Completely fill tank with water.
- Aerial application: Not registered for aerial application.

**Crop rotations**
- No re-cropping restrictions.

**Pre-harvest interval**
- Do not apply within one day of harvest.
- Highbush blueberry – Do not apply within 30 days of harvest.

**Precautions**
- Do not apply more than seven times per year.
- Highbush blueberry – Do not apply more than four times per year.
- For all crops, do not graze livestock in treated areas or feed cover crops grown in treated areas to livestock.
- Do not apply through irrigation systems (chemigation).
- NOTE: Reduced product efficacy may occur if water containing suspended soil particles is used, such as water from ponds, streams or unlined ditches.
- A wetting agent or non-polymer containing spray adjuvant approved for use in registered pesticide products on fruit should be added to spray solutions according to manufacturers’ use instructions to achieve optimum disease control.
- The pouches of Indar are water-soluble. Do not allow pouches to become wet prior to adding to the spray tank. Do not handle the pouches with wet hands or wet gloves. Always reseal overwrap bag to protect remaining unused pouches. Do not remove water-soluble pouches from overwrap except to add directly to the spray tank.
- The worker restricted entry interval (REI) is 12 hours for all crops. Do not enter or allow worker entry into treated areas within 12 hours of applications.
EFFECTIVE DISEASE CONTROL IN FRUITS AND VEGETABLES INCLUDING APPLE, GRAPE AND STONE FRUITS.

Apple scab, powdery mildew and rust diseases – Nova™ fungicide is a systemic product providing long-lasting, effective control of all these diseases in apples and other crops. And you can apply it up to 14 days before harvest.

TARGET DISEASES

- Anthracnose
- Apple scab
- Black rot
- Black spot
- Brown rot
- Gummy stem blight
- Powdery mildew
- Rust diseases
- Scab
- Septoria leaf spot

CROPS

- Apple
- Asparagus
- Bushberry including highbush and lowbush blueberry
- Canberry including blackberry and raspberry
- Cherry – sweet and tart
- Cucurbit vegetables including cantaloupe, cucumbers and pumpkin
- Dry beans
- Flowers
- Grape
- Greenhouse cucumber
- Greenhouse pepper
- Greenhouse tomato
- Pear
- Saskatoon berry
- Stone fruit including peach and nectarine
- Strawberry

FORMULATION AND PACKAGING

- Granule
- 12 x 560 g bags
<table>
<thead>
<tr>
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</tr>
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</table>
| Apple                | Scab (pre-bloom)                  | 340 g/ha | • Begin application at green tip or when environmental conditions become favourable for primary scab development.  
• Apply Nova™ fungicide alone or in a tank mix with 3 kg/ha of Dithane DG. |
|                      | Scab (bloom or post bloom)        | 340 g/ha | • Use Nova in a tank mix with 3 kg/ha Dithane DG for improved fruit scab and summer disease control.                                       |
|                      | Scab (post infection, pre-bloom only) | 340 g/ha | • Nova provides 96-hour after-infection control or curative activity.  
• For best control, apply within 48 to 72 hours of the infection period.  
• Apply as soon as possible after the infection period and follow with a second application 7 days later.  
• Continue with a regular Nova spray schedule or a regular protectant program.  
• Nova fungicide will suppress sporulation in established lesions when used in two or more applications. |
|                      | Powdery mildew                    | 340 g/ha | • Begin application at tight cluster and continue through the second cover spray.  
• If powdery mildew was prevalent the previous year, apply Nova beginning at green tip.  
• Additional sprays beyond second cover may be needed on susceptible varieties or under heavy disease pressure. |
|                      | Cedar apple rust, Quince rust     | 340 g/ha | • Begin applications at pink stage and continue through the second cover spray.                                                             |
| Grape                | Powdery mildew                    | 200 g/ha | • Begin application at pre-bloom and continue application on a 21-day schedule.                                                            |
|                      | Black rot                         | 200 g/ha | • Begin application at pre-bloom and continue application on a 14-day schedule during infection periods.                                     |
|                      | Anthracnose (suppression)         | 340 g/ha | • Apply as a foliar spray in sufficient water to ensure adequate coverage. Begin application when new shoots are 3–8 cm in length and continue on an application schedule. Repeat application at 14–day intervals. |
| Cherry – sweet       | Brown rot                         | 340 g/ha | • Begin application when the fruit blossoms are opening. Continue fungicide application on a 7– to 10–day schedule until harvest.          |
|                      | Powdery mildew                    | 340 g/ha | • Apply at bloom and repeat at 10– to 14–day intervals as required until terminal growth ceases.  
• Application at husk fall is important for fruit protection. |
| Cherry – tart        | Brown rot, Powdery mildew, Leaf spot | 340 g/ha | • Begin application at bloom. Continue fungicide application on a 10–day schedule until harvest.  
• Where leaf spot and powdery mildew are serious problems apply further post harvest sprays. |
<table>
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</table>
| Cucurbit vegetables (Crop group 9) – Chinese waxgourd, Citron melon, Cucumber, Gherkin, Edible gourd, Balsam apple and pear, Chinese cucumber, Cantaloupe, Musk melon, Pumpkin, Summer and winter squash, Watermelon | Powdery mildew (Podosphaera xanthii)               | 175 g/ha | • Apply at the first sign of disease development and again 10 to 14 days later.  
• Apply in a minimum of 250 L water/ha.  
• Use a maximum of 2 applications per year.  
• Do not apply Nova™ fungicide within 3 days of harvest.  
• DO NOT enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.  |
| Bushberry 13-07B subgroup – Highbush blueberry, lowbush blueberry, currant, gooseberry | Powdery mildew, Microsphaera vaccini – blueberry, Spaerotheca sp. – gooseberry and currant | 340 g/ha | • Apply at the first sign of disease development and repeat in 7 to 14 days.  
• Pre-bloom, bloom and immediately after bloom are the most critical times for the control of powdery mildew.  
• Apply with a minimum of 250 L water/ha.  
• Do not apply more than 340 g/ha.  
• Use a maximum of 3 applications per growing season.  
• Pre-harvest interval when harvesting by hand is 6 days except for lowbush blueberries, which is 4 days.  
• Pre-harvest interval when harvesting mechanically is 1 day.  
• DO NOT enter or allow worker entry into treated areas during the restricted entry interval (REI) of 8 days for hand setting irrigation line; 6 days for hand harvesting, training and tying; 12 hours for all other post-application activities.  |
| Caneberry 13-07A subgroup – Raspberry and blackberry | Powdery mildew (Spaerotheca sp.)                   | 340 g/ha | • Apply at the first sign of disease development and repeat in 7 to 14 days.  
• Pre-bloom, bloom and immediately after bloom are the most critical times for the control of powdery mildew.  
• Apply with a minimum of 250 L water/ha.  
• Do not apply more than 340 g/ha. Use a maximum of 3 applications per growing season.  
• DO NOT enter or allow worker entry into treated areas during the restricted entry interval (REI) of 8 days for hand setting irrigation line; 6 days for hand harvesting, training and tying; 12 hours for all other post-application activities.  
• Pre-harvest interval when harvesting by hand is 6 days.  
• Pre-harvest interval when harvesting mechanically is 1 day.  |
<table>
<thead>
<tr>
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<th>Rate</th>
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<tbody>
<tr>
<td>Dry beans</td>
<td>Rust (Uromyces appendiculatus. syn. U phaseoli)</td>
<td>340 g/ha</td>
<td>• Apply as soon as weather conditions are favourable for rust development or when first rust pustules are present and continue if conditions remain favourable.</td>
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<td>• Apply as a foliar spray in 300 L of water to ensure thorough coverage of all plant foliage.</td>
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<tr>
<td>Saskatoon berry</td>
<td>Powdery mildew</td>
<td>11.3 g/100 L of water</td>
<td>• Apply at flowering, small green berry, and at green berry stage; spray until dripping.</td>
</tr>
<tr>
<td>Nectarine, Peach</td>
<td>Brown rot</td>
<td>340 g/ha</td>
<td>• Begin application when the first blossoms are opening and repeat at 7- to 14-day intervals. If wet weather occurs, repeat applications every 4 to 5 days until shuck fall. Protect ripening fruit with fungicide applications starting at 2 to 3 weeks before harvest.</td>
</tr>
<tr>
<td></td>
<td>Powdery mildew</td>
<td>340 g/ha</td>
<td>• Begin application after bloom schedule at shuck fall. Repeat at 2- to 4-week intervals until terminal growth ceases.</td>
</tr>
<tr>
<td>Pear</td>
<td>Scab</td>
<td>340 g/ha</td>
<td>• Apply starting at green tip or when conditions are favourable for scab infestation.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Repeat application at 7- to 10-day intervals. Apply as a foliar spray in a spray volume of 500-1,000 L/water.</td>
</tr>
<tr>
<td>Greenhouse tomato</td>
<td>Powdery mildew</td>
<td>340 g/ha</td>
<td>• Apply as soon as possible after initial infection and again 7 days later.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Apply 1,000 L water/ha.</td>
</tr>
<tr>
<td>Greenhouse cucumber</td>
<td>Powdery mildew, Gummy stem blight</td>
<td>340 g/ha</td>
<td>• Apply when disease first appears.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Make an additional application 14 days later when disease pressure warrants.</td>
</tr>
<tr>
<td>Greenhouse pepper</td>
<td>Powdery mildew</td>
<td>340 g/ha</td>
<td>• Apply as soon as possible after initial infection.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Repeat application in 12 days if disease pressure warrants control.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Apply in 1,500–3,000 L water/ha.</td>
</tr>
<tr>
<td>Strawberry</td>
<td>Powdery mildew</td>
<td>340 g/ha</td>
<td>• Begin applications when disease first appears or when conditions favour disease development.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Repeat application at 14- to 21-day intervals.</td>
</tr>
<tr>
<td>Asparagus</td>
<td>Rust</td>
<td>340 g/ha</td>
<td>• Apply as a post-harvest treatment to ferns.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Apply in a minimum of 370 L water/ha.</td>
</tr>
<tr>
<td>Flowers</td>
<td>Powdery mildew, Rust, Scab, Anthracnose, Septoria leaf spot, Black spot</td>
<td>250–340 g/1,000 L of water</td>
<td>• Apply when disease appears.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Repeat applications every 10 to 14 days as disease pressure warrants.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Apply as a high volume application, wetting foliage to the point of runoff.</td>
</tr>
</tbody>
</table>
Tank mixes
• Dithane™ Rainshield™ fungicide.

Mixing instructions
• Pre-measured water-soluble pouches containing 140 g each make handling safe and easy.
• Do not allow pouches to become wet prior to adding to the spray tank.
• Do not handle the pouches with wet hands or wet gloves.
• Always reseal over wrap bag to protect remaining unused pouches.
• Do not remove water-soluble pouches from over wrap except to add directly to the spray tank.
• Add the required number of unopened pouches as determined by the dosage recommendations into the spray tank with agitation.
• Depending on the water temperature and the degree of agitation, the pouches should dissolve completely within approximately five minutes from the time they are added to the water.
• Sprayers should be properly calibrated and capable of uniform application at recommended water volumes. Good spray tank agitation is required.
• Fill the spray tank with water to 1/2 the total spray volume required. Start agitation. Add required amount of product per hectare. Continue mixing and agitation while filling the spray tank to the required volume.

Optimizing performance
• Rainfast in one hour.
• Ground application: Apply uniform spray coverage for disease control with sufficient water volume. Nova™ fungicide is a locally systemic fungicide.
• Aerial application: Not registered for aerial application.
• Nova provides residual control for three to seven days.

Crop rotations
• No crop rotation restrictions.

Pre–harvest interval
• Apple, grape, Saskatoon berry, cherry, pear – Do not apply within 14 days of harvest.
• Peach, nectarine – Do not apply within one day of harvest.
• Greenhouse tomato, strawberry, greenhouse pepper – Do not apply within three days of harvest.
• Greenhouse cucumber – Do not apply within two days of harvest.
• Dry beans – Do not apply within 30 days of harvest.

Precautions
• Apple, peach, pear, nectarine, greenhouse cucumber, cherry, strawberry, flowers – Maximum of six applications per growing season.
• Grape, asparagus – Maximum five applications per growing season.
• Greenhouse pepper, Saskatoon berry – Maximum three applications of up to 340 g/ha per growing season.
• Greenhouse tomato – Maximum two applications per growing season.
• Dry beans – Maximum three applications per growing season.
• Copper products tank mixed with Nova reduce the effectiveness of the fungicide.
• Do not enter treated areas for minimum of 12 hours for all crops, unless a longer REI is specified.
Quintec™ fungicide provides control of powdery mildew in grape, strawberry, cherry, lettuce, hops, melons, pumpkin and winter squash. Group 13 (quinoline) chemistry makes it an important part of a resistance management program and an excellent rotational product with other active ingredients used for the control of powdery mildew. Quintec’s unique mode of action and its outstanding efficacy make your current powdery mildew program stronger.
**Crop Diseases Rate Guidelines**

**Stone fruit** Powdery mildew (*Podosphaera clandestina*)
- Rate: 500 mL/ha
- Apply product before visible symptoms of powdery mildew appear. Coverage is essential. As more foliage becomes present, coverage becomes more difficult and spray volumes should increase. Use sufficient water volume to ensure thorough coverage of all plant foliage.

**Grape** Powdery mildew (*Uncinula necator*)
- Rate: 300 mL/ha

**Strawberry** Powdery mildew (*Sphaerotheca macularis*)
- Rate: 300–440 mL/ha

**Melons, Pumpkin, Winter squash** Powdery mildew (*Sphaerotheca fuliginea*)
- Rate: 300–440 mL/ha

**Head and leaf lettuce** Powdery mildew (*Erysiphe cichoracearum*)
- Rate: 240 mL/ha

**Hops** Powdery mildew (*Sphaerotheca macularis*)
- Rate: 300–500 mL/ha

**Tank mixes**
- No registered tank mixes.

**Mixing instructions**
- Fill the spray tank 1/2 full with the amount of clean water required.
- Start agitation and add the required amount of Quintec™ fungicide.
- Continue agitation while filling the spray tank to the required spray volume.
- Maintain agitation in the spray tank during mixing, loading and application.
- Always shake before use.
- Avoid freezing.

**Optimizing performance**
- Rainfast in one hour.
- Coverage is essential. As more foliage becomes present, coverage becomes more difficult and spray volumes should increase.

**Crop rotations**
- No re-cropping restrictions.

**Pre-harvest interval**
- Stone fruit – Do not apply within seven days of harvest.
- Grape – Do not apply within 14 days of harvest.
- Strawberry – Do not apply within one day of harvest.
- Melons, pumpkin, winter squash – Do not apply within three days of harvest.
- Head and leaf lettuce – Do not apply within one day of harvest.
- Hops – Do not apply within 21 days of harvest.

**Precautions**
- Quintec has no curative properties and will not control established infections of powdery mildew.
- Do not graze or harvest forage from cover crops within areas treated with Quintec.
- Chemigation: Do not apply this product through any type of irrigation system.
- Spray interval for cherry, strawberry, melons, pumpkin, squash, lettuce – 10 to 14 days.
- Spray interval for grape and hops – 10 days.
**Tanos™ Fungicide**

**IT WORKS, RAIN OR SHINE.**
- Post-infection and kick-back activity against late blight and control of late blight stem infections
- Offers both systemic and protectant activity
- Resistant to wash-off
- Combination of two actives – famoxadone and cymoxanil
- Excellent for the control of early blight in potatoes

**TARGET DISEASES**
- Cane botrytis
- Caneberry (anthracnose and spur blight)
- Early blight
- Fruit rot (preharvest)
- Late blight

**CROPS**
- Caneberries
- Potatoes
- Tomatoes

**FORMULATION AND PACKAGING**
- Dry flowable
- 3.4 kg unit
### Tanos™ Fungicide

<table>
<thead>
<tr>
<th>Crop</th>
<th>Diseases</th>
<th>Rate</th>
<th>PHI</th>
<th>Application Information</th>
</tr>
</thead>
</table>
| **Potatoes**                      | Early blight Late blight          | 226 g/ac to 340 g/ac (560 g/ha to 840 g/ha) | 14 days | • Apply in a preventative program.  
  • Make the second application no less than 12 days after the first; a third application may be made no less than 24 days after the second.  
  • Do not apply more than 100 ha/day.  
  • Make the first application following 1 to 2 applications of a preventative broad-spectrum fungicide such as mancozeb or chlorothalonil. It is recommended to alternate with other fungicides (non-Group 11 or non-Group 27) to manage resistance.  
  • REI for potato is 24 hours and for tomato is 12 hours. |
| **Field tomatoes**                |                                   | 226 g/ac (560 g/ha)     | 3 days | • Apply in a preventative program.  
  • Make the second application no less than 12 days after the first; a third application may be made no less than 24 days after the second.  
  • Make no more than 3 applications per year.  
  • Use sufficient water volume to ensure thorough coverage of the crop (250–800 L/ha). |
| **Caneberries** (including Blackberry, Raspberry red and black, Wild raspberry, Loganberry, cultivars and hybrids of these) | Caneberry anthracnose Caneberry spur blight Cane botrytis Preharvest fruit rot | 340 g/ac (840 g/ha) | 9 days | • Apply in a preventative program.  
  • Make the second application no less than 12 days after the first; a third application may be made no less than 24 days after the second.  
  • Make no more than 3 applications per year.  
  • Use sufficient water volume to ensure thorough coverage of the crop (250–800 L/ha). |

Refer to the Tanos™ fungicide label for complete use instructions.
TOUGH ON WEEDS. SAFE ON CORN.
• Wide window of application: 1-leaf to 8-leaf stage of corn
• Safe on low heat unit hybrids and many sweet corn varieties
• Excellent re-cropping flexibility

WEEDS CONTROLLED
• Barnyard grass
• Fall panicum
• Green foxtail
• Long-spined sandbur
• Old witchgrass
• Quackgrass
• Yellow foxtail

CROPS
• Field corn
• Seed corn
• Sweet corn (approved varieties only)

CROP ROTATION
Four (4) months:
• Winter wheat.

Ten (10) months:
• Spring barley
• Canola
• Soybeans
• White beans
• Red clover
• Sorghum
• Field corn
• Alfalfa

FORMULATION AND PACKAGING
• 75% Dry flowable
• 4 x 2.5 acre bags
### Crop and Weeds Information

<table>
<thead>
<tr>
<th>Crop</th>
<th>Weeds</th>
<th>Rate</th>
<th>Window of Application</th>
<th>Application Information</th>
</tr>
</thead>
</table>
| Sweet corn (approved varieties only) | Barnyard grass  
Fall panicum  
Green foxtail  
Long-spined sandbur  
Old witchgrass  
Quackgrass  
Yellow foxtail | One (1) pouch treats 10 acres (4 ha). Add a registered non-ionic surfactant (NIS) such as Agral® 90 or Ag-Surf® at 2 L per 1000 L of spray solution (0.2% v/v). | 1-leaf to 6-leaf stage of sweet corn | • Quackgrass – Apply when the majority of the quackgrass shoots are actively growing and in the 3-leaf to 6-leaf stage. Annual grasses not emerged at the time of application will not be controlled.  
• For the control of yellow foxtail, apply with 28% liquid urea ammonium nitrate (UAN) at 2 L/ac (5 L/ha) plus a recommended non-ionic surfactant (NIS).  
• For control of long-spined sandbur, apply Accent at the 3-leaf to 5-leaf stage. |

Refer to the Accent™ herbicide label for complete use instructions.
Assure™ II
HERBICIDE

GO ON. KICK SOME GRASS!
• Wide window of application
• Excellent crop safety

WEEDS CONTROLLED
• Barnyard grass
• Downy brome
• Fall panicum
• Foxtail barley
• Green foxtail
• Japanese brome
• Old witchgrass
• Proso millet
• Quackgrass
• Volunteer (barley, corn, oats and wheat)
• Wild oats
• Wild oats (no tillers)
• Yellow foxtail

CROPS
• Soybeans
• Sunflowers
• Alfalfa
• Lima beans
• Adzuki beans
• Mung beans
• Canola
• Dry common beans
• Flax
• Saskatoon berry
• Sugar beets
• Snap beans
• Rutabagas
• Industrial hemp
• Sunflower
• Lentils
• Peas
• Curcubit vegetables

CROP ROTATION
• Any crop the following year

FORMULATION AND PACKAGING
• Emulsifiable concentrate
• 7.5 L jug
<table>
<thead>
<tr>
<th>Crop</th>
<th>Weeds</th>
<th>Rate</th>
<th>Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beans (White, kidney (red, white), cranberry, eye (black, brown, yellow), lima, mung, otebo, adzuki (in Southern Ontario only) Cucurbit Vegetables Dry common beans Industrial hemp (grown for fibre, Ontario only) Rutabagas (Ontario and Quebec only) Sugar beets Sunflowers (2–8 leaf)</td>
<td>Green foxtail, Volunteer barley, Volunteer corn, Volunteer oats, Volunteer wheat, Wild oats (no tillers)</td>
<td>0.15 L/ac (0.38 L/ha) Add Sure-Mix® (provided in the box) at 5 L per 1000 L of spray solution (0.5% v/v).</td>
<td>• It is important to time the application of Assure™ II herbicide to the weed staging since Assure II can be safely applied at almost any stage of the crop. • Apply to volunteer corn and quackgrass at the 2-leaf to 6-leaf stage and when other labeled weeds are at 2-leaf stage to early tillering stage.</td>
</tr>
<tr>
<td>All the above, plus: Barnyard grass, Downy brome, Fall panicum, Foxtail barley, Japanese brome, Old witchgrass, Proso millet, Quackgrass, Wild oats (up to 2 tillers), Yellow foxtail</td>
<td>0.20 L/ac (0.5 L/ha) Add Sure-Mix® (provided in the box) at 5 L per 1000 L of spray solution (0.5% v/v).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All the above, plus: Quackgrass (control)</td>
<td>0.30 L/ac (0.75 L/ha) Add Sure-Mix® (provided in the box) at 5 L per 1000 L of spray solution (0.5% v/v).</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Refer to the Assure II label for complete use instructions.
LONG-LASTING CONTROL OF BROADLEAF WEEDS.

Goal™ 2XL herbicide provides excellent pre- and post-emergence control of broadleaf weeds. It provides contact control as well as up to 10 months of residual control.

WEEDS CONTROLLED
• Common purslane
• Cupped nightshade (potato weed)
• Eastern black nightshade
• Field pansy
• Lady’s thumb
• Lamb’s-quarters
• Maple-leaved goosefoot
• Oak-leaved goosefoot
• Primocane
• Redroot pigweed
• Wild buckwheat
• Wood sorrel

CROPS
• Balsam fir
• Broccoli
• Cabbage
• Cauliflower
• Dry bulb shallots
• Fraser fir
• Highbush blueberry
• Hybrid poplars
• Onion (dry bulb only)
• Red raspberry
• Strawberry
• White pine
• White spruce

FORMULATION AND PACKAGING
• Emulsifiable concentrate
• 2 x 9.46 L jugs
<table>
<thead>
<tr>
<th>Crop</th>
<th>Weeds</th>
<th>Rate</th>
<th>Guidelines</th>
</tr>
</thead>
</table>
| Onion (dry bulb only)    | Common purslane, Redroot pigweed, Cupped nightshade (potato weed), Wild buckwheat, Lamb’s-quarters, Oak-leaved goosefoot, Maple-leaved goosefoot | 0.5 L/ha     | • Apply in a minimum of 500 L/ha of water.  
• For best results apply when weeds are small and growing conditions are favourable for vigorous growth. Apply after there are 2 true leaves on the onions.  
• A second application may be necessary to control late germinating weeds. |
| Dry bulb shallots        | Common purslane, Redroot pigweed, Cupped nightshade (potato weed), Wild buckwheat, Lamb’s-quarters, Oak-leaved goosefoot, Maple-leaved goosefoot | 250 to 500 mL/ha | • For best results, weeds should be in the 2- to 4-leaf stage and actively growing. Use the lower rate at the 2-leaf stage of the crop. Repeat applications as required to control late germinating weeds. Retreatment interval is a minimum of 7 days. Do not add oils or surfactants to the spray mixture. |
| Strawberry               | Common purslane, Redroot pigweed, Cupped nightshade (potato weed), Wild buckwheat, Lamb’s-quarters, Oak-leaved goosefoot, Maple-leaved goosefoot, Field pansy, Wood sorrel | 1.0 L/ha     | • Apply in 500 L water/ha.  
• Apply in the fall as a single spray, pre-mulching to dormant plants.                                                                                                                                     |
| Red raspberry            | Primocane (suppression)                                               | 1.0 - 2.0 L/ha | • Apply Goal™ 2XL herbicide to primocanes that have emerged to 10-15 cm. The higher rate should be used if the majority of primocanes have reached the maximum height of 15 cm or when hot, dry conditions precede the application. Apply only once per season.  
• The addition of 2.5 L of surfactant per 1,000 L of spray solution is recommended.                                                                                                           |
<table>
<thead>
<tr>
<th>Crop</th>
<th>Weeds</th>
<th>Rate</th>
<th>Guidelines</th>
</tr>
</thead>
</table>
| Broccoli, Cabbage, Cauliflower | Redroot pigweed, Common purslane, Lady’s thumb (suppression), Eastern black nightshade (suppression) | 1.13-2.0 L/ha | • Apply pre-transplant (preplant) application for pre-emergence control of weeds.  
  • Applications must be made after completion of soil preparation but prior to transplanting.  
  • Transplanting should be completed with minimal soil disturbance. Treated soil surfaces should be left undisturbed after transplanting to obtain greatest benefit of Goal™ 2XL herbicide.  
  • Apply only 1 ground application per year. |
| Highbush blueberry          | All labeled weeds                                                   | 1 L/broadcast ha; Refer to label for band application rate reduction formula | • Apply when weeds are in the 2- to 4-leaf stage and actively growing.  
  • Do not spray the crop directly.  
  • Apply in the equivalent of 500 L/ha of water. |
| Hybrid poplars              | Common purslane, Redroot pigweed, Cupped nightshade (potato weed), Wild buckwheat, Lamb’s-quarters, Oak-leaved goosefoot, Maple-leaved goosefoot | 4.0-8.0 L/ha | • Apply in 200 L of water/ha.  
  • Apply prior to weed emergence for optimal results.  
  • Pre-emergence applications should be made prior to or immediately after planting or transplanting dormant Populus plants.  
  • Post-emergence applications are best applied before weeds exceed the 6-leaf stage. Applications must be made prior to bud break of the Populus plants. |
| Balsam fir, Fraser fir, White spruce, White pine | Common purslane, Redroot pigweed, Cupped nightshade (potato weed), Wild buckwheat, Lamb’s-quarters, Oak-leaved goosefoot, Maple-leaved goosefoot | 0.5-1.0 L/ha | • Apply in 200-500 L of water/ha.  
  • Applications should be made before bud break or after new foliage has hardened off (approximately 6 weeks after bud break).  
  • Repeat applications as required to control late-germinating weeds. |
**Tank mixes**

- No registered tank mixes.

**Mixing instructions**

- Maintain sufficient agitation during mixing and spraying to ensure a uniform spray mixture.
- Do not add oils or surfactants to the spray mixture.
- Fill the spray tank with water to 1/2 the total spray volume required. Start agitation. Add required amount of product per hectare. Continue mixing and agitation while filling the spray tank to the required volume.

**Optimizing performance**

- Goal™ 2XL herbicide requires light for activity. Applications during periods of extended cloudiness may reduce effectiveness.
- Do not apply Goal when the crop or weeds are under stress such as from excess or lack of moisture, extreme temperatures, or injury from previously applied herbicides.
- Rainfast in three hours.
- Ground application: Goal must be applied in sufficient water per hectare on a broadcast basis. Use a low-pressure herbicide sprayer that applies the spray uniformly. Be sure to properly calibrate the sprayer before application and check frequently during use to ensure proper calibration and uniform application. Avoid drift onto susceptible crops.
- Aerial application: Not registered for aerial application.
- Crop rotations
- No rotational crop restrictions.

**Pre-harvest interval**

- Onion – Do not apply within 56 days of harvest.
- Raspberry, highbush blueberry – Do not apply within 50 days of harvest.
- Strawberry – Do not apply within 150 days of harvest.
- Broccoli, cabbage, cauliflower – Do not apply within 60 days of harvest.

**Precautions**

- Do not apply to sandy soils.
- Onion – Goal can cause necrotic lesions, twisting or pigtailing of the onion crop. This injury will be more severe if applications are made during periods of stress such as excess or lack of moisture, extreme temperatures or injury from previously applied herbicides. Applications made prior to the full development of two true leaves on the crop will also cause injury.
- Strawberry – Apply to dormant strawberry plants only.
- Red raspberry – Goal is registered on red raspberries in British Columbia only. Do not apply in excess of 2.0 L/ha to raspberries in one year.
- Hybrid poplars – Apply as a post-emergence application or directed application to the base of the Populus plant. Applications must only be made prior to bud break to avoid possible phytotoxicity to the Populus foliage. Applications made after bud break may result in injury to the Populus plant and are not recommended.
- Balsam fir, Fraser fir, white spruce, white pine – Some temporary needle burn may occur. Apply to healthy trees that are not under stress.
- Broccoli, cabbage, cauliflower – Applications of Goal 2XL may result in a temporary initial crop response (leaf cupping or crinkling). Crop response may be enhanced if crop leaves come in direct contact with treated soil. Crops rapidly outgrow this condition and develop normally.
- Do not apply Goal 2XL pre-emergence to direct seeded broccoli, cabbage or cauliflower.
- Do not apply Goal 2XL post-transplant or post-emergence (over the top) to broccoli, cabbage or cauliflower.
- Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours for broccoli, cabbage, cauliflower, Populus species (and their hybrids) or conifers, 24 hours for raspberries or strawberries, and 48 hours for dry bulb onions. For dry bulb shallots, do not enter or allow worker entry into treated areas during the REI of 6 days for handweeding and scouting activities; a 12 hour REI is required for all other activities.
SOIL ACTIVE WEED CONTROL IN ORNAMENTALS AND SELECT HORTICULTURE CROPS.

Kerb™ SC herbicide provides selective weed control in alfalfa, trefoil, ornamentals, strawberry, apple, pear, lowbush blueberry, lettuce and established pasture. Kerb SC herbicide is readily absorbed by plants through the root system, translocated upward and distributed into the entire plant. The degree of translocation from leaf absorption is negligible. Kerb can be applied pre-plant incorporate on certain crops, pre-emergence and post-emergence to weeds and all crops. Post-emergence applications to weeds will not control weeds by foliar uptake, but rather by soil uptake once the product moves into the soil.

WEEDS CONTROLLED
• Chickweed
• Foxtail barley
• Orchardgrass
• Quackgrass
• Sheep sorrel
• Timothy
• Volunteer wheat
• Wild oats

CROPS
• Alfalfa
• Apple
• Blueberry
• Established grassland
• Lettuce
• Ornamentals
• Pear
• Strawberry
• Trefoil

FORMULATION AND PACKAGING
• Liquid suspension
• 2 x 10 L jugs
<table>
<thead>
<tr>
<th>Crop</th>
<th>Weeds</th>
<th>Rate</th>
<th>Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ornamentals (established): Iris, Peony, Ground covers (except vinca minor) and any Coniferous trees and shrubs (tolerant to Kerb™ herbicide)</td>
<td>Quackgrass, Annual grasses, Chickweed</td>
<td>37 mL per 100 m²</td>
<td>• Do not use on or permit treated areas to drain onto turf grasses (except for removal).</td>
</tr>
<tr>
<td>Ornamental nursery stock, container grown (British Columbia only)</td>
<td>Annual grasses, Chickweed</td>
<td>37 mL per 100 m²</td>
<td>• Apply from November to February. • Do not apply to stock that has been transplanted less than 6 months.</td>
</tr>
<tr>
<td>Strawberry (Maritimes and British Columbia only)</td>
<td>Annual grasses, Chickweed</td>
<td>2.8 L/ha</td>
<td>• Apply from late September to November. • Best results are obtained when soil temperatures are below 10°C, but above freezing, and when soil moisture is high.</td>
</tr>
<tr>
<td>Apple, Pear</td>
<td>Quackgrass, Annual grasses</td>
<td>5.6 L/ha or 56 mL per 100 m²</td>
<td>• Apply from October to late November. • Best results are obtained when soil temperatures are below 10°C, but above freezing, and when soil moisture is high. • Use only under trees established for at least 1 year.</td>
</tr>
<tr>
<td>Lowbush blueberry</td>
<td>Quackgrass, Annual grasses, Sheep sorrel</td>
<td>4.1-5.6 L/ha</td>
<td>• Apply from September to early November. • Best results are obtained when soil temperatures are below 10°C, but above freezing, and when soil moisture is high. • Kerb can be applied in the crop year or the sprout year. • Do not apply until all the fruits have been harvested.</td>
</tr>
<tr>
<td>Lettuce (direct seeded or transplanted)</td>
<td>Germinating annual grasses, some broadleaf weeds</td>
<td>2.75 L/ha</td>
<td>• Apply once a year. • Direct seeded lettuce: Apply either as pre-plant incorporation, pre-emergent or post-emergent with a pre-harvest interval of 55 days. • Transplanted lettuce: Apply 7 to 10 days post transplant.</td>
</tr>
<tr>
<td>Established grassland, Alfalfa, Trefoil</td>
<td>Foxtail barley</td>
<td>1.1 -1.4 L/ha</td>
<td>• Apply from October to late November. • Best results are obtained when soil temperatures are below 10°C, but above freezing, and when soil moisture is high. • Use only under grass and forage stands established for at least 1 year. • On brown, dark brown or gray wooded soils, use the lower rate.</td>
</tr>
</tbody>
</table>
Tank mixes
• No registered tank mixes.

Mixing instructions
• Mix Kerb™ SC herbicide in water and apply uniformly with a standard low pressure herbicide sprayer with flat fan nozzles at 300–500 L of water per hectare.

Optimizing performance
• Apply in cool, moist conditions in the late fall prior to freeze up. Best results are obtained when soil temperatures are below 10°C, but above freezing, and when soil moisture is high.
• No rainfast period. This is a soil active, pre-emergent herbicide. Some moisture is needed to move product into the soil profile.
• Ground application: Apply uniformly with a standard low pressure herbicide sprayer with flat fan nozzles at 300–500 L of water per hectare.
• Aerial application: Not registered for aerial application.
• Surface applications are most effective if followed by rain in a day or two, or a light overhead irrigation (1.25 to 2.50 cm). Kerb acts through root absorption.

Crop rotations
• Rotational crop intervals depend on soil organic matter, moisture and temperature.
• Observe a crop rotation interval of 30 days for leafy vegetables (except brassica vegetables), 90 days for root and tuber vegetables and 360 days for all other crops.

Pre-harvest interval
• Blueberry, strawberry, apple, pear – Do not apply until after fruit has been harvested.
• Lettuce – Do not apply within 55 days of harvest.
• Do not graze within 90 days after application of 4 L per hectare.
• Do not graze within 60 days after application of less than 4 L per hectare.

Precautions
• Do not make more than one application of Kerb per year.
• Herbicide activity is best when the soil organic matter is less than four percent. Use in soils with higher organic matter may result in inconsistent or incomplete weed control.
• Dandelion, thistles and other members of the Compositae family are not controlled by Kerb.
• Less tolerant grass species (e.g. tall fescue, creeping red fescue) may experience a 10 to 15 percent injury as a result of the treatment.
• DO NOT apply during periods of dead calm. Avoid application of this product when winds are gusty.
• DO NOT enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 24 hours.
THE STANDARD FOR THISTLE CONTROL.
Lontrel™ XC herbicide delivers the same trusted Canada thistle and broadleaf weed control that farmers have counted on for more than 35 years. Lontrel XC is available in a more compact, convenient formulation that reduces handling, weight and storage space. Lontrel™ herbicides translocate throughout plants for complete in-season control of Canada and sow thistle. Thistle starts in patches – this is the ideal time to hit them hard with Lontrel. It is the most economical and effective thistle solution.

WEEDS CONTROLLED
- Alsike clover
- Broadleaf weeds
- Canada thistle
- Common groundsel
- Common ragweed
- Kudzu
- Ox-eye daisy
- Perennial sow thistle (top growth control)
- Ragweed
- Red/white clover
- Scentless chamomile
- Sheep sorrel
- Tufted vetch
- Vetch
- Volunteer alfalfa
- Wild buckwheat

CROPS
- Apple
- Balsam fir Christmas tree plantations
- Blueberry
- Brassica (cole) leafy vegetables
- Cranberry
- Crop and non-crop farmland areas
- Hybrid poplars
- Rutabaga
- Stone fruit
- Strawberry
- Sugar beet
- Wide variety of oilseeds, cereals and grasses

Lontrel can also be applied along fence lines and on non-crop land. See label for complete listing.

FORMULATION AND PACKAGING
- Emulsifiable concentrate
  Lontrel 360:
  - 4 x 4.45 L jugs
  Lontrel XC:
  - 4 x 2.67 L jugs
<table>
<thead>
<tr>
<th>Crop</th>
<th>Weeds</th>
<th>Rate</th>
<th>Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highbush blueberry</td>
<td>Vetch, Red clover, White clover</td>
<td>360: 0.83 L/ha XC: 0.50 L/ha</td>
<td>• Apply as a broadcast treatment.</td>
</tr>
</tbody>
</table>
| Lowbush blueberry             | Vetch, Red clover, White clover               | 360: 0.42 L/ha XC: 0.25 L/ha | • Apply as a spot treatment.  
• When using a hand gun or backpack sprayer to treat small infestations, apply Lontrel 360 at a rate of 42 mL per 1,000 m² area in 200 L of water.  
• When applying with a boom sprayer to treat larger infestations, apply 420 mL/ha of Lontrel™ herbicide in 150-200 L water.  
• Make 1 application per year, in the non-bearing year (prune year). Apply in June or when tufted vetch is in early bloom.  
• Applications of Lontrel™ herbicide may cause crop damage resulting in reduced yields in the season following application.  
• Apply as a post-emergent spray when ragweed plants are 5 to 10 cm tall.  
• Application to larger ragweed plants will result in reduced weed control.  
• For the most effective control of Canada thistle, apply as a broadcast treatment to the entire infested area.  
• Apply in 150-200 L/ha of water as a directed foliar application.  
• Best control is obtained when vetch stems are 10 to 15 cm long and prior to the vetch climbing into a tree crown.  
• Avoid contact with the upper 2/3 of the tree crown.  
• Do not use on seedbeds, transplants or any over-the-top applications.  |
| Apple                         | Vetch                                         | 360: 0.56 L/ha XC: 0.34 L/ha | • To be used on bearing and non-bearing apples.  
• Apply at the early flowering stage of the weed as a spot treatment, preferably in early spring.  
• Avoid contact of the spray with the tree limbs.  |
| Brassica (cole) leafy vegetables | Ragweed, Vetch, Common groundsel, Canada thistle (control), Sheep sorrel (suppression) | 360: 0.56 L/ha XC: 0.34 L/ha | • Apply as a post-plant application only using 300 L/ha of water.  |
| Rutabaga                      | Ragweed                                       | 360: 0.56 L/ha XC: 0.34 L/ha | • Apply with a boom sprayer at the rate of 0.56 L/ha in approximately 200-300 L/ha of water.  
• Apply as a post-emergent spray when ragweed plants are 5 to 10 cm tall.  
• Application to larger ragweed plants will result in reduced weed control.  |
| Sugar beet                    | Canada thistle                                | 360: 0.56-0.83 L/ha XC: 0.34-0.50 L/ha | • Apply with ground equipment as a foliar spray either broadcast or in a band over the row.  
• When applied in the band, the amount of Lontrel should be reduced proportional to the band width.  
• Apply when sugar beets are in the cotyledon to 8-leaf stage.  
• For the most effective control of Canada thistle, apply as a broadcast treatment to the entire infested area.  |
| Balsam fir Christmas tree plantations | Vetch                                         | 360: 0.42 L/ha XC: 0.25 L/ha | • Apply in 150-200 L/ha of water as a directed foliar application.  
• Best control is obtained when vetch stems are 10 to 15 cm long and prior to the vetch climbing into a tree crown.  
• Avoid contact with the upper 2/3 of the tree crown.  
• Do not use on seedbeds, transplants or any over-the-top applications.  |
<table>
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<tr>
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</table>
| Cranberry  | Vetch                                                                 | 360: 20 mL/L of water                     | • Apply with wiper-type application equipment ONLY.  
• Wipe treatments may be applied as a spot application. The treatment may be applied using equipment such as a hockey stick applicator. The treatment solution should be wiped onto weed foliage that extends above the cranberry canopy.  
• Wiper applications may be made in the fall at least 2 weeks after harvest and after the vines have attained their winter dormancy colour, or in the spring prior to bud-break. Wiper application treatments may also be applied following cranberry bud-break (first emergence (1 to 2 mm) of terminal meristem) to control late emerging weeds or weeds which escaped earlier control measures.  
• Contact of the treatment solution with cranberry foliage after budbreak should be avoided since it will result in plant injury. |
| Strawberry | Vetch, Canada thistle (control), Sheep sorrel (suppression), Ox-eye daisy (suppression) | 360: 0.83 L/ha                           | • Apply as a broadcast application with a boom sprayer calibrated to deliver a total volume of 150–200 L/ha.  
• Apply Lontrel™ herbicide only as a summer renovation treatment.  
• Early strawberry varieties such as Annapolis or Veestar may be more susceptible to injury. |
| Stone fruit| Broadleaf weeds, vetch                                                | 360: 0.42–0.83 L/ha                      | • Apply in 150–300 L/ha of water in the early spring for best results.  
• Apply up to the early flowering stage as a spot treatment.  
• For small infestations, apply by hand gun or backpack sprayer at a rate of 42–83 mL per 1,000 m² area in 300 L of water.  
• Use the higher rate for heavy infestations or when greater residual control is needed.  
• Avoid contact with tree limbs. |
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<tr>
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</thead>
</table>
| Hybrid poplars                            | Canada thistle, Perennial sow thistle (top growth control), Alsike clover, Common groundsel, Common ragweed, Red/white clover, Scentless chamomile, Tufted vetch, Vetch, Volunteer alfalfa, Wild buckwheat, Ox-eye daisy, Sheep sorrel | 360: 0.83 L/ha XC: 0.50 L/ha | • Apply to new and established short rotation intensive culture crops of poplar (Populus) species and their hybrids.  
• Make 1 application per year. Apply to Canada thistle in the rosette to pre-bud stage.  
• Apply by ground application only using an overall spray or as a directed spray to the base of the tree.  
• Some leaf cupping and stem twisting may occur, but will not adversely affect growth.  
**WARNING:** Poplar clones/hybrids vary in their tolerance to Lontrel™ herbicide. Injury observed includes leaf injury, leaf cupping, stem twisting, height reduction and diameter reduction. As not all clones/hybrids have been tested for tolerance, use of this product should be limited to a small area of each clone/hybrid to confirm tolerance prior to adoption as a general field practice. |
| Seedling or established grasses for seed or forage |                                                                         | 360: 0.83 L/ha XC: 0.50 L/ha | • Apply in 110–220 L/ha of water.  
• For seedling grasses, apply at the 2- to 4-leaf stage.  
• For established grasses, apply at the shot-blade stage, or in the fall after harvest or in early spring. |
| Crop and non-crop farmland areas          | Kudzu                                                                  | 360: 200 L/ha XC: 120 L/ha | • Apply to suppress this vine from regrowth from tubers and crowns and new growth from dormant seed.  
• Repeat annual applications in a minimum of 100 L water/ha may be required for cultivated fields, including summerfallow.  
• Apply by backpack or handheld sprayer for small infestations. |
**Tank mixes**

- For additional broadleaf and/or grass weed control, Lontrel™ herbicide can be tank mixed with most commonly used grass weed herbicides, including Poast Ultra, Select®, VP480 herbicide, Roundup WeatherMAX®, and MCPA Amine or Ester.
- Check tank-mix partner labels for registered crops and additional restrictions.

**Mixing instructions**

- Apply in a minimum of 40-80 L/ha of water, with higher water volumes (100-200 L/ha) as specified for specific crops in the application guidelines section.
  1. Fill the sprayer with 1/2 the required amount of water. Start agitation and continue agitation throughout the mixing and spraying procedure.
  2. Add the required amount of Lontrel.
  3. Add the required tank-mix partner and the adjuvant recommended for that partner. Please consult appropriate label to ensure proper mixing order of tank mix partners.
  4. Complete filling the sprayer tank.

**Optimizing performance**

- Lontrel is rainfast in four to six hours.
- Treat crops during warm weather when weeds are actively growing.
- Best results are obtained when Canada thistle is actively growing and soil moisture is adequate for rapid growth.
- Under cool or dry conditions, control of Canada thistle may be severely reduced.
- Ground application: Field sprayers should be properly calibrated and capable of uniform application at recommended water volumes. Good spray tank agitation is required. Bypass agitation is not sufficient. Field sprayers should be cleaned prior to use.
- Aerial application: Not registered for aerial application.

**Pre-harvest interval**

- Apple, cabbage, cauliflower, broccoli, kohlrabi, napa cabbage, Chinese radish, mustard cabbage, Chinese broccoli, stone fruit – Do not apply within 30 days of harvest.
- Highbush blueberry – Do not apply within 45 days of harvest.
- Sugar beet – Do not apply within 90 days of harvest.
- Rutabaga – Do not apply within 83 days of harvest.
- Lowbush blueberry – Do not apply within 10 months of harvest.
- Crops or areas treated with this product may be grazed immediately following treatment.

**Precautions**

- Maximum of one application per year in all crops, with the exception of cranberry.
- Do not apply Lontrel directly to (or otherwise permit it to come into contact via drift with) sunflower, legumes (such as pea, bean, lentil or alfalfa), fruit or vegetable crops, flowers, or other desirable broadleaved plants. Residues of Lontrel can remain in the soil following the year of use, thereby affecting growth of sensitive crops. Check the label for restrictions regarding rotational crops.
- Residues of the herbicide occurring in the straw may be harmful to susceptible plants; therefore, do not use straw or crop residue from treated crops for composting or mulching susceptible broadleaved crops. If the straw or crop residue is used for animal bedding or feed, return the manure to fields to be planted to tolerant crops such as wheat, barley, oats, rye, forage grasses, canola or flax. Do not grow susceptible crops such as peas, beans, lentils, potatoes, sunflowers or other sensitive crops on land that has been mulched with straw containing Lontrel residues within the last 12 months.
- Do not enter or allow workers entry into treated areas for 12 hours following application to all crops.

**Crop rotations**

- The year following application, fields can be seeded to wheat, oats, barley, rye, forage grasses, flax, canola or mustard, or can be summerfallow.
OUTSTANDING POST-EMERGENT CONTROL OF QUACKGRASS, PIGWEED AND ANNUAL GRASSES.

• Can be used on all types of potatoes, including seed and early maturing varieties
• Flexible re-cropping options

CROP ROTATION
Ten (10) months:
• Spring wheat (including durum)
• Oats
• Canola
• Dry beans
• Chickpeas
• Stone fruits
• Sunflowers
• Sweet and seed corn
• Field peas
• Lentils
• Flax
• Faba beans

Four (4) months:
• Winter wheat

Following year:
• Barley
• Corn
• Potatoes
• Red clover
• Sorghum
• Soybeans
• White beans

Any time:
• Field corn

FORMULATION AND PACKAGING
• Soluble granule
• 480 g bottle

CROPS
• Blueberries (highbush)
• Caneberries
• Potatoes
• Tomatoes (field)

WEEDS CONTROLLED
• Barnyard grass
• Fall panicum
• Green foxtail
• Hairy nightshade
• Lamb’s-quarters
• Quackgrass
• Redroot pigweed
• Triazine resistant hairy nightshade
• Triazine resistant lamb’s-quarters,
• Witchgrass
• Yellow foxtail

GROUP 2
HERBICIDE
<table>
<thead>
<tr>
<th>Crop</th>
<th>Weeds</th>
<th>Rate</th>
<th>Application Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highbush blueberries</td>
<td>Barnyard grass, Fall panicum, Green foxtail, Hairy nightshade, Lamb’s-quarters, Quackgrass, Redroot pigweed, Witchgrass, Yellow foxtail</td>
<td>24 g/ac (60 g/ha)</td>
<td>• Optimum control is generally achieved when weeds are small and actively growing. For lamb’s-quarters, apply from the 4-leaf to 6-leaf stage (&lt;10 cm tall). For quackgrass, apply from the 3-leaf to 6-leaf stage (&lt;25 cm leaf extended). Yellow foxtail present at the time of application will be controlled. Any weed emerging after application will not be controlled. • Add a registered non-ionic surfactant (NIS) such as Agral® 90 or Ag-Surf® at 2 L per 1000 L of spray solution (0.2% v/v). • Use on highbush blueberries that have gone through at least one growing season. Do not apply within 21 days of harvest.</td>
</tr>
<tr>
<td>Potatoes</td>
<td>Barnyard grass, Fall panicum, Green foxtail, Hairy nightshade, Lamb’s-quarters, Quackgrass, Redroot pigweed, Witchgrass, Yellow foxtail</td>
<td>24 g/ac (60 g/ha)</td>
<td></td>
</tr>
<tr>
<td>Field tomatoes (Processing and fresh market)</td>
<td>Barnyard grass, Fall panicum, Green foxtail, Hairy nightshade, Lamb’s-quarters, Quackgrass, Redroot pigweed, Witchgrass, Yellow foxtail</td>
<td>24 g/ac (60 g/ha)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Triazine resistant lamb’s-quarters, Triazine resistant hairy nightshade</td>
<td>56 g/ac (140 g/ha)</td>
<td></td>
</tr>
<tr>
<td>Caneberries</td>
<td>Barnyard grass, Fall panicum, Green foxtail, Hairy nightshade, Lamb’s-quarters, Quackgrass, Redroot pigweed, Witchgrass, Yellow foxtail</td>
<td>24 g/ac (60 g/ha)</td>
<td></td>
</tr>
</tbody>
</table>

Refer to the Prism™ SG herbicide label for complete use instructions.

1 Registered in tomatoes only, up to the 4-leaf stage.
2 Suppression.
THE STRAIGHTEST PATH TO A CLEANER FIELD.
This innovative co-pack of Prism™ SG herbicide and metribuze in provides powerful, flexible weed control and sound resistance management for potato growers in Canada.

- Offers easy, convenient handling and application
- An excellent weed resistance management tool from two modes of action
- Provides powerful, season-long weed control of a wide range of broadleaf and grass weeds

WEEDS CONTROLLED
- Ball mustard
- Barnyard grass
- Cheatgrass
- Cocklebur
- Common chickweed
- Common ragweed
- Corn spurry
- Crabgrass (hairy, smooth)
- Dandelion (seedling)
- Fall panicum
- Giant foxtail
- Green foxtail
- Green smartweed
- Hemp-nettle
- Johnsongrass (seedling)
- Lady's thumb
- Lamb's-quarters
- Prostrate pigweed
- Redroot pigweed
- Russian thistle
- Shepherd’s purse
- Stinkweed
- Tartary buckwheat
- Velvetleaf
- Volunteer non-triazine tolerant canola
- Wild buckwheat
- Wild mustard
- Wild potato vine
- Witchgrass
- Yellow foxtail

CROP
- Potatoes (Canada wide)
- Processing tomatoes (Eastern Canada only)

CROP ROTATION
Four (4) months:
- Winter wheat
Following year:
- Barley
- Corn
- Potatoes
- Red clover
- Sorghum
- Soybeans
- White beans

PACKAGING
- 2 x 480 g jugs (Prism SG herbicide) + 2 x 3 kg jugs (metribuze in 75% DF)
Refer to the Prism SG and Tricor® 75 DF labels for complete use instructions.

<table>
<thead>
<tr>
<th>Crop</th>
<th>Weeds</th>
<th>Rate</th>
<th>Guidelines</th>
</tr>
</thead>
</table>
| Potatoes (Do not use on Belleisle or Tobique varieties) | Ball mustard Common chickweed Corn spurry Green smartweed Hemp-nettle Lady’s thumb Lamb’s-quarters Redroot pigweed Shepherd’s purse Stinkweed Tartary buckwheat Volunteer non-triazine tolerant canola Wild mustard | Apply Prism™ SG herbicide at 24 g/ac (60 g/ha) with TriCor® 75 DF at 113 g/ac–151 g/ac (280 g/ha–375 g/ha). Add a registered non-ionic surfactant (NIS) such as Agral® 90 or Ag-Surf® at 2 L per 1000 L of spray solution (0.2% v/v). | • Apply as a post-emergence spray.  
• Apply after crop emergence when weeds are < 4 cm in height.  
• Optimum control is generally achieved when weeds are small and actively growing.  
• For lamb’s-quarters, apply from the 4-leaf to 6-leaf stage (<10 cm tall).  
• For quackgrass, apply from the 3-leaf to 6-leaf stage (<25 cm leaf extended).  
• Yellow foxtail present at the time of application will be controlled. |
| Transplanted tomatoes (processing, Eastern Canada only) | Barnyard grass Cheatgrass Cocklebur Common chickweed Common ragweed Crabgrass (hairy, smooth) Dandelion (seedling) Fall panicum Giant foxtail Green foxtail Green smartweed Johnsongrass (seedling) Lady’s-thumb Lamb’s-quarters Prostrate pigweed Redroot pigweed Russian thistle Shepherd’s-purse Stinkweed Shepherd’s purse Stinkweed Tartary buckwheat Volunteer non-triazine tolerant canola Wild mustard Wild buckwheat Wild mustard Wild potato vine Witchgrass Witchgrass Yellow foxtail | Apply Prism SG at 24 g/ac (60 g/ha) with 152 g/ac–445 g/ac (375 g/ha–1.1 kg/ha) of TriCor® 75 DF. Add a registered non-ionic surfactant (NIS) such as Agral® 90 or Ag-Surf® at 2 L per 1000 L of spray solution (0.2% v/v). | • Apply 3 weeks after transplanting. Avoid contacting at least the top 2/3 of the tomato foliage with spray.  
• Use the lower rate of TriCor® 75 DF on sandy soils.  
• Do not harvest within 60 days of application.  
• Apply specified dosage in 150 L to 300 L of water per hectare, depending on equipment and local practices. |
THE ULTIMATE CONTROL OF ANNUAL GRASSES AND QUACKGRASS.
Ultim™ herbicide is well-known for its outstanding control of annual grasses and quackgrass in field corn and black bullrush in lowbush blueberries.

WEEDS CONTROLLED
- Annual grasses
- Black bulrush
- Poverty oatgrass
- Quackgrass
- Redroot pigweed
- Ticklegrass

CROPS
- Field corn
- Lowbush blueberries (Eastern Canada only)

CROP ROTATION
Four (4) months:
- Winter wheat
Following year:
- Canola
- Red clover
- Field corn
- Sorghum
- Soybeans
- Spring barley
- White beans

FORMULATION AND PACKAGING
- Dry flowable
- 4 x 33.7 g bags
<table>
<thead>
<tr>
<th>Crop</th>
<th>Weeds</th>
<th>Rate</th>
<th>Guidelines</th>
</tr>
</thead>
</table>
| Lowbush blueberries | Black bulrush                  | Apply one water soluble bag in 800 L of water per hectare. Add a registered non-ionic (NIS) at 0.2% v/v. | • Apply Ultim™ herbicide to black bulrush in June of the pruning year (vegetative year) of the crop, when the first flower heads are beginning to emerge from the bulrush tussock.  
• Ultim should be applied as a directed spot spray to thoroughly wet the bulrush foliage. Weed control may be erratic or unsatisfactory with later applications and when the bulrush is under stress (e.g. drought stress). Stunting and yield losses may occur if the sprayed product comes in contact with the blueberry plants. |
|                     | Quackgrass, Annual grasses, Redroot pigweed, Poverty oatgrass, Ticklegrass | Apply one water soluble bag of Ultim per hectare (33.7 grams/ha) with a recommended non-ionic surfactant at 0.2% v/v. Apply within a minimum of 140 L water per hectare. | • Apply Ultim when annual grasses have 1–6 leaves (up to early tillering) and perennial grasses have 3–6 leaves.  
• Application must be made in the spring of the sprout year (non-bearing year).  
• Stunting and yield losses may occur if blueberry plants are contacted by the spray. Applications made before lowbush blueberry emergence have increased crop safety.  
• Apply with ground equipment only.  
• Make only one application per growing season.  
• Do not apply within 14 months of harvest. |

Refer to the Ultim label for complete use instructions.  
1 Suppression.
VP480
HERBICIDE

NON-SELECTIVE WEED CONTROL IN TREE, VINE AND BERRY CROPS.

VP480 herbicide provides total, non-selective control of annual and perennial weeds in established vineyards or orchards, in blueberry, cranberry and strawberry, or for site preparation prior to transplanting tree and vine crops.

WEEDS CONTROLLED
• Annual broadleaf weeds
• Annual grass weeds
• Dodder species
• Perennial broadleaf weeds
• Perennial grasses/sedges
• Volunteer crops (except Roundup Ready® varieties)
• Winter annual weeds

CROPS
• Apple
• Apricot
• Asparagus
• Blueberry – highbush and lowbush
• Cherry – sweet and tart
• Cranberry
• Filbert hazelnut (established plantations)
• Grape
• Japanese heartnut
• Peach
• Pear
• Plum
• Strawberry
• Sugar beet
• Walnut chestnut

FORMULATION AND PACKAGING
• Solution
• 2 x 10 L jugs
<table>
<thead>
<tr>
<th>Crop</th>
<th>Weeds</th>
<th>Rate</th>
<th>Guidelines</th>
</tr>
</thead>
</table>
| Apple, Apricot, Cherry – sweet and tart, Peach, Pear, Plum | Annual and perennial weeds           | 1.69–9 L/ha         | • Remove all sucker growth from the spray zone before spraying, except for the Concord variety of grape.  
• Suckering should be conducted within 2 weeks prior to application.  
• Do not apply to vines that have been established less than 3 years. |
| Grape                                     | Annual and perennial weeds           | 1.69–9 L/ha         | • Remove all sucker growth from the spray zone before spraying, except for the Concord variety of grape.  
• Suckering should be conducted within 2 weeks prior to application.  
• Do not apply to vines that have been established less than 3 years. |
| Highbush blueberry                         | Quackgrass                           | 2.1–4.2 L/ha        | • Use as a directed spray, with no more than 275 kPa pressure.             |
| Lowbush blueberry                         | Woody brush                          | 0.75–1.5% solution  | • Apply as a directed spray in midsummer of the vegetative (nonbearing) year.  
• See spot treatment section for instructions. |
| Filbert hazelnut (established plantations) | Annual weeds                         | 1.69–2.63 L/ha      | • Use as a directed spray, with no more than 275 kPa pressure.             |
| Walnut chestnut, Japanese heartnut        | Annual and perennial weeds           | 1.69–9 L/ha         | • Apply late spring and fall, post-harvest but prior to a killing frost.  
• Apply in 200–300 L water as a directed spray, using no more than 275 kPa pressure. |
| Cranberry                                 | Annual and perennial weeds           | 15% solution (0.75 L Vantage + 4 L water) | • Apply using wick or wiper applicators. |
| Strawberry                                | Emerging perennial weeds             | 0.75–1.5% solution  | • Apply when weeds are at a susceptible growth stage.                      |
|                                           |                                      | (spot application), 25% solution (wiper application) |                                               |
| Sugar beet                                | Dodder species                       | 0.75–1.5% solution  | • Apply when dodder is vigorously growing but before flowering.            |
|                                           |                                      | (spot application)  |                                               |
| Asparagus                                 | Fall seeded rye grass                | 0.94–1.88 L/ha      | • Apply in spring before emergence of crop shoots.                         |
Tank mixes

- No registered tank mixes for these use patterns. Consult product label for more information.

Mixing instructions

- For ground or industrial type sprayers, fill the spray tank with 1/2 the required amount of water. Add the proper amount of herbicide and mix well before adding the remaining portion of water. Placing the filling hose below the surface of the liquid solution will prevent excessive foaming. Removing hose from tank immediately will avoid back-siphoning into water source. Use of mechanical agitators may cause excessive foaming. Bypass lines should terminate at the bottom of the tank.
- For use in knapsack sprayers, roller and wiper equipment, it is suggested that the proper amount of this herbicide be mixed with water in a larger container. Fill sprayer with the mixed solution.

Optimizing performance

- Rainfast in 30 minutes.
- Ground application: Applications may be made with boom equipment, shielded sprayers, hand-held and high volume orchards guns, or with wiper applicator equipment (orchards, vineyards, cranberries and strawberries only).
- Boom equipment
  - For control of perennial weeds and woody brush and trees listed in this booklet using conventional boom equipment. Apply this product in 50-300 L/ha of clean water as a broadcast spray using no more than 275 kPa pressure.
  - For control of annual weeds listed in this booklet using conventional boom equipment. Apply this product in 50-100 L of clean water per hectare as a broadcast spray, except as otherwise stated on this label using no more than 275 kPa pressure.

Hand-held and high volume equipment (use coarse sprays only)

- For control of weeds and woody brush and trees listed in the “Weeds controlled” section of the product label using knapsack sprayers or high volume spraying equipment utilizing handguns or other suitable nozzle arrangements. Unless otherwise specified, make a 0.75 percent solution of this product in water (0.75 L of this product in 100 L of water) and apply to foliage of vegetation to be controlled. For best results, use a 1.5 percent solution (1.5 L of this product in 100 L of water) on harder to control perennials such as field bindweed, hemp dogbane, milkweed and Canada thistle.
  - Applications should be made on a spray-to-wet basis. Spray coverage should be uniform and complete. Do not spray to point of runoff. Hand gun applications should be properly directed to avoid spraying desirable plants.

Selective equipment

- Selective equipment such as wiper and roller applicators can be used for weed control in soy and dry beans, orchards, vineyards, cranberry, strawberry and non-crop areas.
- For roller applicators: Mix 0.38-0.75 L of this product in 10 L water to prepare a 3.8-7.5 percent solution. Roller speed should be maintained at 50-150 rpm.
- For wick or other wiper applicators: Mix 1 L of this product in 3 L of water to prepare a 25 percent solution.
- Aerial application: Not registered for aerial application.
**Crop rotations**
- No re-cropping restrictions.

**Pre-harvest interval**
- Do not apply within 60 days of harvest.
- Apple, apricot, cherry (sweet, tart), peach, pear, plum, highbush blueberry, cranberry, strawberry – Do not apply within 30 days of harvest.
- Grape, filbert hazelnut (established plantations) – Do not apply within 14 days of harvest.
- Lowbush blueberry – Apply in non-bearing year only.
- Walnut chestnut, Japanese heartnut – No pre-harvest restriction.
- Sugar beet – Treated crop must not be harvested.
- Asparagus – Do not apply within seven days of harvest.

**Precautions**
- Apple, apricot, cherry (sweet, tart), peach, pear, plum, grape – Maximum three applications per year.
- Highbush blueberry, lowbush blueberry, cranberry, strawberry, sugar beet, asparagus – Maximum one application per year.
- Walnut chestnut, Japanese heartnut – Maximum two applications per year.
- Filbert hazelnut (established plantations) – Unrestricted maximum applications per year.
- Do not apply more than 26 L/ha of this product per year.
- Extreme care must be exercised to avoid contact of herbicide spray solution, spray drift or mist with foliage or green bark of trunk, branches, suckers, fruit, canes of blueberry bushes, or other parts of trees or vines. Contact of this product with other than matured brown bark can result in serious crop damage.
Integrated pest management (IPM) is a systematic decision-making process that supports a balanced approach to managing crop production systems through sound economic and environmental practices. Here are some of the principles:

- Evaluate disease and pest populations through scouting and monitoring programs.
- Use practices to support resistance management, including proper application rates and techniques and rotation of chemical groups.
- Biological, chemical, cultural and mechanical methods are used to reduce pest populations.
- Control measures are implemented using the knowledge of known threshold levels for economic damage, the potential impact on beneficials and the crop value.
- Records are maintained for products use, product groups, application information and results achieved.

Corteva Agriscience™ recommends consulting your local extension specialist or certified crop advisor for any additional pesticide resistance management and/or IPM recommendations for specific site and pest problems in your area.
<table>
<thead>
<tr>
<th>Crop Groups and Subgroups – Number and Name</th>
<th>Representative Commodities</th>
<th>Commodities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Root and Tuber Vegetables</td>
<td>Carrot, potato, sweet potato, radish, sugar beet</td>
<td>Arracacha; arrowroot; artichoke, Chinese; artichoke, Jerusalem; beet, garden; beet, sugar; burdock, edible; canna, edible; carrot; cassava, bitter and sweet; celeriac; chayote (root); chervil, turnip-rooted; chicory; chufa; dasheen (taro); ginger; ginseng; horseradish; leren; parsley, turnip-rooted; parsnip; potato; radish; radish, oriental; rutabaga; salsify; salsify, black; salsify, Spanish; skirret; sweet potato; tanier; turmeric; turnip; yam bean; yam, true</td>
</tr>
<tr>
<td>1A. Root vegetables subgroup</td>
<td>Carrot, radish and sugar beet</td>
<td>Beet, garden; beet, sugar; burdock, edible; carrot; celeriac; chervil, turnip-rooted; chicory; ginseng; horseradish; parsley, turnip-rooted; parsnip; radish; radish, oriental; rutabaga; salsify; salsify, black; salsify, Spanish; skirret; turnip</td>
</tr>
<tr>
<td>1B. Root vegetables (except sugar beet) subgroup</td>
<td>Carrot and radish</td>
<td>Beet, garden; burdock, edible; carrot; celeriac; chervil, turnip-rooted; chicory; ginseng; horseradish; parsley, turnip-rooted; parsnip; radish; radish, oriental; rutabaga; salsify; salsify, black; salsify, Spanish; skirret; turnip</td>
</tr>
<tr>
<td>1C. Tuberous and corm vegetables subgroup</td>
<td>Potato</td>
<td>Arracacha; arrowroot; artichoke, Chinese; artichoke, Jerusalem; canna, edible; cassava, bitter and sweet; chayote (root); chufa; dasheen (taro); ginger; leren; potato; sweet potato; tanier; turmeric; yam bean; yam, true</td>
</tr>
<tr>
<td>1D. Tuberous and corm vegetables (except potato) subgroup</td>
<td>Sweet potato</td>
<td>Arracacha; arrowroot; artichoke, Chinese; artichoke, Jerusalem; canna, edible; cassava, bitter and sweet; chayote (root); chufa; dasheen (taro); ginger; leren; sweet potato; tanier; turmeric; yam bean; yam, true</td>
</tr>
<tr>
<td>2. Leaves of Root and Tuber Vegetables (Human Food or Animal Feed)</td>
<td>Turnip and garden beet or sugar beet</td>
<td>Beet, garden; beet, sugar; burdock, edible; carrot; cassava, bitter and sweet; celeriac; chervil, turnip-rooted; chicory; dasheen (taro); parsnip; radish; radish, oriental (daikon); rutabaga; salsify, black; sweet potato; tanier; turnip; yam, true</td>
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<tr>
<td>3. Bulb Vegetables</td>
<td>Onion, green; and onion, dry bulb</td>
<td>Garlic; garlic, great-headed; leek; onion, dry bulb and green; onion, Welsh; shallot</td>
</tr>
<tr>
<td>3-07. Bulb vegetable group</td>
<td>Onion, bulb; onion, green</td>
<td>Chive, fresh leaves; chive, Chinese, fresh leaves; daylily, bulb; elegans hosta; fritillaria, bulb; fritillaria, leaves; garlic, bulb; garlic, great-headed, bulb; garlic, serpent, bulb; kurrat; lady’s leek; leek; leek, wild; lily, bulb; onion, Beltsville bunching; onion, bulb; onion, Chinese, bulb; onion, fresh; onion, green; onion, macrostem; onion, pearl; onion, potato, bulb; onion, tree, tops; onion, Welsh, tops; shallot, bulb; shallot, fresh leaves; cultivars, varieties, and/or hybrids of these</td>
</tr>
<tr>
<td>3-07A. Onion, bulb, subgroup</td>
<td>Onion, bulb</td>
<td>Daylily, bulb; fritillaria, bulb; garlic, bulb; garlic, great-headed, bulb; garlic, serpent, bulb; lily, bulb; onion, bulb; onion, Chinese, bulb; onion, pearl; onion, potato, bulb; shallot, bulb</td>
</tr>
<tr>
<td>3-07B. Onion, green, subgroup</td>
<td>Onion, green</td>
<td>Chive, fresh leaves; chive, Chinese, fresh leaves; elegans hosta; fritillaria, leaves; kurrat; lady’s leek; leek; leek, wild; onion, Beltsville bunching; onion, fresh; onion, green; onion, macrostem; onion, tree, tops; onion, Welsh, tops; shallot, fresh leaves</td>
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<td><strong>Crop Groups and Subgroups – Number and Name</strong></td>
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<tr>
<td>4-13. Leafy Vegetables</td>
<td>Head lettuce, leaf lettuce and spinach</td>
<td>Amaranth (Chinese, leafy); arugula; aster, Indian; blackjack; broccoli (raab, Chinese); cabbage (Abyssinian, Chinese (bok choy), seakale); cat’s whiskers; cham-chwi; chrysanthemum, garland; cilantro, fresh leaves; collards; corn salad (lamb’s lettuce, Italian); cosmos; cress (garden, upland); dandelion; dang-gwi; dillweed, fresh leaves; dock; dol-nam-mul; ebolo; endive; escarole; fameflower; feather cockscomb; good King Henry; Hanover salad; huauzontle; jute leaves; kale; lettuce (bitter, head, leaf, Romaine); maca; mizuna; mustard greens; orach; parsley, fresh leaves; plantain, buckhorn; primrose, English; purslane (garden, winter); radicchio (red chicory); radish, leaves; rape greens; rocket, wild; shepherd’s purse; spinach (malabar, New Zealand, tree); Swiss chard; tanier spinach; turnip greens; violet, Chinese; watercress; cultivars, varieties and/or hybrids of these</td>
</tr>
<tr>
<td>4-13A. Leafy greens subgroup</td>
<td>Head lettuce, leaf lettuce and spinach</td>
<td>Amaranth (Chinese, leafy); aster, Indian; blackjack; cat’s whiskers; cham-chwi; chama-nu-mul; chervil, fresh leaves; chipilin; chrysanthemum, garland; cilantro, fresh leaves; corn salad (lamb’s lettuce, Italian); cosmos; dandelion; dang-gwi; dillweed, fresh leaves; dock; dol-nam-mul; ebolo; endive; escarole; fameflower; feather cockscomb; good King Henry; Hanover salad; huauzontle; jute leaves; kale; lettuce (bitter, head, leaf, Romaine); maca; mizuna; mustard greens; orach; parsley, fresh leaves; plantain, buckhorn; primrose, English; purslane (garden, winter); radicchio (red chicory); radish, leaves; rape greens; rocket, wild; shepherd’s purse; spinach (malabar, New Zealand, tree); Swiss chard; tanier spinach; turnip greens; violet, Chinese; watercress; cultivars, varieties and/or hybrids of these</td>
</tr>
<tr>
<td>4-13B. Brassica leafy greens subgroup</td>
<td>Mustard greens</td>
<td>Arugula; broccoli (raab, Chinese); cabbage (Abyssinian, Chinese (bok choy), seakale); collards; cress (garden, upland); Hanover salad; kale; maca; mizuna; mustard greens; radish, leaves; rape greens; rocket, wild; shepherd’s purse; turnip greens; watercress; Chinese; cultivars, varieties and/or hybrids of these</td>
</tr>
<tr>
<td>5-13. Brassica Head and Stem Vegetables</td>
<td>Broccoli, cauliflower and cabbage</td>
<td>Broccoli; Brussels sprouts; cabbage, Chinese (napa); cauliflower; Cultivars, varieties and/or hybrids of these</td>
</tr>
<tr>
<td>6. Legume Vegetables (Succulent or Dried)</td>
<td>Bean (<em>Phaseolus</em>) (succulent and dried), pea (<em>Pisum</em>) (succulent and dried) and soybean</td>
<td>Bean (<em>Lupinus</em>) (includes grain lupin, sweet lupin, white lupin, and white sweet lupin); bean (<em>Phaseolus</em>) (includes field bean, kidney bean, lima bean, navy bean, pinto bean, runner bean, snap bean, tepary bean, wax bean); bean (<em>Vigna</em>) (includes adzuki bean, asparagus bean, blackeyed pea, catjang, Chinese longbean, cowpea, crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean, yardlong bean); broad bean (fava); chickpea (garbanzo); guar; jackbean; lablab bean; lentil; pea (<em>Pisum</em>) (includes dwarf pea, edible-podded pea, English pea, field pea, garden pea, green pea, snow pea, sugar snap pea); pigeon pea; soybean; soybean (immature seed); sword bean</td>
</tr>
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<tr>
<td>6A. Edible-podded legume vegetables subgroup</td>
<td>Any one succulent cultivar of edible-podded bean (&lt;em&gt;Phaseolus&lt;/em&gt;) and any one succulent cultivar of edible-podded pea (&lt;em&gt;Pisum&lt;/em&gt;)</td>
<td>Bean (&lt;em&gt;Phaseolus&lt;/em&gt;) (includes runner bean, snap bean, wax bean); bean (&lt;em&gt;Vigna&lt;/em&gt;) (includes asparagus bean, Chinese longbean, moth bean, yardlong bean); jackbean; pea (&lt;em&gt;Pisum&lt;/em&gt;) (includes dwarf pea, edible-podded pea, snow pea, sugar snap pea); pigeon pea; soybean (immature seed); sword bean</td>
</tr>
<tr>
<td>6B. Succulent shelled pea and bean subgroup</td>
<td>Any succulent shelled cultivar of bean (&lt;em&gt;Phaseolus&lt;/em&gt;) and garden pea (&lt;em&gt;Pisum&lt;/em&gt;)</td>
<td>Bean (&lt;em&gt;Phaseolus&lt;/em&gt;) (includes lima bean, green; broad bean, succulent); bean (&lt;em&gt;Vigna&lt;/em&gt;) (includes blackeyed pea, cowpea, southern pea); pea (&lt;em&gt;Pisum&lt;/em&gt;) (includes English pea, garden pea, green pea); pigeon pea</td>
</tr>
<tr>
<td>6C. Dried shelled pea and bean (except soybean) subgroup</td>
<td>Any one dried cultivar of bean (&lt;em&gt;Phaseolus&lt;/em&gt;) and any one dried cultivar of pea (&lt;em&gt;Pisum&lt;/em&gt;)</td>
<td>Dried cultivars of bean (&lt;em&gt;Lupinus&lt;/em&gt;); bean (&lt;em&gt;Phaseolus&lt;/em&gt;) (includes field bean, kidney bean, lima bean (dry), navy bean, pinto bean, tepary bean); bean (&lt;em&gt;Vigna&lt;/em&gt;) (includes adzuki bean, blackeyed pea, catjang, cowpea, crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean); broad bean (dry); chickpea; guar; lablab bean; lentil; pea (&lt;em&gt;Pisum&lt;/em&gt;) (includes field pea); pigeon pea</td>
</tr>
<tr>
<td>8-09. Fruiting Vegetable Group</td>
<td>Tomato, standard size, and one cultivar of small tomato; bell pepper and one cultivar of small non-bell pepper</td>
<td>African eggplant; bush tomato; bell pepper; cocona; currant tomato; eggplant; garden huckleberry; goji berry; groundcherry; martynia; naranjilla; okra; pea eggplant; pepino; non-bell pepper; roselle; scarlet eggplant; sunberry; tomatillo; tomato; tree tomato; cultivars, varieties, and/or hybrids of these</td>
</tr>
<tr>
<td>8-09A. Tomato subgroup</td>
<td>Tomato (standard size and one cultivar of small tomato)</td>
<td>Bush tomato; cocona; currant tomato; garden huckleberry; goji berry; groundcherry; naranjilla; sunberry; tomatillo; tomato; tree tomato; cultivars, varieties, and/or hybrids of these</td>
</tr>
<tr>
<td>8-09B. Pepper/Eggplant subgroup</td>
<td>Bell pepper and one cultivar of small nonbell pepper</td>
<td>African eggplant; bell pepper; eggplant; martynia; nonbell pepper; okra; pea eggplant; pepino; roselle; scarlet eggplant; cultivars, varieties, and/or hybrids of these</td>
</tr>
<tr>
<td>8-09C. Nonbell pepper/ Eggplant subgroup</td>
<td>One cultivar of small nonbell pepper or one cultivar of small eggplant</td>
<td>African eggplant; eggplant; martynia; nonbell pepper; okra; pea eggplant; pepino; roselle; scarlet eggplant ; cultivars, varieties, and/or hybrids of these</td>
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<tr>
<td>9. Cucurbit Vegetables</td>
<td>Cucumber, muskmelon and summer squash</td>
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<tr>
<td>9A. Melon subgroup</td>
<td>Cantaloupe</td>
<td>Citron melon; muskmelon; watermelon</td>
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<tr>
<td>9B. Squash/Cucumber subgroup</td>
<td>One cultivar of summer squash and cucumber</td>
<td>Chayote (fruit); Chinese waxgourd; cucumber; gherkin; gourd, edible; &lt;em&gt;Momordica&lt;/em&gt; spp; pumpkin; squash, summer;squash, winter</td>
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<tr>
<td>11-09. Pome Fruit Group</td>
<td>Apple and pear</td>
<td>Apple; azarole; crabapple; loquat; mayhaw; medlar; pear; pear, Asian; quince; quince, Chinese; quince, Japanese; tejocote; cultivars, varieties, and/or hybrids of these</td>
</tr>
<tr>
<td>12-09. Stone Fruit Group</td>
<td>Sweet cherry or tart cherry, Peach and plum or prune plum</td>
<td>Apricot; apricot, Japanese; capulin; cherry, black; cherry, Nanking; cherry, sweet; cherry, tart; Jujube, Chinese; nectarine; peach; plum; plum, American; plum, beach; plum, Canada; plum, cherry; plum, Chickasaw; plum, Damson; plum, Japanese; plum, Klamath; plum, prune; plumcot; sloe; cultivars, varieties, and/or hybrids of these</td>
</tr>
<tr>
<td>13-07. Berry And Small Fruit</td>
<td>Any one blackberry or any one raspberry, highbush blueberry, elderberry or mulberry, grape, fuzzy kiwifruit and strawberry</td>
<td>Amur river grape; aronia berry; bayberry; bearberry; bilberry; blackberry (including Andean blackberry, arctic blackberry, bingleberry, black satin berry, boysenberry, brombeere, California blackberry, Chesterberry, Cherokee blackberry, Cheyenne blackberry, common blackberry, coryberry, darrowberry, dewberry, Dirksen thornless berry, evergreen blackberry, Himalayaberry, hullberry, lavacaberry, loganberry, lowberry, Lucretiaberry, mammoth blackberry, marionberry, mora, mures deronce, nectarberry, Northern dewberry, ollieberry, Oregon evergreen berry, phenomenalberry, rangeberry, ravenberry, rossberry, Shawnee blackberry, Southern dewberry, tayberry, youngberry, zarzamora, and cultivars, varieties and/or hybrids of these); blueberry, highbush; blueberry, lowbush; buffalo currant; buffaloberry; che; Chilean guava; chokecherry; cloudberry; cranberry; cranberry, highbush; currant, black; currant, red; elderberry; European barberry; gooseberry; grape; honeysuckle, edible; huckleberry; jostaberry; Juneberry (Saskatoon berry); kiwifruit, fuzzy; kiwifruit, hardy; lingonberry; maypop; mountain pepper berries; mulberry; muntries; native currant; partridgeberry; phalsa; pincherry; raspberry, black and red; riberry; salal; schisandra berry; sea buckthorn; serviceberry; strawberry; wild raspberry; cultivars, varieties, and/or hybrids of these</td>
</tr>
<tr>
<td>13-07A. Caneberry subgroup</td>
<td>Any one blackberry or any one raspberry</td>
<td>Blackberry; loganberry; raspberry, black and red; wild raspberry; cultivars, varieties, and/or hybrids of these</td>
</tr>
<tr>
<td>13-07B. Bushberry subgroup</td>
<td>Blueberry, highbush</td>
<td>Aronia berry; blueberry, highbush; blueberry, lowbush; buffalo currant; Chilean guava; cranberry, highbush; currant, black; currant, red; elderberry; European barberry; gooseberry; honeysuckle, edible; huckleberry; jostaberry; Juneberry (Saskatoon berry); lingonberry; native currant; salal; sea buckthorn; cultivars, varieties, and/or hybrids of these</td>
</tr>
<tr>
<td>13-07C. Large shrub/tree berry subgroup</td>
<td>Elderberry or mulberry</td>
<td>Bayberry; buffaloberry; che; chokecherry; elderberry; Juneberry (Saskatoon berry); mountain pepper berries; mulberry; phalsa; pincherry; riberry; salal; serviceberry; cultivars, varieties, and/or hybrids of these</td>
</tr>
<tr>
<td>13-07D. Small fruit vine climbing subgroup</td>
<td>Grape and fuzzy kiwifruit</td>
<td>Amur river grape; gooseberry; grape; kiwifruit, fuzzy; kiwifruit, hardy; maypop; schisandra berry; cultivars, varieties, and/or hybrids of these</td>
</tr>
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<tr>
<td>13-07E. Small fruit vine climbing subgroup, except grape</td>
<td>Fuzzy kiwifruit</td>
<td>Amur river grape; gooseberry; kiwifruit, fuzzy; kiwifruit, hardy; maypop; schisandra berry; cultivars, varieties, and/or hybrids of these</td>
</tr>
<tr>
<td>13-07F. Small fruit vine climbing subgroup, except fuzzy kiwifruit</td>
<td>Grape</td>
<td>Amur river grape; gooseberry; grape; kiwifruit, hardy; maypop; schisandra berry; cultivars, varieties, and/or hybrids of these</td>
</tr>
<tr>
<td>13-07G. Low growing berry subgroup</td>
<td>Strawberry</td>
<td>Bearberry; bilberry; blueberry, lowbush; cloudberry; cranberry; lingonberry; muntries; partridgeberry; strawberry; cultivars, varieties, and/or hybrids of these</td>
</tr>
<tr>
<td>13-07H. Low growing berry subgroup, except strawberry</td>
<td>Cranberry</td>
<td>Bearberry; bilberry; blueberry, lowbush; cloudberry; cranberry; lingonberry; muntries; partridgeberry; cultivars, varieties, and/or hybrids of these</td>
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<tr>
<td>14. Tree Nuts</td>
<td>Almond and pecan</td>
<td>Almond; beechnut; Brazil nut; butternut; cashew; chestnut; chinquapin; filbert (hazelnut); hickory nut; macadamia nut; pecan; walnut, black and English</td>
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<tr>
<td>22. Stalk, stem, and leaf petioles</td>
<td>Asparagus and Celery</td>
<td>Agave; aloe vera; asparagus; bamboo, shoots; cardoon; celery; celery, Chinese; celtuce; fennel, Florence, fresh leaves and stalk; fern, edible; fuki; kale, sea; kohlrabi; palm hearts; prickly pear; prickly pear, Texas; rhubarb; udo; zuiki; cultivars, varieties, and hybrids of these</td>
</tr>
</tbody>
</table>
For further agronomic information, please contact your local Corteva Agriscience™ sales representative, or call the Solutions Center at 1-800-667-3852.

corteva.ca