

VEGETABLES 2021

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Chateau® WDG herbicide is a PPO inhibitor that works as a barrier on the soil surface providing season-long residual control of tough broadleaf and grass weeds.

Chateau® WDG

Benefits

- Long-lasting residual, pre-emergent broadleaf weed control with bonus grass suppression
- Chateau stays where it is sprayed and will not leach or volatilize
- Group 14 herbicide (PPO inhibitor) works differently than many other commonly used herbicides, helping to manage resistance
- The herbicide barrier cannot be disturbed after moisture activation
- Offers flexible application timing

Registered crops

- | | |
|---|--------------------------------|
| • Asparagus | • Garlic |
| • Blueberry (highbush and lowbush) | • Grape |
| • Broccoli | • Hops |
| • Caneberry | • Nut trees |
| • Celery | • Pome fruit |
| • Dry bulb onion | • Potato (Western Canada only) |
| • Established mint (peppermint and spearmint) | • Stone fruit |
| • Field pepper | • Strawberry |
| | • Sweet potato |

General usage information

- Moisture is necessary to activate Chateau in soil for weed control (½ inch of rain or irrigation)
- This product will not control emerged weeds
- Significant crop injury may occur from applications made to poorly drained soils and/or applications made under cool, wet conditions
- Do not apply to farm alleys or roads where traffic may result in treated dust settling onto crops or other desirable vegetation
- Application to non-dormant crops or when soils are flooded after application may result in non-acceptable crop injury, including yield loss
- Use appropriate water volumes to ensure good coverage
- Apply prior to weed emergence
- Undesirable crop injury may occur if Chateau comes in contact with fruit or foliage
- DO NOT tank-mix with Dual II Magnum®



Technical information

HERBICIDE GROUP

- > Group 14

ACTIVE INGREDIENTS

- > flumioxazin 51.1%

PACKAGING

- > 4 x 1.13 kg case

RAINFAST

- > Requires ½ inch of rain or irrigation for activation

PCP

- > 29231

Specific crop usage information

WEEDS CONTROLLED/
SUPPRESSED

RATE

PHI

APPLICATION INFORMATION

ASPARAGUS

Canada fleabane Common lamb's-quarters Common ragweed Dandelion Eastern black nightshade Green foxtail Green pigweed Hairy nightshade Kochia Redroot pigweed	280 g/ha (113.3 g/ac.) 420 g/ha (170 g/ac.)		<p>Apply only to dormant asparagus established for at least 1 year</p> <p>Applications should be made no sooner than 3 weeks prior to emergence of spears and must be sprinkler or rainfall activated with 1-2 cm of water or some scoring may result</p> <p>Application to non-dormant asparagus may result in unacceptable crop injury</p> <p>Do not work soil within 60 days prior to application in the spring</p> <p>Soil can be worked after spear harvest in preparation for Chateau application prior to fern emergence</p> <p>Treated soil that is splashed onto the ferns may result in spotting</p> <p>If using Dual II Magnum® for added grass control, apply Chateau in the late fall after the ferns have been mowed and apply Dual II Magnum® in the spring. Applying Chateau in the fall will ensure product activation and reduce risk of crop injury – apply after mowing of ferns and before ground freezes.</p> <p>For fall applications ferns may be mowed to a height of approximately 12-18 inches. This will ensure adequate snow coverage and still allow spray to reach the ground. A spring mowing will not reduce residual control.</p>
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TRANSPLANTED BROCCOLI

Canada fleabane Common lamb's-quarters Common ragweed Dandelion Eastern black nightshade Green foxtail (suppression) Green pigweed Hairy nightshade Kochia Redroot pigweed	210 g/ha (85 g/ac.)		<p>Apply Chateau as a hooded or shielded application to the middle of the rows</p> <p>Do not apply more than 210 g/ha during a single application or growing season</p> <p>Plants should be grown on raised or plastic mulched beds that are at least 10 cm higher than the treated row middle and the mulched bed must have a minimum of a 60 cm bed width</p> <p>Spray must remain between raised beds with minimal contact with the plastic</p> <p>If the top of the bed is contacted, severe injury can occur and it is advised that 2.5 cm of rain or irrigation must occur prior to transplanting residues</p>
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CELERY

Canada fleabane Common lamb's-quarters Common ragweed Dandelion Eastern black nightshade Green foxtail Green pigweed Hairy nightshade Kochia Redroot pigweed	140 g/ha (56.7 g/ac.) 210 g/ha (85 g/ac.) Coarse-textured with <5% OM– 140 g/ha Medium-textured with <5% OM– 210 g/ha		<p>Do not apply more than 210 g of Chateau per hectare during a single growing season</p> <p>Plants should be grown on raised or plastic mulched beds that are at least 10 cm higher than the treated row middle and the mulched bed must have a minimum of a 60 cm bed width</p> <p>Spray must remain between raised beds</p> <p>If the top of the mulch beds are contacted, severe injury can occur due to foliage contact with treated plastic</p> <p>Use a hooded or shielded boom for application</p> <p>Irrigate treated field after application and prior to transplanting with minimum of ½ cm of water if rainfall does not occur between application and transplanting</p> <p>All applications must be made with hooded or shielded equipment</p> <p>Do not apply after crops are transplanted</p>
For use in celery in muck soil	140 g/ha (56.7 g/ac.)		Weed control and length of residual may be reduced in muck soils

WEEDS CONTROLLED/
SUPPRESSED RATE PHI APPLICATION INFORMATION

DRY BULB ONION

Canada fleabane Common lamb's-quarters Common ragweed Eastern black nightshade Green pigweed Hairy nightshade Kochia Redroot pigweed	140 g/ha (56.7 g/ac.) Coarse- and medium-textured mineral soil with <5% OM and muck soils	45	Avoid spray overlap as severe crop injury may occur Apply to transplanted onions between the 2-leaf and 6-leaf stage and on direct seed onions between the 3-leaf and 6-leaf stage prior to the emergence of weeds Do not apply in a tank-mix (except with Prowl® H ₂ O herbicide) or with an adjuvant as significant crop injury may result Do not tank-mix with other formulations of pendimethalin Do not apply on soils that contain greater than 90% sand plus gravel
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GARLIC

Canada fleabane Common lamb's-quarters Common ragweed Dandelion Eastern black nightshade Green foxtail Green pigweed Hairy nightshade Kochia Redroot pigweed	Coarse-textured with <5% OM– 280 g/ha (113.3 g/ac.) Medium-textured with <5% OM– 420 g/ha (170 g/ac.)		FOR PRE-EMERGENT WEED CONTROL Apply prior to emergence of garlic, and within 3 days after planting garlic Avoid spray overlap as severe crop injury may occur Severe crop injury will result when soils are flooded following applications of Chateau Apply only once per growing season Do not apply on fine-textured soils Use appropriate water volumes to ensure good spray coverage This product will not control emerged weeds
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HOPS

Canada fleabane Common lamb's-quarters Common ragweed Dandelion Eastern black nightshade Green foxtail Green pigweed Hairy nightshade Kochia Redroot pigweed	Coarse-textured with <5% OM– 280 g/ha (113.3 g/ac.) Medium-textured with <5% OM– 420 g/ha (170 g/ac.)	30	FOR PRE-EMERGENT WEED CONTROL Apply in the fall prior to weed emergence Apply a band to each side of the hop row and ensure rain activation When weeds are present apply as a tank-mix with carfentrazone-ethyl Apply only to dormant hops FOR SUCKER CONTROL Apply as a directed application after hops have reached a minimum of 1.8 m (6 ft.) in height for sucker control Application should be directed to the lower 0.6 m (2 ft.) of the hops Do not allow spray to contact green stem (unless used for sucker control), foliage, flowers or cones Do not use with an adjuvant
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FIELD PEPPER

Canada fleabane Common lamb's-quarters Common ragweed Dandelion Eastern black nightshade Green foxtail (suppression) Green pigweed Hairy nightshade Kochia Redroot pigweed	140 g/ha (56.7 g/ac.) 210 g/ha (85 g/ac.) Coarse-textured with <5% OM– 140 g/ha Medium-textured with <5% OM– 210 g/ha		Do not apply more than 210 g of Chateau per hectare during a single growing season All applications must be made with hooded or shielded equipment Do not apply during or after bloom Spray must remain between raised beds Plants should be grown on raised or plastic mulched beds that are at least 10 cm higher than the treated row middle and the mulched bed must have a minimum of a 60 cm bed width If the top of the mulch beds are contacted, severe injury can occur due to foliage contact with treated plastic Do not apply after crops are transplanted
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WEEDS CONTROLLED/
SUPPRESSED RATE PHI APPLICATION INFORMATION

PEPPERMINT, SPEARMINT

Canada fleabane Common lamb's-quarters Common ragweed Dandelion Eastern black nightshade Green foxtail Green pigweed Hairy nightshade Kochia Redroot pigweed	280 g/ha (113.4 g/ac.) Coarse-textured with <5% OM	80	Do not apply to row or baby mint, use only on established mint Apply as a single spring application to established, dormant mint for pre-emergent weed control In furrow-irrigated fields, corrugating that is done after a Chateau application will expose untreated soil and break the herbicide barrier, resulting in poor weed control Do not apply to stands established longer than 3 years
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POTATO (Western Canada only)

Suppression of: Canada fleabane Common lamb's-quarters Common ragweed Eastern black nightshade Green pigweed Hairy nightshade Kochia Redroot pigweed	105 g/ha (42.5 g/ac.) Coarse- and medium-textured with <5% OM		Do not apply more than 105 g Chateau per hectare during a single growing season Mechanical incorporation into the soil or disturbance of the soil surface will reduce weed control Chateau may be applied to potatoes after hilling A minimum of 5 cm of soil must cover the vegetative portion of the potato plant when Chateau is applied. Application to potatoes with less than 5 cm of soil cover may result in crop injury. Do not apply after cracking, this will result in severe crop injury Chateau will not be effective if applied prior to hilling Chateau must be activated before crop emergence (cracking) or serious crop injury could occur. Irrigation with at least ½-1 cm of water is recommended before ground crack occurs.
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STRAWBERRY

Canada fleabane Common lamb's-quarters Common ragweed Dandelion Eastern black nightshade Green foxtail (suppression) Green pigweed Hairy nightshade Kochia Redroot pigweed	210 g/ha (85 g/ac.) Coarse- and medium-textured with <5% OM		Broadcast applications may be made to dormant strawberries For non-dormant strawberries, applications must be made to row middles only, using a hooded or shielded sprayer Do not make more than 1 application per growing season Do not allow spray drift to come in contact with fruit or foliage Application after fruit set may result in spotting of fruit and should be avoided. Do not apply after fruit set.
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SWEET POTATO

Suppression of: Common lamb's-quarters Common ragweed Eastern black nightshade Green pigweed Hairy nightshade Redroot pigweed	105 g/ha (42.5 g/ac.) Coarse- and medium-textured with <5% OM		Do not apply more than 105 g of Chateau per hectare during a single growing season Apply Chateau prior to transplanting, do not apply after sweet potato slips have been transplanted Do not plant greenhouse grown transplants/slips into Chateau treated fields Do not use on any sweet potato variety other than "Beauregard", unless user has tested Chateau on other variety and has found crop tolerance to be acceptable Do not apply as part of any tank-mix, if tank-mix is applied before transplanting
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Credit® LV is a patented low viscosity glyphosate formulation containing Dual-Salt Technology™. Its high-load formulation (540 g/L) provides fast and complete control of troublesome weeds.

Credit® LV

Benefits

- The patented Dual-Salt technology combines both potassium and IPA salts that allow for easier mixing and improved weed control.
- The low viscosity formulation flows and transfers easier in cooler conditions
- Provides broad-spectrum weed control through systemic activity
- More active ingredient in less volume – concentrated product means handling less
- Works quickly and mixes easily to make your job easier
- Excellent compatibility with tank-mixes

Registered crops

- | | |
|------------------------------------|--------------|
| • Apple | • Grape |
| • Apricot | • Peach |
| • Asparagus | • Pear |
| • Blueberry (highbush and lowbush) | • Plum |
| • Cherry | • Strawberry |
| • Cranberry | • Sugar beet |
| • Ginseng | |

General usage information

- Credit LV is a non-selective herbicide that will kill or injure plants if it comes in contact with green tissue
- Allow at least 1 day after application before tillage
- Extreme care must be exercised to avoid the herbicide coming in contact or drifting onto foliage, suckers or fruit



Technical information

HERBICIDE GROUP

- > Group 9

ACTIVE INGREDIENTS

- > glyphosate 540 g/L

RAINFAST

- > Do not apply if rainfall is in forecast during application
- > No surfactant required

PACKAGING

- > 2 x 10 L case
- > 500 L tote
- > Bulk

PCP

- > 33849

Goal® 2XL is a pre- and post-emergent Group 14 herbicide to help tackle tough broadleaf weeds in specialty crops.

Goal® 2XL

Benefits

- Contact and residual control of common broadleaf weeds
- Group 14 herbicide that has pre- and post-emergence activity
- Registered on a wide range of specialty crops
- Primocane suppression on raspberries

Registered crops

- Blueberry (highbush)
- Broccoli
- Cabbage
- Cauliflower
- Onion
- Red raspberry (British Columbia only)
- Shallot
- Strawberry

General usage information

- Heavy rainfall or heavy irrigation immediately following application to emerged weeds may reduce effectiveness
- Apply when weeds are at the 2-4 leaf stage and actively growing
- Use tank mixtures with herbicides from a different group when such use is permitted
- Rotate the use of Goal 2XL with other herbicide groups to help prevent resistance
- Do not incorporate after application
- For pre-emergent weed control, rain or irrigation is required for activation



Technical information

HERBICIDE GROUP

> Group 14

ACTIVE INGREDIENTS

> Oxyfluorfen 240 g/L

RAINFAST

> Avoid application when heavy rainfall is in the forecast

PACKAGING

> 2 x 9.46 L

PCP

> 24913

Specific crop usage information

WEEDS CONTROLLED/
SUPPRESSED RATE PHI APPLICATION INFORMATION

STRAWBERRY

WEEDS CONTROLLED/ SUPPRESSED	RATE	PHI	APPLICATION INFORMATION
Common purslane Cupped nightshade (potatoweed) Eastern black nightshade (suppression) Field pansy Lady's-thumb (suppression) Lamb's-quarters Maple-leaved goosefoot Oak-leaved goosefoot Redroot pigweed Wild buckwheat Wood Sorrel	1 L/ha (0.404 L/ac.)	150	Apply as a single spray pre-mulching to dormant plants Apply one ground application per year

BROCCOLI, CABBAGE, CAULIFLOWER

WEEDS CONTROLLED/ SUPPRESSED	RATE	PHI	APPLICATION INFORMATION
Eastern black nightshade (suppression) Lady's-thumb (suppression) Redroot pigweed and common purslane	1.13-2 L/ha (0.457-0.809 L/ac.)	60	Applications must be made after completion of soil preparation but prior to transplanting Transplanting should be made with minimal soil disturbance Pre-transplant applications may result in temporary crop responses including leaf cupping or crinkling Crops rapidly outgrow this condition and develop normally The use of stressed or young transplants may result in more severe crop responses Hardening off, increasing the age of transplants or increase in the size of the rooting container will lessen the possibility and severity of crop injury Use the low rate on coarse-textured soils with less than 1% organic matter Use the high rate on medium to fine-textured soils Application to muck soils may result in partial control or suppression of the weeds listed Apply in a minimum of 200 L of water/ha (81 L/ac.) with a conventional sprayer Apply only one application per year Severe crop injury can occur if Goal 2XL is applied to a field that has been applied with Dual during the growing season. We do not recommend this. Do not apply to direct seeded or over the top of these crops

WEEDS CONTROLLED/
SUPPRESSED RATE PHI APPLICATION INFORMATION

DRY BULB ONION

<p>Common purslane Cupped nightshade (potatoweed) Lamb's-quarters Maple-leaved goosefoot Oak-leaved goosefoot Redroot pigweed Wild buckwheat</p>	<p>250-500 mL/ha (101-202 mL/ac.)</p>	<p>56</p>	<p>Apply when the weeds are at the 2-4 leaf stage First application can be made when the onions have two fully developed true leaves More than one application may be necessary to control late germinating weeds Repeat application as needed but do not exceed 2 L/ha (0.808L/ac.) in one year Apply with a minimum of 500 L of water/ha (202 L/ac.) Goal 2XL can cause necrotic lesions, twisting or pigtailling of the onion crop. This injury will be more severe if the crop is stressed or if made prior to the full development of the first two true leaves.</p>
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DRY BULB SHALLOTS

<p>Common purslane Cupped nightshade (potatoweed) Lamb's-quarters Maple-leaved goosefoot Oak-leaved goosefoot Redroot pigweed Wild buckwheat</p>	<p>250-500 mL/ha (101-202 mL/ac.)</p>	<p>56</p>	<p>Shallots should have two fully developed true leaves Apply when the weeds are at the 2-4 leaf stage Use the lower rate at the two leaf stage of the crop More than one application may be necessary to control late germinating weeds Repeat application as needed but do not exceed 2 L/ha (0.808L/ac.) in one year The re-treatment interval is 7 days Goal 2XL can cause necrotic lesions, twisting or pigtailling of the onion crop. This injury will be more severe if the crop is stressed or if made prior to the full development of the first two true leaves. Some Shallots are more sensitive to herbicide injury Apply with a minimum of 500 L of water/ha (202 L/ac.)</p>
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Rival® EC is a proven pre-plant herbicide that provides effective and reliable annual broadleaf and grass control in the horticulture sector.

Rival® EC

Benefits

- Long-term residual control of tough-to-control broadleaf and grass weeds
- Excellent herbicide resistance management tool when used in combination and rotation with other products
- Registered on a wide range of crops
- Reduces the hassle of switching products when switching crops

Registered crops

- | | | |
|-------------|-------------|--------------|
| • Asparagus | • Lima bean | • Rutabaga |
| • Bean | • Pea | • Strawberry |
| • Carrot | | |

DIRECT SEEDED

- | | |
|-----------|---------------|
| • Cabbage | • Cauliflower |
|-----------|---------------|

TRANSPLANTED

- | | | |
|--------------------|---------------|----------|
| • Broccoli | • Cabbage | • Pepper |
| • Brussels sprouts | • Cauliflower | • Tomato |

General usage information

- Apply Rival EC uniformly to the soil surface and incorporate within 24 hours after application
- Before applying, ensure that all emerged and existing weeds have been eliminated through discing or cultivation
- Incorporate to a depth of 8-10 cm only for maximum weed control and crop tolerance
- Use a disc implement when incorporating on stubble or trashy soils
- Cultivators should only be used for incorporation when soils are in good working condition
- For application to stubble or trashy soils, thoroughly disc the soils prior to application to ensure that all crop residues and trash material have been mixed into the soil to a depth of 10-15 cm
- **NOTE:** Do not plow (moldboard) land prior to applying Rival EC



Technical information

HERBICIDE GROUP

> Group 3

ACTIVE INGREDIENTS

> trifluralin 500 g/L

PACKAGING

> 2 x 9 L case

PCP

> 18612

Specific crop usage information

WEEDS CONTROLLED/SUPPRESSED	RATE	APPLICATION INFORMATION
ASPARAGUS		
<p>ANNUAL GRASS WEEDS INCLUDING:</p> <p>Annual bluegrass Green and yellow Barnyard grass foxtail (wild millet) Bromegrass Goosegrass Cheatgrass Persian darnel Crabgrass Stinkgrass Wild oats</p> <p>ANNUAL BROADLEAF WEEDS INCLUDING:</p> <p>Carpetweed Pigweed Chickweed Purslane Cow cockle Russian thistle Knotweed Wild buckwheat Lamb's-quarters</p>	2-4 L/ha (0.81-1.62 L/ac.)	Use only on asparagus that is established for 3 seasons or more Refer to label for specific use instructions related to soil type and organic matter
BLACK BEANS, CABBAGE (direct seeded or transplanted), CAULIFLOWER (direct seeded or transplanted), CRAMBE, DRY COMMON BEANS (white, kidney), FABABEANS, PEAS (field, processing), SAFFLOWER, SAINFOIN, SUNFLOWER		
<p>ANNUAL GRASS WEEDS INCLUDING:</p> <p>Annual bluegrass Green and yellow Barnyard grass foxtail (Wild millet) Bromegrass Goosegrass Cheatgrass Persian darnel Crabgrass Stinkgrass Wild oats</p> <p>ANNUAL BROADLEAF WEEDS INCLUDING:</p> <p>Carpetweed Pigweed Chickweed Purslane Cow cockle Russian thistle Knotweed Wild buckwheat Lamb's-quarters</p>	1.6-2.8 L/ha (0.65-1.15 L/ac.)	Apply and incorporate from 3 weeks prior to planting up to the time of planting Refer to the label for specific rates based on soil type and organic matter
BROCCOLI (transplanted), BRUSSELS SPROUTS (transplanted), CARROT, PEPPER, RUTABAGA, SNAPBEAN, STRAWBERRY, SWEET CLOVER, TOMATO		
<p>ANNUAL GRASS WEEDS INCLUDING:</p> <p>Annual bluegrass Green and yellow Barnyard grass foxtail (wild millet) Bromegrass Goosegrass Cheatgrass Persian darnel Crabgrass Stinkgrass Wild oats</p> <p>ANNUAL BROADLEAF WEEDS INCLUDING:</p> <p>Carpetweed Pigweed Chickweed Purslane Cow cockle Russian thistle Knotweed Wild buckwheat Lamb's-quarters</p>	1.6-2.2 L/ha (0.65-0.90 L/ac.)	Refer to label for specific use instructions related to soil type and organic matter

Statue™ is an effective post-emergent grass herbicide registered on fruit and vegetable crops.

Statue™

Benefits

- Superior over-the-top control of both annual and perennial grasses
- Excellent crop safety allows for most crops to be treated at all stages so that applications can be targeted to the optimum weed stage
- Systemic action results in exceptional weed control
- Tank-mix flexibility with several herbicide partners
- One case treats 40-80 ac. depending on the crop and the weeds being targeted

Registered crops

- Carrot
- Blueberry (highbush)
- Dry onion
- Potato
- Spinach
- Sunflower
- Red garden (table) beet
- Parsnip
- Radish

General usage information

- Carrier adjuvant must be mixed with Statue herbicide at 0.5% v/v (0.5 L/100 L of water)
- Thorough coverage of the foliage is important for consistent grass control
- Product will be less effective when plants are stressed by lack of moisture, excessive moisture, low temperature and/or low humidity
- Always adhere to the pre-harvest interval for each crop
- Do not use in greenhouses



Technical information

HERBICIDE GROUP

- > Group 1

ACTIVE INGREDIENTS

- > clethodim 240 g/L

PACKAGING

- > 2 x 3 L case (requires matching case of Carrier)
- > Carrier (2 x 8 L case) at 0.5% v/v

RAINFAST

- > 1 hour

PCP

- > 32885
- > C30639 (Carrier adjuvant)

Specific weed control information

WEEDS CONTROLLED/SUPPRESSED	LEAF STAGE	RATE	ADJUVANT APPLICATION RATE
Barnyard grass Crabgrass (smooth and large) Fall panicum Foxtail (green, yellow) Persian darnel Proso millet	Quackgrass (suppression) Volunteer canary grass Volunteer cereals (wheat, barley, oats) Volunteer corn Wild oats Witchgrass	2-6	0.19 L/ha (0.08 L/ac.) 0.5% v/v of Carrier (0.5 L/100 L of water)
Quackgrass control**	2-6	0.38 L/ha (0.15 L/ac.)	0.5% v/v of Carrier (0.5 L/100 L of water)

** For adequate control of quackgrass, use a minimum spray volume of 100 L/ha

Specific crop usage information

RATE	PHI	APPLICATION INFORMATION
DRY ONION		
0.38 L/ha (0.15 L/ac.) plus 0.5% v/v of Carrier	45	Apply a maximum of 1 application per year Apply post-emergent when the crop is in the 1-4 leaf stage
POTATO		
0.19 L/ha (0.08 L/ac.) to 0.38 L/ha (0.15 L/ac.) plus 0.5% v/v of Carrier	60	Ground and aerial application
SPINACH		
0.19 L/ha (0.08 L/ac.) plus 0.5% v/v of Carrier	14	Apply a maximum of 2 applications per year. If repeat application is required, allow at least 14 days between first and second application. Apply post-emergent by ground application when grassy weeds are between the 2-6 leaf stage
SUNFLOWER		
0.38 L/ha (0.15 L/ac.) plus 0.5% v/v of Carrier	72	Ground and aerial application
CARROT, PARSNIP, RADISH, RED GARDEN (table) BEET		
0.19 L/ha (0.08 L/ac.) to 0.38 L/ha (0.15 L/ac.) plus 0.5% v/v of Carrier	30	Apply a maximum of 2 applications per year. If repeat application is required, allow at least 14 days between first and second application. Do not apply more than 0.38 L/ha (0.15 L/ac.) per crop season Apply in a minimum spray volume of 110 L/ha

Excalia® is a new and highly effective foliar fungicide for use in apples to control powdery mildew and scab and in sugar beets to control rhizoctonia.

Excalia®

Benefits

- Easy to handle and mix
- Tank-mix flexibility with several products
- Highly effective protective and post-infection activity against primary scab
- Translaminar movement through the leaf

Registered crops

- Apple
- Sugar beet

General usage information

- Excalia should be used as part of a rotation in a resistance management program alternating with fungicides from different groups targeting the same pathogen
- Tank-mix only with a non-group 7 fungicide that targets the same pathogen
- Always adhere to the re-entry interval and limit the number of applications for each crop listed on the label
- When targeting powdery mildew a silicone surfactant (Xiameter) must be used at 0.03-0.06% v/v
- For more information or questions on specific applications or tank-mix compatibility contact the Nufarm Horticulture Specialist



Technical information

CHEMICAL CLASS

> Group 7

ACTIVE INGREDIENTS

> Inpyrfluxam 31.25%

PACKAGING

> 8 x 475 mL case

RAINFAST

> 1 hour

PCP

> 33819

Specific crop usage information

DISEASE CONTROLLED RATE PHI APPLICATION INFORMATION

SUGAR BEET

Rhizoctonia crown and root rot (<i>Rhizoctonia solani</i>)	146 mL/ha (59 mL/ac.) Equivalent to 220-260 mL/ 100 row metres	50	Apply at the 2-8 leaf stage in a 15-18 cm band over the crop row Non-ionic surfactant must be added to the spray solution at 0.125% v/v (125 mL/100 L water) Do not apply as a dribble application over the seed row Do not apply more than 146 mL/ha (59 mL/ac.) per year
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Parasol® FL is one of the smallest and most consistent copper particle size formulations available. It disperses effortlessly in water providing protection from disease.

Parasol® FL

Benefits

- Easy to handle and mix
- Has a higher Metallic Copper Equivalent (MCE) than some other coppers on the market providing optimal control of tough diseases
- Superior formulation stays in suspension and quickly disperses in water
- Highly compatible with other products
- Superior rainfastness
- One of the smallest and most consistent sizes of copper particles available in Canada

Registered crops

- | | |
|-----------------------------|-------------|
| • Apple | • Nectarine |
| • Apricot | • Peach |
| • Bean | • Pears |
| • Cherries (sweet and sour) | • Pepper |
| • Cucumber | • Potato |
| • Filberts | • Tomato |
| • Hazelnut | |

General usage information

- Use as a preventative/protective fungicide spray
- Use on a 7-14 day interval depending on disease conditions
- Adaptable for spraying with all types of equipment
- No surfactants needed
- No buffer zone required when applied as spot treatment



Technical information

CHEMICAL CLASS

> M1 fungicide

ACTIVE INGREDIENTS

> copper hydroxide 24.4%

PACKAGING

> 2 x 10 L case

RAINFAST

> 2 hours

PCP

> 25901

Specific crop usage information

DISEASE CONTROLLED RATE PHI APPLICATION INFORMATION

BEAN

Bacterial blight, common (<i>Xanthomonas campestris</i> <i>pv. phaseoli</i>) Bacterial blight, halo (<i>Pseudomonas syringae</i> <i>pv. phaseolicola</i>)	2.3-3.12 L/ha (0.93-1.25 L/ac.)	2	For protective sprays, apply first application when plants are 15 cm high Apply on 7-14 day schedule depending on local conditions Do not apply more than 6 treatments per year
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CUCUMBER

Angular leaf spot (<i>Pseudomonas syringae</i> <i>pv. lachrymans</i>)	2.3-3.12 L/ha (0.93-1.25 L/ac.)	2	Apply weekly once the plants begin to vine Do not apply more than 5 treatments per year Minimum re-treatment interval of 7 days
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PEPPER

Bacterial spot (<i>Xanthomonas campestris</i> <i>pv. vesicatoria</i> and <i>X. vesicatoria</i>)	2.3-3.12 L/ha (0.93-1.25 L/ac.)	2	When disease threatens, apply on a 7-14 day interval depending on disease severity and rainfall Do not apply more than 10 treatments per year, with a minimum re-treatment interval of 3 days
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POTATO

Early blight (<i>Alternaria solani</i>) Late blight (<i>Phytophthora infestans</i>)	0.8-1.8 L/ha (0.32-0.73 L/ac.)	2	Apply at 7-10 day intervals starting when plants are 15 cm high until harvest Combine with 1.75-2.25 kg/ha of mancozeb Apply 2.4 L/ha (0.97 L/ac.) at vinekill with a desiccant or alone after vinekill, prior to harvest for disease management This late treatment may reduce infection of tubers by the late blight fungus during harvesting Do not apply more than 10 treatments per year, with a minimum re-treatment interval of 5 days
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TOMATO

Bacterial spot (<i>Xanthomonas campestris</i> <i>pv. vesicatoria</i>) Early blight (<i>Alternaria solani</i>) Late blight (<i>Phytophthora infestans</i>)	2.3 L/ha (0.93 L/ac.)	2	When disease threatens, apply on a 7-10 day interval, and more frequently depending on disease severity and rainfall Combine with 1.75-2.25 kg/ha mancozeb Do not apply more than 10 treatments per year, with a minimum re-treatment interval of 3 days
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Parasol® WG provides growers with consistent, uniform copper coverage and enhanced disease protection through extremely small particle size and a high organic copper load.

Parasol® WG

Benefits

- Easy to handle and mix
- Eliminates clogging of sprayer and booms
- Highly compatible with other products
- Small active particle size to ensure superior coverage

Registered crops

- Bean
- Cranberry
- Cucumber
- Grapes
- Hops
- Pepper
- Potato
- Sugar beet
- Tomato

General usage information

- Use as a preventative/protective fungicide spray
- Use on a 7-14 day interval depending on disease conditions
- Adaptable for spraying with all types of equipment



Technical information

CHEMICAL CLASS

> M1 fungicide

ACTIVE INGREDIENTS

> copper hydroxide 50%

PACKAGING

> 10 kg bag

RAINFAST

> Avoid application when heavy rainfall is in the forecast

PCP

> 29063

APPROVED FOR
ORGANIC PRODUCTION

Specific crop usage information

DISEASE CONTROLLED RATE PHI APPLICATION INFORMATION

BEAN

Common bacterial blight (<i>Xanthomonas campestris</i> <i>pv. phaseoli</i>) Halo bacterial blight (<i>Pseudomonas syringae</i> <i>pv. phaseolicola</i>)	2.25-3.25 kg/ha (0.91-1.3 kg/ac.)	2	For protective sprays, apply first application when plants are 15 cm high Apply on 7-14 day schedule depending on local conditions Do not apply more than 6 treatments per year
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CUCUMBER

Angular leaf spot (<i>Pseudomonas syringae</i> <i>pv. lachrymans</i>)	2.25-3.25 kg/ha (0.91-1.3 kg/ac.)	2	Apply weekly once the plants begin to vine Do not apply more than 5 treatments per year
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HOPS

Downy mildew (<i>Peronospora humuli</i>)	1.2 kg/ha (0.49 kg/ac.) in 400 to 1,000 L water/ha	14	Do not apply more than 5 treatments per year at a minimum interval of 10 days The amount of this product applied per ha in concentrate must be the same as the amount applied per ha in dilute spray Ensure crop is thoroughly covered with spray mixture Apply as a fungicide crown treatment after pruning, but before training After training, apply at 10 days interval if needed Discontinue use 2 weeks before harvest Do not make more than 5 applications per year with a minimum of 10 days between applications May be applied using vertical boom or air-assisted sprayers
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PEPPER

Bacterial spot (<i>Xanthomonas campestris</i> <i>pv. vesicatoria</i> and <i>X. vesicatoria</i>)	2.25-3.25 kg/ha (0.91-1.3 kg/ac.)	2	When disease threatens, apply on a 7-14 day interval depending on disease severity and rainfall Do not apply more than 10 treatments per year, with a minimum re-treatment interval of 3 days
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POTATO

Early blight (<i>Alternaria solani</i>) Late blight (<i>Phytophthora infestans</i>)	1.1-2.5 kg/ha (0.45-1.0 kg/ac.)	2	Apply at 7-10 day intervals starting when plants are 15 cm high until harvest Combine with 1.75-2.25 kg/ha of mancozeb Apply at 3.4 kg/ha at vinekill with a desiccant or alone after vinekill, prior to harvest for disease management This late treatment may reduce infection of tubers by the late blight fungus during harvesting Do not apply more than 10 treatments per year, with a minimum re-treatment interval of 5 days
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DISEASE CONTROLLED RATE PHI APPLICATION INFORMATION

SUGAR BEET

Cercospora leaf spot (<i>Cercospora beticola</i>)	2.25-4.25 kg/ha (0.91-1.72 kg/ac.)	2	Start spray when disease threatens and continue for 4-6 applications Spray every 10-14 days depending on weather conditions at 2.25-4.25 kg/ha depending on disease severity Addition of a suitable non-herbicidal agricultural spray oil is recommended at 5.5 L/ha Do not apply more than 6 treatments per year
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TOMATO

Bacterial spot (<i>Xanthomonas campestris</i> <i>pv. vesicatoria</i>) Early blight (<i>Alternaria solani</i>) Late blight (<i>Phytophthora infestans</i>)	1.75-2.25 kg/ha (0.7-0.91 kg/ac.)	2	When disease threatens, apply 2.25 kg/ha on a 7-10 day interval, more frequently depending on disease severity and rainfall Combine with 1.75-2.25 kg/ha mancozeb Do not apply more than 10 treatments per year, with a minimum re-treatment interval of 3 days
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Presidio® fungicide is a unique class of chemistry (Group 43) that combats tough diseases such as late blight and downy mildew. It's an excellent resistance management tool with a low use rate.

Presidio®

Benefits

- Excellent preventative activity
- Systemic and translaminar movement throughout the plant
- Excellent tank-mixability
- Minimal restricted entry and pre-harvest intervals
- Wide application window

Registered crops

- Basil
- Brassica (head, stem and root)
- Cucurbits
- Edible-podded beans
- Fruiting vegetables
- Ginseng
- Hops
- Leafy vegetables

General usage information

- For resistance management Presidio **MUST** be tank-mixed with another fungicide registered for the same target pathogen. Always follow the most restrictive label for use directions.
- Apply when conditions favour disease but prior to disease development
- Do not make more than 2 sequential applications
- Do not make more than 4 applications per season (2 for cucurbits)
- Please refer to the label for crop rotation restrictions as not all crops are labelled for rotation after the use of Presidio



Technical information

CHEMICAL CLASS

> Group 43

ACTIVE INGREDIENTS

> fluopicolide 39.5%

PACKAGING

> 12 x 946 mL case

RAINFAST

> Avoid applications when heavy rain is in the forecast

PCP

> 30051

Specific crop usage information

DISEASE CONTROLLED RATE PHI APPLICATION INFORMATION

BASIL (field and greenhouse)

Downy mildew (<i>Peronospora belbahrii</i>)	292 mL/ha (118 mL/ac.) Minimum 200L/ha spray volume	1	Apply Presidio fungicide in a tank-mix with Revus® Follow the most restrictive use directions of either label Make foliar applications on a 7 day schedule beginning when disease conditions are favourable, but prior to disease development Use the lower rate and longer interval as preventive applications Use the higher rate and shorter interval if disease is present Apply no more than 2 sequential applications of Presidio Do not apply more than 880 mL/ha per season Make no more than 3 applications per season Do not apply this product using fogging equipment (handheld or automated), or using handheld mist blowers/airblast equipment
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BRASSICA (head and stem) VEGETABLES

Downy mildew (<i>Peronospora parasitica</i>)	220-292 mL/ha (89-118 mL/ac.)	2	Apply in a tank-mix with Bravo® 500 7-10 day application interval
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BRASSICA ROOT VEGETABLES

Downy mildew (<i>Peronospora parasitica</i>)	220-292 mL/ha (89-118 mL/ac.)	7	Apply in a tank-mix with Bravo® 500 7-10 day application interval
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CUCURBIT VEGETABLES

Downy mildew (<i>Pseudoperonospora cubensis</i>)	292 mL/ha (118 mL/ac.)	2	Apply Presidio as one of the earlier treatments in the disease management program Apply in a tank-mix with Bravo® 500 7-10 day application interval Do not make more than 2 applications per year Do not make sequential applications of Presidio
Phytophthora blight/ Crown rot (<i>Phytophthora capsici</i>) (suppression)	292 mL/ha (118 mL/ac.)	2	For best results start applications at the time of planting or transplanting Maximum of 2 applications Apply in a tank-mix with Bravo® 500

EDIBLE-PODDED BEANS – BEAN (*Phaseolus* spp.), BEAN (*Vigna* spp.), JACKBEAN (*Canavalia ensiformis*), SOYBEAN (immature seed) (*Glycine max*), SWORD BEAN (*Canavalia gladiata*)

Suppression of: Downy mildew (<i>Phytophthora nicotianae</i> , <i>P. phaseoli</i>) Phytophthora blight and pod rot (<i>P. capsici</i>)	292 mL (118 mL/ac.) Minimum 200L/ha spray volume	0	Begin foliar applications when disease conditions are favourable, but prior to disease development with 7-14 days between treatments Apply no more than 2 sequential applications of Presidio Apply Presidio in a tank-mix with Revus®. Follow the most restrictive use directions of either label. Do not apply more than 880 mL/ha per season Make no more than 3 applications per season
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HOPS

Downy mildew (<i>Pseudoperonospora humilli</i>)	292 mL/ha (118 mL/ac.) Minimum 500L/ha spray volume	24	Make foliar applications on a 10-14 day schedule beginning when disease conditions are favourable, but prior to disease development Apply Presidio in a tank-mix with Revus®. Follow the most restrictive use directions of either label. Apply no more than 2 sequential applications of Presidio Do not apply more than 880 mL/ha per season Make no more than 3 applications per season
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DISEASE CONTROLLED RATE PHI APPLICATION INFORMATION

GINSENG

Phytophthora root rot and foliar blight (<i>Phytophthora cactorum</i>)	292 mL in a minimum of 200 L of water	7	<p>For resistance management Presidio must be tank-mixed with a labelled rate of another fungicide registered for the target pathogen, but with a different mode of action</p> <p>Apply Presidio in a tank-mix with Reason®, Phostrol®, Maestro®, Revus®, Acrobat®, Ridomil Gold® or Aliette®</p> <p>Follow the most restrictive use directions of either label</p> <p>Make foliar applications on a 7-10 day schedule beginning when conditions are favourable, but prior to disease development</p> <p>Do not make more than 3 foliar applications per season</p>
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BROCCOLI RAAB CABBAGE, CHINESE (bok choy) COLLARDS, KALE, MIZUNA, MUSTARD GREENS, MUSTARD SPINACH, RAPE GREENS

Downy mildews (<i>Bremia lactucae</i> , <i>Peronospora farinosa</i>)	220 mL/ha (89 mL/ac.)	2	<p>Apply at a spray volume of 200 to 1,000 L/ha (81-404 L/ac.)</p> <p>For resistance management, Presidio must be tank-mixed with a labelled rate of another fungicide registered for the target pathogen, but with a different mode of action. For example, apply Presidio in a tank-mix with Ranman™ 400SC for all crop group 5 crops. Follow the most restrictive use directions of either label.</p> <p>Make foliar applications on a 7-10 day schedule beginning with initial flowering, or when disease conditions are favourable, but prior to disease development</p> <p>Do not make more than 3 applications or exceed 660 mL/ha or 267 mL/ac. per season</p>
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LEAFY VEGETABLES (except Brassica vegetables)

Downy mildews (<i>Bremia lactucae</i> , <i>Peronospora farinosa</i>)	220-292 mL/ha (89-118 mL/ac.)	2	<p>Apply in a tank-mix with Aliette®</p> <p>7-10 day application interval</p>
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PEPPER, TOMATO

<p>Late blight (<i>Phytophthora infestans</i>)</p> <p>Phytophthora blight (<i>Phytophthora capsici</i>) (suppression)</p>	292 mL/ha (118 mL/ac.)	2	<p>7-10 day application interval</p> <p>Apply in a tank-mix with Bravo® 500 for late blight</p> <p>Apply in a tank-mix with Revus® for phytophthora blight</p>
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POTATO

Late blight (<i>Phytophthora infestans</i>)	292 mL/ha (118 mL/ac.)	7	<p>Apply in a tank-mix with Bravo® 500</p> <p>7-10 day application interval</p>
Pink rot (<i>Phytophthora erythroseptica</i>)	292 mL/ha (118 mL/ac.)	30	<p>Apply Presidio using a 15-20 cm band directly over the seed piece, or in the furrow where the seed piece is to be dropped, prior to furrow closure. A second application of Presidio should be made between hilling and tuber initiation, sprayed directly to the soil.</p> <p>Apply as band to the soil at the base of the plants or as a broadcast spray. Tank-mix Presidio with a registered alternative such as Ridomil Gold® 480SL fungicide or Phostrol® fungicide. Follow the most restrictive use directions on the individual product labels.</p> <p>Do not combine in-furrow/soil applications and foliar applications</p> <p>Do not make more than 2 applications of Presidio per season</p> <p>For resistance management, Presidio must be tank-mixed with a labelled rate of another fungicide registered for the target pathogen, but with a different mode of action</p>



Danitol® insecticide is an effective option to control spotted wing drosophila (SWD), as well as other tough insects in horticulture crops.

Danitol®

Benefits

- Trusted product for control of tough insects including spotted wing drosophila
- Broad label of insects controlled on multiple crops
- Tank-mix flexibility with several products

Registered crops

- Bushberry
- Caneberry
- Cucurbit vegetables
- Fruiting vegetables
- Pome fruit
- Stone fruit
- Succulent peas
- Tree nuts

General usage information

- Always adhere to the limit of applications per crop
- It is recommended that no more than 2 Danitol applications be made per season as part of a resistance management program. Use non-pyrethroid products at other timings to control pests.
- Always refer to and follow the label for re-entry interval (REI) and pre-harvest interval (PHI) for each registered crop
- Do not use in greenhouses



Technical information

CHEMICAL CLASS

- > Group 3

ACTIVE INGREDIENTS

- > fenpropathrin 30.9%

PACKAGING

- > 4 x 3.785 L case

RAINFAST

- > Avoid application when heavy rainfall is in the forecast

PCP

- > 33817

Specific crop usage information

INSECT CONTROLLED RATE APPLICATION INFORMATION

CUCURBITS (crop group 9)

Fall armyworm Striped cucumber beetle Yellow-striped armyworm	779-1,169 mL/ha (315-473 mL/ac.)	Limit to 1 application for cucumbers, 2-3 applications for all other crops Ensure uniform spray coverage (minimum 200 L/ha) Begin applications when first pest activity is observed and repeat as needed with a minimum application interval of 7 days Under severe pest pressure use the higher recommended rates Do not exceed 779 mL/ha for cucumbers and 3.118 L/ha per season for all other cucurbit crops
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FRUITING VEGETABLES (group 8-09)

Armyworm Spotted-wing drosophila Stink bugs (excluding BMSB) Tobacco hornworm Tomato fruitworm Tomato hornworm Two-spotted spider mite	779 mL/ha (315 mL/ac.)	Begin applications when first pest activity is noticed and repeat as needed to maintain control with a minimum application interval of 7 days Ensure uniform spray coverage (minimum 250L/ha) MITES Treatment is recommended when mite populations are just beginning to build (less than 5 motiles/leaf) Limit to 4 applications for tomatoes, 1 application for all other crops Do not tank mix with any copper formulations
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SUCCULENT PEA

Leafhopper Two-spotted spider mite	779 mL/ha (315 mL/ac.)	Apply with ground equipment in adequate water for uniform coverage Begin as a ground application in a minimum water volume of 100 L/ha (40 L/ac.) Limit to 1 application per season
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Important re-entry information for Danitol

CROP	POST-APPLICATION ACTIVITY	RESTRICTED-ENTRY INTERVAL (REI) AND/OR PRE-HARVEST INTERVAL (PHI)
SUCCULENT PEAS	Hand set irrigation	11 days
	Harvesting	7 days
	All other activities	24 hours
CUCUMBERS	Hand set irrigation	15 days
	Harvesting, training	7 days
	All other activities	24 hours
CUCURBIT VEGETABLES CROP GROUP (EXCEPT CUCUMBERS)	Hand set irrigation	20 days
	Hand harvesting, mechanically-assisted harvesting, training	9 days
	Mechanical harvesting	7 days
	All other activities	24 hours
TOMATOES	Hand set irrigation	17 days
	Hand harvesting, mechanically assisted harvesting, tying/training	6 days
	Mechanical harvesting	3 days
	All other activities	24 hours
FRUITING VEGETABLES CROP GROUP (EXCEPT TOMATOES)	Hand set irrigation	11 days
	Hand harvesting, mechanically assisted harvesting, tying/training	7 days
	Mechanical harvesting	3 days
	All other activities	24 hours

DiPel® 2X DF is a leading biological insecticide with a high potency resistance management tool for proven control of Lepidoptera pests in both conventional and organic cropping systems.

DiPel® 2X DF

Benefits

- The most potent Bt insecticide on the market with a unique mode of action, making it an excellent tool for managing resistance
- Immediately deters insects from feeding – death occurs within 1-3 days
- 36 month shelf life when stored at room temperature
- Not harmful to bees or beneficial insects making it a great tool for spring feeding caterpillars
- Very low REI of 4 hours or until spray is dried

Registered crops

- | | | |
|------------------------------------|--------------------------|------------------------------|
| • Apple | • Corn (sweet and field) | • Ornamental and shade trees |
| • Asian radish | • Cranberry | • Parsley |
| • Berries and small fruit | • Ginseng | • Pear |
| • Blueberry (highbush and lowbush) | • Grape | • Potato |
| • Bok choy | • Greenhouse herbs | • Raspberry |
| • Broccoli | • Greenhouse ornamentals | • Sea buckthorn |
| • Cabbage | • Greenhouse vegetables | • Spinach |
| • Cauliflower | • Herbs and spices | • Stone fruit |
| • Chinese broccoli | • Kale | • Sunflower |
| • Chinese cabbage | • Lettuce | • Timothy |
| • Chokecherry | • Mustard greens | • Tobacco |
| • Collards | • Nut crops | • Tomato |
| | | • Turnip greens |

For a complete list of all crops registered and what is included for each crop group refer to the label

General usage information

- OMRI-certified for use in organic production
- Apply when insect pests are small (egg hatch to early instars) before crop damage occurs
- Apply using sufficient water volume for thorough crop coverage
- Repeat at an interval sufficient to maintain control, usually 3-14 days
- Use with a water pH 7 or lower
- **Use with a non-ionic surfactant for hard to wet foliage (such as cabbage or broccoli)**



Technical information

CHEMICAL CLASS

- > Group 11

ACTIVE INGREDIENTS

- > *Bacillus thuringiensis*, var. *kurstaki* strain ABTS-351 (57%)

PACKAGING

- > 24 x 0.5 kg case
- > 5 kg bag

RAINFEST

- > Avoid application when heavy rainfall is in the forecast

PCP

- > 26508



APPROVED FOR ORGANIC PRODUCTION

Specific crop usage information

INSECT CONTROLLED RATE APPLICATION INFORMATION

ASIAN RADISH, BOK CHOY, CHINESE BROCCOLI, CHINESE CABBAGE

Cabbage looper	275-550 g/ha (111-222 g/ac.)	Apply using a minimum of 400 L/ha of water A non-ionic surfactant is suggested for this crop
Diamondback moth	275 g/ha (111 g/ac.)	Refer to the general usage information
Imported cabbageworm	55-140 g/ha (22.3-56.7 g/ac.)	

BROCCOLI

Cabbage looper	275-550 g/ha (111-222 g/ac.)	A non-ionic surfactant is suggested for this crop Refer to the general usage information
Diamondback moth Imported cabbageworm	55-140 g/ha (22.3-56.7 g/ac.)	

CABBAGE

Cabbage looper	275-550 g/ha (111-222 g/ac.)	A non-ionic surfactant is suggested for this crop Refer to the general usage information
Diamondback moth	55-275 g/ha (22.3-222 g/ac.)	
Imported cabbageworm	275 g/ha (111 g/ac.)	

CAULIFLOWER

Cabbage looper	275-550 g/ha (111-222 g/ac.)	A non-ionic surfactant is suggested for this crop
Imported cabbageworm	55-140 g/ha (22.3-56.7 g/ac.)	Maximum of 5 applications per year

COLLARDS

Cabbage looper	275-550 g/ha (111-222 g/ac.)	A non-ionic surfactant is suggested for this crop
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GINSENG

Leafrollers	565-1,125 g/ha (228-455 g/ac.)	Ground application – apply in 760-1,250 L/ha water, maximum of 2 applications per year For best control apply when larvae are in early instar stage
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GREENHOUSE CUCUMBER

Alfalfa looper Cabbage looper <i>Duponchelia fovealis</i>	625 g/1,000 L 75-150 g/250 L	Make applications when egg hatch is complete and when larvae are small Repeat every 3-14 days if needed
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INSECT CONTROLLED RATE APPLICATION INFORMATION

GREENHOUSE EGGPLANT, PEPPER, TOMATO

Cabbage looper	75-150 g/250 L	Make applications when egg hatch is complete and when larvae are small Repeat every 3-14 days if needed
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GREENHOUSE FRUITING VEGETABLES

<i>Duponchelia fovealis</i>	625 g/1,000 L	Make applications when egg hatch is complete and when larvae are small Repeat every 7 days if needed
Lepidopteran leafminers	500-1,000 g/ 1,000 L	Make applications when egg hatch is complete and when larvae are small Repeat every 7-10 days if needed

GREENHOUSE HERBS, GREENHOUSE ORNAMENTALS

<i>Duponchelia fovealis</i>	625 g/1,000 L	Make applications when egg hatch is complete and when larvae are small Repeat every 7 days if needed
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GREENHOUSE WASABI

Alfalfa looper Cabbage looper	75-150 g/250 L	Apply at the first signs of infestation Treat when larvae are young (early instars) Repeat applications on a 7-10 day interval if needed Maximum 8 applications per year
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HOPS

European corn borer	560-1,120 g/ha (226-453 g/ac.)	Apply at first sign of infestation Repeat on a 3-14 day interval if needed
Hop looper	275-550 g/ha (111-222 g/ac.)	

KALE, LETTUCE, MUSTARD GREENS, SPINACH, TURNIP GREEN

Cabbage looper	275-550 g/ha (111-222 g/ac.)	A non-ionic surfactant is suggested for this crop
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PARSLEY

Cabbage looper	275 g/ha (111 g/ac.)	Refer to the general usage information
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QUINOA

European corn borer	560-1,120 g/ha (226-453 g/ac.)	Apply when pinhole feeding is observed in at least 5% of the plants Repeat on a 7 day interval if needed Apply before larvae begin stalk-boring
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SUNFLOWER

Sunflower moth	315-625 g/ha (127-253 g/ac.)	Applied as an aerial application. Mix amount in 20 L of water. Apply when 20-50% of heads are in bloom Thorough coverage is needed, apply second application if required
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INSECT CONTROLLED	RATE	APPLICATION INFORMATION
SWEET CORN		
European corn borer	560-1,120 g/ha (226-453 g/ac.)	Apply when pinhole feeding is observed in at least 5% of the plants Repeat on a 7 day interval if needed
TIMOTHY		
Essex (European) skipper	140-275 g/ha (56.7-111 g/ac.)	Refer to the general usage information
TOBACCO		
Hornworm	55-140 g/ha (22.3-56.7 g/ac.)	Refer to the general usage information
TOMATO		
Cabbage looper	275-550 g/ha (111-222 g/ac.)	Refer to the general usage information
Tomato fruitworm	550 g/ha (222 g/ac.)	For tomato fruitworm apply every 5-7 days Refer to the general usage information

XenTari® WG is a leading biological Bt insecticide that controls a broad range of pests with proven control on tomato looper in greenhouses, as well as armyworm and diamondback moth control in conventional and organic operations.

XenTari® WG

Benefits

- Unique mode of action making it an excellent tool for managing resistance
- Immediately deters insects from feeding – death occurs within 1-3 days
- Excellent product to rotate with conventional insecticides
- Not harmful to bees or beneficial insects making it a great tool for spring feeding caterpillars
- Very low REI of 4 hours or until spray is dried

Registered crops

- | | | | |
|---------------------------------------|----------------------------------|--------------------------|-------------------------------|
| • Artichoke | • Chinese celery | • Greenhouse ornamentals | • Poppy seed |
| • Beans (dry and succulent) | • Fennel | • Hare's ear mustard | • Radish (including oriental) |
| • Brassica leafy greens | • Fruiting vegetables | • Herbs and spices | • Rhubarb |
| • Brassica vegetables (head and stem) | • Garden beets | • Hops | • Rutabaga |
| • Bulb vegetables | • Ginseng | • Horseradish | • Sea kale |
| • Camelina | • Grapes | • Kohlrabi | • Stone fruit |
| • Canola | • Greenhouse cucumber | • Leafy greens | • Sugar beets |
| • Cardoon | • Greenhouse fruiting vegetables | • Mustard seed | • Sweet potatoes |
| • Celery | • Greenhouse lettuce | • Oil radish | • Sweet rocket |
| • Celtuce | | • Outdoor ornamentals | • Tobacco |
| | | • Pome fruit | • Tree nuts |
| | | | • Turnip |

For a complete list of all crops registered and what is included for each crop group refer to the label

General usage information

- Apply when insect pests are small (egg hatch to early instars) before crop damage occurs
- Apply in sufficient water volume for thorough crop coverage
- Use with a water pH 7 or lower
- Use a non-ionic surfactant for hard to wet foliage (such as cabbage or broccoli)
- XenTari is OMRI certified for use in organic production



Technical information

CHEMICAL CLASS

> Group II

ACTIVE INGREDIENTS

> *Bacillus thuringiensis subsp. aizawai*, Strain ABTS-1857 (48.1%)

PACKAGING

> 24 x 500 g case

RAINFAST

> Avoid application when heavy rainfall is in the forecast

PCP

> 31557



APPROVED FOR ORGANIC PRODUCTION

Specific crop usage information

INSECT CONTROLLED

RATE

APPLICATION INFORMATION

ARTICHOKE

Beet armyworm Corn earworm	500-1,000 g/ha (202-404 g/ac.)	Apply sufficient spray volume to ensure uniform deposition on all plant surfaces Use 1,000L water/ha (404 L/ac.) to ensure full coverage but not to the point of runoff
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BEANS (dry and succulent)

Beet armyworm Corn earworm	500-1,000 g/ha (202-404 g/ac.)	Apply sufficient spray volume to ensure uniform deposition on all plant surfaces Mix with sufficient water to ensure full coverage but not to the point of runoff
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BRASSICA LEAFY GREENS, BRASSICA HEAD AND STEM VEGETABLES

Cabbage looper Cross-striped cabbageworm Diamondback moth Imported cabbageworm	500-1,000 g/ha (202-404 g/ac.)	Apply sufficient spray volume to ensure uniform deposition on all plant surfaces Recommended 500 L/ha (202 L/ac.)
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BULB VEGETABLES – CHIVE, DAYLILY, ELEGANS HOSTA, FRITILLARIA, GARLIC, KURRAT, LADY'S LEEK, LEEK, LILY, ONIONS, SHALLOT, WILD LEEK

Leek moth	500-1,000 g/ha (202-404 g/ac.)	Apply sufficient spray volume to ensure uniform deposition on all plant surfaces Recommended 1,000 L/ha (404 L/ac.)
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CANOLA, CAMELINA, HARE'S EAR MUSTARD, MUSTARD SEED, OIL RADISH, POPPY SEED, SWEET ROCKET

Bertha armyworm Diamondback moths	500-1,000 g/ha (202-404 g/ac.)	Apply sufficient spray volume to ensure uniform deposition on all plant surfaces Recommended 500 L/ha (202 L/ac.)
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CARDOON, CELERY, CHINESE CELERY, CELTUCE, FENNEL, RHUBARB, SEA KALE

Beet armyworm Cabbage looper	500-1,000 g/ha (202-404 g/ac.)	Apply sufficient spray volume to ensure uniform deposition on all plant surfaces Recommended 500 L/ha (202 L/ac.)
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FRUITING VEGETABLES

Beet armyworm Cabbage looper Tobacco budworm Tomato fruitworm	500-1,000 g/ha (202-404 g/ac.)	Apply every 5-7 days Use 500-1,000 L/ha (202-404 L/ac.) to ensure full coverage, but not to the point of runoff
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GARDEN BEETS, SUGAR BEETS, INCLUDING LEAVES

Beet armyworm Beet webworm	500-1,000 g/ha (202-404 g/ac.)	Apply sufficient spray volume to ensure uniform deposition on all plant surfaces Recommended 500 L/ha (202 L/ac.)
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GINSENG

Oblique-banded leafroller	500-1,000 g/ha (202-404 g/ac.)	Apply sufficient spray volume to ensure uniform deposition on all plant surfaces Recommended 500 L/ha (202 L/ac.)
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GREENHOUSE BEANS

Beet armyworm Cabbage looper Corn earworm Tomato looper	500-1,000 g/ha (202-404 g/ac.)	Apply with sufficient water to ensure full coverage, but not to the point of runoff
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INSECT CONTROLLED RATE APPLICATION INFORMATION

GREENHOUSE CUCUMBER

Beet armyworm Cabbage looper Corn earworm Tomato looper	500-1,000 g/ha (202-404 g/ac.)	Apply with sufficient water to ensure full coverage, but not to the point of runoff
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GREENHOUSE EGGPLANT, PEPPER, TOMATO

Beet armyworm Cabbage looper Tobacco budworm Tomato fruitworm Tomato leafminer Tomato looper	500-1,000 g/ha (202-404 g/ac.)	Apply with sufficient water to ensure full coverage, but not to the point of runoff
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GREENHOUSE LETTUCE

Beet armyworm Cabbage looper Corn earworm Tomato looper	500-1,000 g/ha (202-404 g/ac.)	Apply with sufficient water to ensure full coverage, but not to the point of runoff
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HERBS AND SPICES

Beet armyworm Cabbage looper	500-1,000 g/ha (202-404 g/ac.)	Apply sufficient spray volume to ensure uniform deposition on all plant surfaces Recommended 500 L/ha (202 L/ac.)
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HOPS

Hop looper	500-1,000 g/ha (202-404 g/ac.)	Apply at first sign of infestation when larvae are small Use with sufficient water to ensure full coverage, but not to the point of runoff
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KOHLRABI

Cabbage looper Cross-striped cabbageworm Diamondback moth Imported cabbageworm	500-1,000 g/ha (202-404 g/ac.)	Apply sufficient spray volume to ensure uniform deposition on all plant surfaces Recommended 500 L/ha (202 L/ac.)
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LEAFY GREENS

Beet armyworm Cabbage looper	500-1,000 g/ha (202-404 g/ac.)	Apply sufficient spray volume to ensure uniform deposition on all plant surfaces Recommended 500 L/ha (202 L/ac.)
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**ROOTS, TUBERS AND LEAVES OF HORSERADISH, RADISH, ORIENTAL RADISH,
RUTABAGA, TURNIP (cultivars, varieties and hybrids of these)**

Cabbage looper Cross-striped cabbageworm Diamondback moth Imported cabbageworm	500-1,000 g/ha (202-404 g/ac.)	Apply sufficient spray volume to ensure uniform deposition on all plant surfaces Recommended 500 L/ha (202 L/ac.)
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INSECT CONTROLLED RATE APPLICATION INFORMATION

SWEET POTATOES

Beet armyworm	500-1,000 g/ha (202-404 g/ac.)	Apply sufficient spray volume to ensure uniform deposition on all plant surfaces Recommended 500 L/ha (202 L/ac.)
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TOBACCO

Beet armyworm Tobacco budworm Tomato fruitworm	500-1,000 g/ha (202-404 g/ac.)	Apply every 5-7 days Use 500-1,000 L/ha (202-404 L/ac.) to ensure full coverage, but not to the point of runoff
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Always read and follow the product label for more detailed information on control of weeds, insects or disease, application directions, and use precautions. Please refer to label for more information including future label expansions that may include new crops, pests and use patterns. Refer to the product labels for re-entry periods.

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