

GROUP	10	HERBICIDE
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Advantage Glufosinate 150

SOLUTION

COMMERCIAL



POISON

WARNING – SKIN and EYE IRRITANT

ACTIVE INGREDIENT: glufosinate ammonium..... 150 g/L

REGISTRATION NUMBER: 34827

PEST CONTROL PRODUCTS ACT

**FOR EMERGENCY MEDICAL ASSISTANCE (HUMAN OR ANIMAL) CONTACT
ROCKY MOUNTAIN POISON CONTROL AT 1-866-767-5041.
FOR CHEMICAL EMERGENCY ASSISTANCE (SPILL, LEAK, FIRE OR
ACCIDENT) CONTACT CHEMTREC AT 1-800-424-9300 (NORTH AMERICA) OR
1-703-527-3887 (INTERNATIONAL).**

READ THE LABEL AND ATTACHED BOOKLET BEFORE USING

Advantage Crop Protection Inc.
620 4th Ave E
Regina, Saskatchewan
S4N 4Z5
1-888-931-2530

NET CONTENTS: 1 L to 1500 L

Read and understand the entire label before opening this product. If you have questions, call Advantage Crop Protection Inc. at 1-888-931-2530 or obtain technical advice from the distributor or your provincial agricultural representative.

PRECAUTIONS:

KEEP OUT OF REACH OF CHILDREN. Causes eye irritation. DO NOT get in eyes, on skin or on clothing. May irritate the skin. Harmful or fatal if absorbed through the skin. Harmful if swallowed. Wash thoroughly after using and before eating, drinking or smoking. **DO NOT** enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours.

Protective Clothing and Equipment: Wear coveralls over a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes, protective eyewear (goggles or face shield), and a respirator with a NIOSH-approved organic-vapour-removing cartridge with a prefilter approved for pesticides, or a NIOSH-approved canister approved for pesticides during mixing, loading, application, clean-up and repair. Gloves, protective eyewear and a respirator are not required during application within a closed cab and/or cockpit. Change contaminated clothing daily and wash before reusing. DO NOT handle product with bare hands. Chemical resistant gloves significantly reduce hand exposure. ALWAYS wear gloves for mixing/loading operations and when making sprayer and nozzle repairs and adjustments. **DO NOT USE LEATHER OR CLOTH GLOVES.** Rinse gloves with soap and water before removal, and wash hands thoroughly after using, and before eating, drinking or smoking. Clean protective equipment daily.

Apply only to agricultural crops when the potential for drift to areas of human habitation and areas of human activity such as houses, cottages, schools and recreational areas is minimal. Take into consideration wind speed, wind direction, temperature inversions, application equipment and sprayer settings.

FIRST AID:

Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

If swallowed: Call a poison control centre or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person.

If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice.

If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control centre or doctor for treatment advice.

If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control centre or doctor for treatment advice.

TOXICOLOGICAL INFORMATION:

Note to Physician: If this product is ingested, endotracheal intubation and gastric lavage should be performed as soon as possible, followed by charcoal and sodium sulfate administration.

ENVIRONMENTAL PRECAUTIONS:

TOXIC to aquatic organisms and non-target terrestrial plants. Observe spray buffer zones specified under Directions for Use. Avoid spray drift to other plants.

To reduce runoff from treated areas into aquatic habitats, avoid application to areas with a moderate to steep slope, compacted soil, or clay.

Avoid application when heavy rain is forecast.

Contamination of aquatic areas as a result of runoff may be reduced by including a vegetative filter strip between the treated area and the edge of the water body.

STORAGE:

Store this product away from food or feed. Do not store below freezing. If stored for 1 year or longer, shake well before using. Store the tightly closed container away from feeds, seeds, fertilizers, plants and foodstuffs. Do not use or store in or around the home. Keep in original container during storage.

DISPOSAL:

Recyclable Container Disposal:

Do not reuse this container for any purpose. This is a recyclable container, and is to be disposed of at a container collection site. Contact your local, distributor/ dealer or municipality for the location of the nearest collection site. Before taking the container to the collection site:

1. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
2. Make the empty, rinsed container unsuitable for further use.

If there is no container collection site in your area, dispose of the container in accordance with provincial requirements.

Returnable Container Disposal:

Do not reuse this container for any purpose. For disposal, this empty container may be returned to the point of purchase.

Refillable Container Disposal:

For disposal, this empty container may be returned to the point of purchase. It must be refilled with the same product. Do not reuse this container for any other purpose.

Disposal of Unused, Unwanted Product:

For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for cleanup of spills.

Disposal of Unused Spray Solution:

If any spray solution remains in the tank after spraying is finished, it should be sprayed on the perimeter of the area just sprayed, away from water supplies, ditches, and irrigation canals.

NOTICE TO USER:

This pest control product is to be used only in accordance with the directions on the label. It is an offence under the *Pest Control Products Act* to use this product in a way that is inconsistent with the directions on the label.

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620 4th Ave E
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S4N 4Z5
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NET CONTENTS: 1 L to 1500 L

Advantage Glufosinate 150

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Read and understand the entire label before opening this product. If you have questions, call Advantage Crop Protection Inc. at 1-888-931-2530 or obtain technical advice from the distributor or your provincial agricultural representative.

GENERAL INFORMATION

Section 1: The Product

- Advantage Glufosinate 150 is a non-selective herbicide.
- Advantage Glufosinate 150 provides control of a broad spectrum of grassy and broadleaf weeds in Canola and Soybean varieties or hybrids that are specially developed to be tolerant to glufosinate ammonium.
- Advantage Glufosinate 150 is registered for use on glufosinate ammonium tolerant Canola and Soybean varieties or hybrids [example: varieties or hybrids labelled with LibertyLink®].
- Advantage Glufosinate 150 may also be applied to glufosinate ammonium tolerant lines or varieties grown for seed production.
- For hybrid seed production in canola, Advantage Glufosinate 150 may be used to remove segregating wild type plants within the female population. Two applications are required to do this. A third application may be necessary if it is determined that the segregating wild type plants are not fully removed from the field.
- Glufosinate ammonium tolerant Corn can be used as separator rows in hybrid Canola seed production, but must be destroyed and not used for food or feed.
- Advantage Glufosinate 150 may be used as a harvest aid (desiccant) on Alfalfa grown for seed.
- Advantage Glufosinate 150 will also desiccate weeds present in the field at time of application when used as a harvest aid.
- Advantage Glufosinate 150 may also be used for primocane control in established raspberries.
- Advantage Glufosinate 150 breaks down rapidly in the soil.

For use in Eastern Canada and British Columbia only:

- Advantage Glufosinate 150 may be used as a harvest aid (desiccant) in dry common beans.
- Advantage Glufosinate 150 will also desiccate weeds present in the field at application.
- Advantage Glufosinate 150 may also be used for annual and perennial weed control in lowbush blueberries, strawberries and under fruit trees, grape vines and tree nuts.
- When applied pre-emergent to the crop, but post-emergent to the weeds, Advantage Glufosinate 150 may also be used on stale seedbed in vegetables or at ground crack in potatoes.

SAFETY AND HANDLING

Section 2: Precautions, Protective Clothing and Equipment

PRECAUTIONS:

- KEEP OUT OF REACH OF CHILDREN.
- This product may cause eye irritation.
- Avoid contact with eyes, skin or clothing. Harmful or fatal if absorbed through the skin.
- Avoid breathing spray mist. Harmful if swallowed.
- Wash thoroughly after using and before eating, drinking or smoking.
- Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 24 hours.

Protective Clothing and Equipment:

- Wear protective clothing including a long-sleeved shirt, long pants, eye protection (goggles or face shield), chemical resistant gloves and a respirator during mixing, loading, spraying, repairing and cleanup.
- Change contaminated clothing daily and wash before reusing.
- DO NOT handle product with bare hands. Chemical resistant gloves significantly reduce hand exposure. ALWAYS wear gloves for mixing/loading operations and when making sprayer and nozzle repairs and adjustments. DO NOT USE LEATHER OR CLOTH GLOVES.
- Rinse gloves with soap and water before removal, and wash hands thoroughly after using, and before eating, drinking or smoking.
- Clean protective equipment daily.

Apply only to agricultural crops when the potential for drift to areas of human habitation and areas of human activity such as houses, cottages, schools and recreational areas is minimal. Take into consideration wind speed, wind direction, temperature inversions, application equipment and sprayer settings.

Section 3: First Aid and Toxicological Information

FIRST AID:

Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

- **If swallowed:** Call a poison control centre or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person.
- **If in eyes:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice.
- **If on skin or clothing:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control centre or doctor for treatment advice.
- **If inhaled:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control centre or doctor for treatment advice.

TOXICOLOGICAL INFORMATION:

Note to Physician: If this product is ingested, endotracheal intubation and gastric lavage should be performed as soon as possible, followed by charcoal and sodium sulfate administration.

Section 4: Environmental Precautions

- TOXIC to aquatic organisms and non-target terrestrial plants. Observe spray buffer zones specified under Directions for Use.
- Avoid spray drift to susceptible plants and non-target areas.
- USE ONLY FOR RECOMMENDED PURPOSES AND AT RECOMMENDED RATES.
- To reduce runoff from treated areas into aquatic habitats, avoid application to areas with a moderate to steep slope, compacted soil, or clay.
- Avoid application when heavy rain is forecast.
- Contamination of aquatic areas as a result of runoff may be reduced by including a vegetative filter strip between the treated area and the edge of the water body.

Section 5: Storage

- Do not store below freezing.
- If stored for 1 year or longer, shake well before using.
- Store this product away from food or feed.
- Do not use or store in or around the home.
- Keep in original container during storage.

Section 6: Disposal

Recyclable Container Disposal:

Do not reuse this container for any purpose. This is a recyclable container, and is to be disposed of at a container collection site. Contact your local distributor/ dealer or municipality for the location of the nearest collection site. Before taking the container to the collection site:

1. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
2. Make the empty, rinsed container unsuitable for further use.

If there is no container collection site in your area, dispose of the container in accordance with provincial requirements.

Returnable Container Disposal:

Do not reuse this container for any purpose. For disposal, this empty container may be returned to the point of purchase.

Refillable Container Disposal:

For disposal, this empty container may be returned to the point of purchase. It must be refilled with the same product. Do not reuse this container for any other purpose.

Disposal of Unused, Unwanted Product:

For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for cleanup of spills.

Disposal of Unused Spray Solution:

If any spray solution remains in the tank after spraying is finished, it should be sprayed on the perimeter of the area just sprayed, away from water supplies, ditches, and irrigation canals.

DIRECTIONS FOR USE

As this product is not registered for the control of pests in aquatic systems, DO NOT use to control aquatic pests.

DO NOT contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes.

POST-EMERGENT USE

Section 7: Crops, Weeds, Rates, Timing

7.1: CANOLA

- Advantage Glufosinate 150 is registered for aerial and ground application to glufosinate ammonium tolerant Canola varieties or hybrids [example: varieties or hybrids labelled with LibertyLink®].
- **To assure crop safety and optimal herbicide performance, only use Advantage Glufosinate 150 on glufosinate ammonium tolerant (i.e., LibertyLink) Canola grown from certified seed.**
- **Application of Advantage Glufosinate 150 to non-tolerant Canola varieties or hybrids or other non-tolerant crops will result in severe crop injury or death of the crop.**
- Apply Advantage Glufosinate 150 from the cotyledon stage up until, but prior to, the early bolting stage of Canola.
- Refer to weed/rate chart in this label for application rates and weeds controlled.
- For control/suppression of late emerging weeds or if new weed germination or growth is present re-apply Advantage Glufosinate 150.
- Up to three applications of Advantage Glufosinate 150, each at a maximum of 4 L/ha may be made. The third application must occur prior to the early bolting stage of Canola.
- **Do not apply more than a total of 12 L/ha per year.**
- Apply when the new weed growth is in the correct leaf stage and up until, but prior to, the bolting stage of Canola.
- For best results, apply to emerged, young, actively growing weeds. Weeds that emerge after application will not be controlled.
- Advantage Glufosinate 150 will have an effect on weeds that are larger than the recommended leaf stage, however speed of activity and control may be reduced.
- Slight discoloration of the Canola may be visible after application. This effect is temporary and will not influence crop growth, maturity or yield.
- **For application to glufosinate ammonium and glyphosate tolerant canola varieties or hybrids (example: canola varieties or hybrids labelled with LibertyLink and Roundup Ready or TruFlex or Optimum Gly):** Advantage Glufosinate 150 should be applied in a sequential program with glyphosate for effective weed control. Tank-mixing Advantage Glufosinate 150 with glyphosate may result in reduced control on certain weed species.
- Advantage Glufosinate 150 may also be applied to glufosinate ammonium tolerant Canola lines or varieties grown for seed production.
- **For hybrid seed production** - Two applications are required to remove the segregating wild type plants. The first application should occur when the Canola is in the 2-4 leaf stage, the second application when the Canola plants are in the 4-6 leaf stage and the third application, if necessary, may be applied to the Canola up until, but prior to, the bolting stage. All applications of Advantage Glufosinate 150 for hybrid seed production should be made at 3.33 – 4 L/ha.

Use of Corn separator rows in hybrid Canola seed production

- Advantage Glufosinate 150 is registered for use on glufosinate ammonium tolerant Corn varieties or hybrids when used as separator rows [example: varieties or hybrids labelled with LibertyLink® in hybrid Canola seed production].
- Corn should be seeded at 20,000 – 30,000 plants/ha.
- Row spacing for glufosinate ammonium tolerant Corn should be 18-23 cm.
- **Note:** Corn must be destroyed and not used for food or feed.
- Follow use instructions for canola and general instructions in this label.

7.2: SOYBEAN

- Advantage Glufosinate 150 is registered for aerial and ground application to glufosinate ammonium tolerant Soybean varieties [example: varieties labelled with LibertyLink®].
- **Application of Advantage Glufosinate 150 to non-tolerant Soybean varieties or other non-tolerant crops will result in severe crop injury or death of the crop.**
- Apply Advantage Glufosinate 150 at 2 L to 3.33 L/ha from the cotyledon to the flowering stage of the crop.
- A second application of Advantage Glufosinate 150 can be made to Soybeans treated initially with up to 3.33 L/ha if new weed germination or growth is present. Apply when the new weed growth is in the correct leaf stage and up to the maximum leaf stage of the crop.
- Do not apply beyond the flowering stage of Soybeans.
- Do not apply more than a total of 6.67 L/ha in one season.

7.3: Primocane Control in Raspberry

- Apply Advantage Glufosinate 150 in a minimum of 330 L/ha of water. Use a combination of spray pressures and nozzles, which will provide small droplet sizes and thorough coverage.

CROP	RECOMMENDATIONS	RATE
RASPBERRY (established raspberries only)	Advantage Glufosinate 150 is recommended for the control of primocanes in established raspberries. Apply when shoots are about 10-20 cm in height. DO NOT apply to immature or weak plantings. DO NOT apply by air.	BROADCAST RATE 6.67 L/ha BANDED RATE Adjust the Broadcast application rate per hectare proportional to the width of the band applied. Use the formula to calculate the banded rate per hectare:
	FORMULA TO CALCULATE THE BANDED RATE PER HECTARE: Banded rate per hectare = (Band width ÷ Row width) x Broadcast Rate Example: 3.05 metre row spacing and 0.61 metre band width $(0.61 \text{ M} \div 3.05 \text{ M}) \times 6.67 \text{ L/ha} = 1.33 \text{ L/ha band rate}$	

Caution: Avoid contact of the spray with desirable canes, plants and vegetation.

Note: For application instructions refer to Section 10.2.

7.4: Weed Control in Orchards and Vineyards – Eastern Canada and British Columbia only

CROP	RECOMMENDATIONS	RATE
APPLES APRICOTS CHERRIES (sweet and sour) HIGHBUSH BLUEBERRIES GRAPES NECTARINES PEARS PLUMS PEACHES • MEMBERS OF CROP GROUP 14-11: TREE NUTS, INCLUDING:	Advantage Glufosinate 150 is recommended for the control of weeds in established orchards and vineyards. Advantage Glufosinate 150 may be applied with ground (boom) spray equipment, high volume, orchard spray guns or hand held pump-type and backpack sprayers. DO NOT apply by air. For the specific weeds controlled by Advantage	POWER AND/OR TRACTOR OPERATED SPRAYERS Apply Advantage Glufosinate 150 at 2.7-5 L/ha for the control of annual grass and broadleaf weeds. Use as a directed spray around the base of the trees or vines. HAND HELD PUMP TYPE AND BACKPACK SPRAYERS

<ul style="list-style-type: none"> - ALMOND, - BEECH NUT, - BUTTERNUT, - CHESTNUT, - FILBERT (HAZELNUT), - HICKORY NUT, - PECAN, - WALNUT, - CHINQUAPIN NUT, - BUR OAK NUT, - GINGKO NUT, - HEARTNUT, - JAPANESE HORSE CHESTNUT, - PINE NUT 	<p>Glufosinate 150, refer to Section 7.6.</p> <p>Repeat treatments may be necessary to control new germination of annual weeds. Do not make more than 2 applications per year. Do not apply more than 6.7 L/ha total product in one season.</p> <p>Avoid contact of Advantage Glufosinate 150 solution, spray, drift or mist with green bark, stems, or foliage, as injury may occur to trees, vines or canes. Only trunks with callused, mature brown bark should be sprayed unless protected from spray contact by non-porous wraps, tree/bark guards, grow tubes or waxed containers. Contact of Advantage Glufosinate 150 with parts of trees, vines or canes other than mature brown bark can result in serious damage.</p> <p>For control of weeds present and residual control of annual grass and broadleaf weeds, Advantage Glufosinate 150 may be tank mixed with Princep® Nine T® or Simadex®. (See Section 8 for tank mix instructions.)</p>	<p>Mix Advantage Glufosinate 150 at 27-50 mL of product per 10 litres of spray solution for the control of annual grass and broadleaf weeds. Use as a directed spray around the base of the trees or vines.</p>
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Note: For application instructions refer to Section 10.3.

7.5: Weed Control in Minor Use Crops – Eastern Canada and British Columbia only

<p>NOTE TO USER: READ THE FOLLOWING BEFORE USING THIS PRODUCT FOR THE INDICATED SPECIAL USE APPLICATIONS (BELOW): The DIRECTIONS FOR USE for the uses described in this section of the label were developed by persons other than Advantage Crop Protection Inc. under the User Requested Minor Use Label Expansion program. For these uses, Advantage Crop Protection Inc. has not fully assessed performance (efficacy) and/or crop tolerance (phytotoxicity) under all environmental conditions or for all crop varieties when used in accordance with the label. The user should test the product on a small area first, under local conditions and using standard practices, to confirm the product is suitable for widespread application.</p>		
CROP	RECOMMENDATIONS	RATE
<p>Lowbush Blueberries (Dormant Application)</p>	<p>Advantage Glufosinate 150 is recommended for the control of weeds in dormant lowbush blueberries in the non-crop year.</p> <p>For the specific weeds controlled by Advantage Glufosinate 150, refer to Section 7.7.</p> <p>Advantage Glufosinate 150 may be applied with ground (boom) spray equipment, high volume, orchard spray guns or hand-held pump-type and backpack sprayers. DO NOT apply by air.</p> <p>Broadcast application must be made to dormant lowbush</p>	<p>POWER AND/OR TRACTOR OPERATED SPRAYERS</p> <p>Apply Advantage Glufosinate 150 at 2.7-5 L/ha for the control of annual grass, broadleaf weeds and suppression of perennial weeds.</p> <p>Apply Advantage Glufosinate 150 in a minimum of 110 L/ha of water. Apply at a spray pressure of 275-310 kPa using nozzles (flat fan, hollow, or cone) which will provide small droplets and thorough coverage.</p> <p>HAND HELD PUMPTYPE</p>

	<p>blueberry plants. Field must be entering into prune (vegetative) production phase in season following application. Broadcast application can be made after blueberry leaf drop in the late fall of the cropping season but before blueberry sprout emergence in the spring following pruning.</p> <p>Avoid contact of Advantage Glufosinate 150 solution, spray, drift or mist with green bark, stems, or foliage, as injury may occur to plants. Only sprouts with mature brown bark should be sprayed or blueberry plants should be pruned before application. Contact of Advantage Glufosinate 150 with parts of plants other than mature brown bark can result in serious damage.</p> <p>Advantage Glufosinate 150 may be tank mixed with Sinbar WDG or Velpar DF for control of weeds listed on the respective labels, including control or improved control of hawkweed, sheep sorrel and many annual and perennial grasses. Do not apply a tank mixture of Advantage Glufosinate 150 + Sinbar WDG or Advantage Glufosinate 150 + Velpar DF more often than once per year. (See Section 8 for tank mix instructions)</p>	<p>AND BACKPACK SPRAYERS</p> <p>Mix Advantage Glufosinate 150 at 27-50 mL of product per 10 litres of spray solution for the control of annual grass and broadleaf weeds. Use as a directed spray if sprouts have emerged.</p> <p>Repeat treatments may be necessary to control new germination of annual weeds.</p> <p>Do not make more than 2 applications of Advantage Glufosinate 150 per year. Do not apply more than 6.7 L/ha total product in one season.</p>
<p>Strawberries (day neutral and June bearing)</p>	<p>Application may be made to strawberries in the fall, spring or in-season. Refer to Section 7.7 for weeds controlled and general use information for optimum control.</p>	<p>Advantage Glufosinate 150 may be applied as a banded application to row middles only, using a hooded or shielded sprayer.</p> <p>The rates listed in Section 7.7 are for broadcast application. Adjust the broadcast application rate per hectare proportional to the width of the band applied. Use the formula in Section 7.3 to calculate the banded rate per hectare.</p> <p>Avoid contact of Advantage Glufosinate 150 solution, spray, drift or mist with strawberry plants as serious crop injury may result.</p> <p>Repeat treatments may be necessary to control new germination of annual weeds. Do not make more than 2 applications per year. Do not apply more than 6.7 L/ha total product in one season.</p> <p>Advantage Glufosinate 150 may be applied with ground (boom) spray equipment, or hand-held pump-type and</p>

		<p>backpack sprayers. DO NOT apply by air.</p> <p>When applying with tractor operated sprayers, apply Advantage Glufosinate 150 in a minimum of 150 L of water per hectare. For application using hand-held pump type or backpack sprayers, apply Advantage Glufosinate 150 in a water volume of 10 litres per 100 m² to provide thorough coverage, but not to the point of runoff. Ensure that spray pressures are maintained during application.</p> <p>Do not harvest the treated crop within 1 day of Advantage Glufosinate 150 application.</p> <p>IMPORTANT: If this pest control product is to be used on a commodity that may be exported and you require information regarding Maximum Residue Limits for an importing country, please contact Advantage Crop Protection Inc. at 1-888-931-2530 or www.advantagecropprotection.ag.</p>
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7.6: Weed Control in Vegetables and Field Crops – Eastern Canada and British Columbia only

Advantage Glufosinate 150 will control weeds that are contacted and will have no effect on the crop if it has not yet emerged.

The seedbed should be prepared in sufficient time prior to seeding the crop, to allow weeds to emerge. The crop is seeded with a minimum of disturbance to the (stale) seedbed. Application of Advantage Glufosinate 150 may take place any time after initial cultivation of the seedbed up until emergence of the crop.

CROP	RECOMMENDATIONS	RATE
ASPARAGUS (stale seedbed, direct seeded)	Advantage Glufosinate 150 may be applied prior to emergence of Asparagus as a stale seedbed technique for annual grass and broadleaf weed control.	Apply Advantage Glufosinate 150 at 2.7-5 L/ha depending on the weeds present at application. Refer to Section 7.7 for weeds controlled. DO NOT apply by air.
ASPARAGUS (established beds after harvest)	Advantage Glufosinate 150 may be applied after spears have been harvested.	
CARROTS, LETTUCE, ONIONS (stale seedbed)	Advantage Glufosinate 150 may be applied as a stale seedbed technique for annual grass and broadleaf weed control.	
POTATOES (ground crack)	Apply Advantage Glufosinate 150 no later than ground crack to control annual grass and broadleaf weeds. For residual control of annual weeds, Advantage Glufosinate 150 may be tank mixed with Lexone DF®. See Section 8 for tank mix instructions.	

Note: For application instructions refer to Section 10.4.

7.7: Weed Control Information

SUSCEPTIBLE WEEDS: Advantage Glufosinate 150 has an effect on all weeds and crops except for those crops which are developed to be tolerant to applications of Advantage Glufosinate 150. The following weeds are susceptible to application of Advantage Glufosinate 150. Best control will be obtained when Advantage Glufosinate 150 is applied in the recommended leaf stages.

WEED	RECOMMENDED WEED LEAF STAGE								RATE
	1	2	3	4	5	6	7	8	
Cow Cockle	-----								1.33 L/ha
Green Foxtail	----- Maximum 3 tillers								

WEED	RECOMMENDED WEED LEAF STAGE								RATE
	1	2	3	4	5	6	7	8	
Barnyard Grass	-----								2 L/ha
Lady's-thumb	-----								
Lamb's-quarters	-----								
Russian Thistle	Up to 8 cm height								
Smartweed	-----								
Stinkweed	-----								
Volunteer Flax	Up to 6 cm height								
Wild Mustard	-----								

WEED	RECOMMENDED WEED LEAF STAGE								RATE
	1	2	3	4	5	6	7	8	
Canada Thistle ¹	Up to 10 cm height								2.67 L/ha
Common Chickweed	----- Leaf Pairs								
Hemp-nettle	----- Leaf Pairs								
Kochia	Up to 8 cm height								
Perennial Sow Thistle	-----								
Quackgrass ¹	-----								
Redroot Pigweed	-----								
Round-leaved Mallow	-----								
Scentless Chamomile	Up to 10 cm height								
Shepherd's-purse	-----								
Volunteer Barley ²	----- Maximum 2 tillers								
Volunteer Wheat	----- Maximum 2 tillers								
Wild Buckwheat	-----								

WEED	RECOMMENDED WEED LEAF STAGE								RATE
	1	2	3	4	5	6	7	8	
Cleavers	----- Whorls								3.33 L/ha
Dandelion	1-15 cm rosette								
Flixweed	Up to 10 cm height								
Hemp-nettle	----- Leaf Pairs								
Jimsonweed	-----								
Quackgrass ³	-----								
Stork's-bill	-----								
Wild Oats	----- Maximum 2 tillers								

WEED	RECOMMENDED WEED LEAF STAGE								RATE
	1	2	3	4	5	6	7	8	
Heavy Populations									3.33 L/ha
Canada Thistle ¹	Up to 10 cm height								
Quackgrass ¹	-----								
Volunteer Barley ²	----- Maximum 2 tillers								
Volunteer Wheat	----- Maximum 2 tillers								
Wild Buckwheat	-----								

WEED	RECOMMENDED WEED LEAF STAGE								RATE
	1	2	3	4	5	6	7	8	
Canada Thistle ⁴	Up to 10 cm height								4 L/ha
Jimsonweed ⁵	-----								
Quackgrass ⁶	-----								

Japanese Brome ⁷	----- Up to emergence of 1 st tiller	
Downy Brome ⁷	----- Up to emergence of 1 st tiller	

¹ Top Growth Suppression Only

² Suppression Only

³ Improved Top Growth Control

⁴ Better Top Growth Suppression

⁵ Improved Control

⁶ Season Long Control for Heavy Populations

⁷ Spring-germinated Brome Only; best results are obtained after a pre-seed or burndown application with a glyphosate herbicide.

Weed Control Information – Eastern Canada and British Columbia only:

2.7 – 4 L/ha: Common Chickweed, Green Foxtail, Lamb’s-quarters, Stinkweed, Wild Mustard, Redroot Pigweed (use 4 L/ha).

4 – 5 L/ha: Dandelion, Oak-leaved Goosefoot, Wild Buckwheat

Rate Range: Where a rate range is given use the higher rate when:

1. the crop or weed growth is dense.
2. the weeds are large and/or mature.
3. the environmental conditions are cool and dry.

Timing:

- For best results, apply to emerged, young actively growing weeds. Weeds that emerge after application will not be controlled.
- Apply before weeds reach a height of 30 cm.
- Advantage Glufosinate 150 will control weeds at all leaf stages, although coverage is more difficult when weeds are large or mature.
- Weeds will be best controlled when environmental conditions are favourable (warm temperatures, good moisture conditions, high humidity).

Section 8: Tank Mixes

- This product may be tank mixed with a fertilizer, a supplement, or with registered pest control products, whose labels also allow tank mixing, provided the entirety of both labels, including Directions For Use, Precautions, Restrictions, Environmental Precautions, and Spray Buffer Zones are followed for each product. In cases where these requirements differ between the tank mix partner labels, the most restrictive label must be followed. Do not tank mix products containing the same active ingredient unless specifically listed on this label.
- In some cases, tank mixing pest control products can result in reduced pesticide efficacy or increased host crop injury. The user should contact Advantage Crop Protection Inc. at 1-888-931-2530 for information before applying any tank mix that is not specifically recommended on this label.
- When tank-mixes are permitted, read and observe all label directions, including rates and restrictions for each product used in the tank-mix. Follow the more stringent label precautionary measures for mixing, loading and applying stated on all product labels.
- Tank mix partners may have additional restrictions for leaf staging.
- For enhanced activity, Advantage Glufosinate 150 may be tank mixed with the following products:

CANOLA

TANK MIX PRODUCT	RATE	DIRECTIONS
Centurion® or Select®	63 mL/ha	<p>For control of Volunteer Barley and Wild Oats, apply Advantage Glufosinate 150 at a rate of 2.67 – 4.0 L/ha plus Centurion or Select at 63 mL/ha with adjuvant as recommended on the Centurion or Select label.</p> <p>Apply when the weeds are in the 1-4 leaf stage with a maximum of 2 tillers.</p>
FBN Clethodim 240	63 mL/ha	<p>Prairie Provinces and the Interior of British Columbia Only:</p> <p>For control of wild oats, green foxtail, volunteer barley, volunteer wheat, volunteer oats plus all remaining grass weeds and broadleaf weeds listed on the Advantage Glufosinate 150 label, apply Advantage Glufosinate 150 at a rate of 2.67 to 4.0 L/ha plus FBN Clethodim 240 at 63 mL/ha with FBN Clethodim Adjuvant at 0.5% v/v. Apply when the wild oats, volunteer wheat, volunteer oats and green foxtail are in the 1-5 leaf stage. Refer to the Advantage Glufosinate 150 label for application timing on all remaining grass and broadleaf weeds for 2.67 or 4.0 L/ha.</p> <p>Eastern Canada and British Columbia Only:</p> <p>For control of wild oats, green foxtail, volunteer barley, volunteer wheat, volunteer oats plus all remaining grass weeds and broadleaf weeds listed on the Advantage Glufosinate 150 label, apply Advantage Glufosinate 150 at a rate of 2.0 to 2.5 L/ha plus FBN Clethodim 240 at 63 mL/ha with FBN Clethodim Adjuvant at 0.5% v/v. Apply when the wild oats, volunteer wheat, volunteer oats and green foxtail are in the 1-5 leaf stage. Refer to the Advantage Glufosinate 150 label for application timing on all remaining grass and broadleaf weeds for 2.0 or 2.5 L/ha.</p>
Centurion® or Select®	190 mL/ha	<p>For control of weed species listed on the Advantage Glufosinate 150 and Centurion or Select labels plus foxtail barley, spring-germinated Japanese and downy brome, apply Advantage Glufosinate 150 at a rate of 3.33 to 4.0 L/ha in tank mixture with Centurion or Select at 190 mL/ha and adjuvant as recommended on the Centurion or Select label. Apply when the weeds are at growth stages listed on the Advantage Glufosinate 150, Centurion and Select labels, foxtail barley is at the 1-4 leaf stage with a maximum of 2 tillers and spring-germinated Japanese and downy brome are at the 1 to 6-leaf up to the emergence of the 1st tiller stage.</p>

Facet L + Merge®	0.28 – 0.56 L/ha + 0.5 – 1.0 L/ha	For enhanced and more consistent control of cleavers from the 1 to 6 whorl stage, apply Advantage Glufosinate 150 at a rate of 3.33 – 4 L/ha plus Facet L at 0.28 L/ha. Higher rates of Facet L (0.42 – 0.56 L/ha) will provide suppression of secondary flushes of cleavers. Use the 0.56 L/ha rate when cleaver densities are high, when staging is late or for improved residual control. Apply in 100 L/ha of water with Merge Adjuvant at a rate of 0.5 to 1 L/ha. Application should be made from the cotyledon to 6 true leaf stage of the canola crop.
Facet L + Centurion® + Amigo® or Merge®	0.28 – 0.56 L/ha + 63 – 190 mL/ha + 0.5 L/ha	For enhanced and more consistent control of cleavers from the 1 to 6 whorl stage and annual grasses, apply LIBERTY 150 SN Herbicide at a rate of 3.33 – 4 L/ha plus Facet L at 0.28 – 0.56 L/ha plus Centurion at 63 – 190 mL/ha. Apply in 100 L/ha of water with Amigo or Merge Adjuvant at 0.5 L/ha. Application should be made from the cotyledon to 6 true leaf stage of the canola crop.
Clever® Dry Flowable Herbicide	62 g/ha	Improved cleavers control in canola may be accomplished using a rate of 62 g/ha when tank mixed with Advantage Glufosinate 150 at a rate of 3.33 L/ha on LibertyLink Canola, or with glyphosate products (360 g/L acid equivalent (ae) isopropylamine salt formulations or 540 g ae/L potassium salt formulations) at a rate of 667 g ae/ha on Roundup Ready® Canola. All glyphosate products must be registered for post-emergent use on glyphosate tolerant canola varieties. Application should be made from the 2 to 6 leaf stage of the canola crop when cleavers are between the cotyledon to 3 whorls stage.

APPLES AND PEARS (Bearing and Non-bearing Trees Established One Year or More) – Eastern Canada and British Columbia only

USING POWER AND/OR TRACTOR OPERATED SPRAYERS:

Tank Mix Product	Application Rate	Directions
Princep Nine-T	2-5 kg/ha	Refer to Princep Nine-T and Simadex labels for additional weeds controlled.
Simadex	4.5-9 L/ha	

USING HAND HELD PUMP-TYPE AND BACKPACK SPRAYERS:

Tank Mix Product	Application Rate	Directions
Princep Nine-T	25-50 g/10 L	Refer to Princep Nine-T and Simadex labels for additional weeds controlled.
Simadex	45-90 mL/10 L	

GRAPES (Established Three Years or More) – Eastern Canada Only

USING POWER AND/OR TRACTOR OPERATED SPRAYERS:

Tank Mix Product	Application Rate	Directions
Princep Nine-T	4-5 kg/ha	Refer to Princep Nine-T and Simadex labels for additional weeds controlled.
Simadex	7.2-9 L/ha	

USING HAND HELD PUMP-TYPE AND BACKPACK SPRAYERS:

Tank Mix Product	Application Rate	Directions
Princep Nine-T	40-50 g/10 L	Refer to Princep Nine-T and Simadex labels for additional weeds controlled.
Simadex	72-90 mL/10 L	

LOWBUSH BLUEBERRY – Eastern Canada and British Columbia only

USING POWER AND/OR TRACTOR OPERATED SPRAYERS:

Tank Mix Product	Application Rate	Directions
Velpar DF	1.92-2.56 kg/ha	Refer to Sinbar WDG or Velpar DF labels for additional weeds controlled.
Sinbar WDG	1.5-2.5 kg/ha	

POTATOES – Eastern Canada or Coastal British Columbia only:

Tank Mix Product	Application Rate	Directions
Lexone DF	750 g/ha	Refer to Lexone DF label for additional weeds controlled.

POTATOES – Interior British Columbia only:

Tank Mix Product	Application Rate	Directions
Lexone DF	350 g/ha	Refer to Lexone DF label for additional weeds controlled.

Section 9: Desiccation Use: Crops, Weeds, Rates, Timing

- Advantage Glufosinate 150 may be applied for desiccation, by ground or air, to alfalfa (grown for seed).
- Advantage Glufosinate 150 may be applied for desiccation, by ground only, to dry common beans (do not apply to dry common beans grown for seed).
- Advantage Glufosinate 150 will also desiccate weeds, which are present in the field at time of application (Wild Buckwheat may not be completely desiccated).
- Desiccation of crops and weeds will be best when environmental conditions are favourable (warm temperatures, good moisture conditions, high humidity).
- At cool temperatures (below 10°C), poor moisture and low humidity, speed of action may be reduced.
- For application instructions, refer to Section 10.1.

CROP	RECOMMENDATIONS	RATE
ALFALFA (grown for seed)	Apply Advantage Glufosinate 150 at 50-75% pod turn (brown) stage. Do NOT apply more than once per year.	2.7 L/ha
DRY COMMON BEANS (Do not apply to Dry Common Beans grown for seed) Eastern Canada and British Columbia only	Apply when approximately 50-75% of the bean pods have naturally changed colour from green to yellow or brown (pod turn). The crop may be straight combined when ready, allowing a minimum of 9 days after application. Advantage Glufosinate 150, when applied to dry common beans at the appropriate stage, will uniformly dry down the crop and weeds, facilitating harvest and preventing bean staining. Any secondary growth will be terminated, and moisture levels in the seed will be reduced, allowing for earlier harvest.	2.5 – 3 L/ha ¹

¹ Use the higher rate when the crop canopy is dense and/or there are high populations of weeds present at application. DO NOT apply by air.

Section 10: Application Instructions and Precautions

Application Instructions:

- The speed of action of Advantage Glufosinate 150 is influenced by environmental factors. At cool temperatures (below 10° C), poor moisture and low humidity, the speed of action may be reduced. Generally, visual symptoms appear 2-4 days after application.
- For best results, apply to emerged, young, actively growing weeds. Weeds that emerge after application will not be controlled.
- Advantage Glufosinate 150 will have an effect on weeds that are larger than the recommended leaf stage; however speed of activity and control may be reduced.
- Advantage Glufosinate 150 works primarily as a contact herbicide. Uniform, thorough coverage of the plant tissue to be desiccated or controlled is essential to achieve consistent efficacy. Better coverage will be achieved with higher spray volumes.
- When a rate range is given the higher rate should be utilized:
 1. when the weed or crop growth is dense;
 2. when the weeds are large and/or mature - i.e., advanced leaf stages and plant height;
 3. when the environmental conditions are cool and dry.
- Advantage Glufosinate 150 must be applied in properly maintained and calibrated spray equipment that is capable of providing rates and volumes as recommended.

Plant-back Intervals:

- No plant-back interval is required for field corn, canola and soybeans, dry common beans (not grown for seed), alfalfa, carrot, lettuce, onion and potato.
- 70 days for buckwheat, barley, millet, oats, rye, sorghum, triticale, wheat, other root and leafy vegetables.
- 120 days for all other crops.

Application Precautions:

- Crop injury may result if Advantage Glufosinate 150 is applied to a crop stressed by severe weather conditions, frost, drought, water-saturated soil, low fertility, disease or insect damage.
- Weed control may be reduced when heavy dew, fog or mist is present at the time of application.
- Advantage Glufosinate 150 is a non-selective herbicide and has the potential to desiccate, defoliate or kill all green plants.

- Avoid contact with desirable plants either from direct application or from spray drift as severe damage may occur.
- **Application of Advantage Glufosinate 150 to non-tolerant Canola or Soybean varieties, hybrids or other non-tolerant crops will result in severe crop injury or death of the crops.**
- **To assure crop safety and optimal herbicide performance, only use Advantage Glufosinate 150 on glufosinate ammonium tolerant (i.e., LibertyLink) Canola or Soybean grown from certified seed.**
- Avoid spraying when wind conditions are such that drift may occur to non-target plants.
- To avoid drift, keep the spray nozzle as low as possible, and spray during calm weather conditions.

Ground Application Instructions:

- Ensure that all circuits (pipes, booms etc.) have the correct Advantage Glufosinate 150 water concentration before application is started.
- Apply Advantage Glufosinate 150 in a minimum of 110 L/ha of water, at a pressure of 275 kPa and at a ground speed of 6-8 km/h. If check valves are used, apply at 310 kPa. The use of 80° or 110° flat fan nozzles is highly recommended for optimum spray coverage and canopy penetration.
- Application of the spray at a 45° angle forward will result in better spray coverage. Refer to Sections 7, 8 (Post-emergent) and 9 (Desiccation) for the correct rate and timing of application.
- **For desiccation uses only**, where the crop canopy is dense or weed growth is heavy, achieve better spray coverage with higher spray volumes. Under these conditions, apply Advantage Glufosinate 150 in a minimum of 170-220 L/ha of water. Refer to Aerial Application for appropriate aerial water volumes.
- Do NOT apply if winds exceed 16 km/h when using open boom sprayers for ground application.
- Do NOT apply if winds exceed 25 km/h when using hooded sprayer for ground application.
- Do not use flood jet nozzles, controlled droplet application equipment or air-assisted spray equipment.
- Field sprayer application: **DO NOT** apply during periods of dead calm. Avoid application of this product when winds are gusty. **DO NOT** apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE S572.1) medium classification. Boom height must be 60 cm or less above the crop or ground.
- **Follow spray buffer zones for ground application**

Aerial Application Instructions:

- Apply only by fixed-wing or rotary aircraft equipment which has been functionally and operationally calibrated for the atmospheric conditions of the area and the application rates and conditions of this label.
- Label rates, conditions and precautions are product specific. Read and understand the entire label before opening this product. Apply only at the rate recommended for aerial application on this label. Where no rate for aerial application appears for the specific use, this product cannot be applied by any type of aerial equipment.
- Ensure uniform application. To avoid streaked, uneven or overlapped application, use appropriate marking devices. Uniform, thorough spray coverage is important to achieve consistent weed control.
- When applying Advantage Glufosinate 150 by aircraft, uniform spray coverage is essential. Applicators are required to use the correct combination of spray nozzle tips, nozzle placement and spray pressures which will provide a coarse droplet size distribution with a volume mean diameter greater than 350 microns. Do not use raindrop nozzles. To avoid streaked, uneven or overlapped application, use appropriate marking devices.
- **Post-emergent Use in Glufosinate Ammonium Tolerant Canola and Soybean Water Volume:** Apply Advantage Glufosinate 150 in a minimum of 55 L/ha of water only.
- **Desiccation Use Only Water Volume Range:** If the crop canopy is dense or weed growth is heavy, achieve better spray coverage with higher spray volumes. Under these conditions, if using aerial application, apply Advantage Glufosinate 150 in a minimum of 33-55 L/ha of water.
- Aerial application: **DO NOT** apply during periods of dead calm. Avoid application of this product when winds are gusty. **DO NOT** apply when wind speed is greater than 16 km/h at flying height at the site of application. **DO NOT** apply with spray droplets smaller than the

American Society of Agricultural Engineers (ASAE S572.1) coarse classification. Reduce drift caused by turbulent wingtip vortices. Nozzle distribution along the spray boom length **MUST NOT** exceed 65% of the wingspan or rotorspan.

- **Follow spray buffer zones for aerial application.**

Use Precautions

Apply only when meteorological conditions at the treatment site allow for complete and even crop coverage. Apply only under conditions of good practice specific to aerial application as outlined in the National Aerial Pesticide Application Manual, developed by the Federal/Provincial/Territorial Committee on Pest Management and Pesticides.

Aerial Application Operator Precautions:

- Do not allow the pilot to mix chemicals to be loaded onto the aircraft. Loading of premixed chemicals with a closed system is permitted.
- It is desirable that the pilot have communication capabilities at each treatment site at the time of application.
- The field crew and the mixer/loaders must wear chemical resistant gloves, coveralls and goggles or face shield during mixing/loading, cleanup and repair. Follow the more stringent label precautions in cases where the operator precautions exceed the generic label recommendations on the existing ground boom label.
- All personnel on the job site must wash hands and face thoroughly before eating and drinking. Protective clothing, aircraft cockpit and vehicle cabs must be decontaminated regularly.

Product Specific Precautions

- Read and understand the entire label before opening this product. If you have questions, call Advantage Crop Protection Inc. at 1-888-931-2530 or obtain technical advice from the distributor or your provincial agricultural representative.

Rainfast Period:

- **If rainfall occurs within 4 hours of application, effectiveness may be reduced.**

10.1: Application Instructions for Use as a Desiccant

Apply Advantage Glufosinate 150 in a minimum of 110 L/ha of water at a pressure of 275 kPa and at a ground speed of 6-8 km/h. If check valves are used, apply at 310 kPa. The use of 80° or 110° flat fan nozzles is recommended for optimum spray coverage and canopy penetration.

Where crop canopy is dense, or weed growth is heavy, better spray coverage will be achieved with higher spray volumes. Under these conditions, apply 170-220 L/ha of water.

Aerial Application Water Volume Desiccation Use Only: If the crop canopy is dense or weed growth is heavy, achieve better spray coverage with higher spray volumes. Under these conditions, if using aerial application, apply Advantage Glufosinate 150 in a minimum of 33-55 L/ha of water.

10.2: Application Instructions for Primocane Control in Raspberry

Apply Advantage Glufosinate 150 in a minimum of 330 L/ha of water. Use a combination of spray pressures and nozzles, which will provide small droplet sizes and thorough coverage.

10.3: Application Instructions for Weed Control in Orchards and Vineyards

Power and Tractor-Operated Sprayers:

Apply Advantage Glufosinate 150 in 330-1100 L/ha of water. Apply at a spray pressure of 275-310 kPa using nozzles (flat fan, hollow, or cone) which provide small droplets and thorough coverage.

Hand Held Pump-Type and Backpack Sprayers:

Apply Advantage Glufosinate 150 in a water volume of 10 litres per 100 m² to provide thorough coverage, but not to the point of runoff. Ensure that spray pressures are maintained during application.

10.4: Application Instructions for Weed Control in Vegetables and Field Crops

Apply Advantage Glufosinate 150 in a minimum of 110-330 L/ha of water. Apply at a spray pressure of 275-310 kPa using nozzles (flat fan, hollow, or cone) which will provide small droplets and thorough coverage.

Section 11: Spray Buffer Zones

A spray buffer zone is NOT required for uses with hand-held application equipment permitted on this label.

The spray buffer zones specified in the table below are required between the point of direct application and the closest downwind edge of sensitive terrestrial habitats (such as grasslands, forested areas, shelter belts, woodlots, hedgerows, riparian areas and shrublands) and sensitive freshwater habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs and wetlands).

Method of Application	Crop		Spray Buffer Zones (metres) Required for the Protection of:		
			Freshwater Habitat of Depths:		Terrestrial Habitat
			Less than 1 m	Greater than 1 m	
Field Sprayer	All labelled crops		1	0	1
Aerial	Alfalfa, Soybean (fixed wing and rotary)		1	0	20
	Canola	Fixed-wing	1	0	35
		Rotary-wing	1	0	30

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

The spray buffer zones for this product can be modified based on weather conditions and spray equipment configuration by accessing the Spray Buffer Zone Calculator on the Pesticides portion of the Canada.ca website.

Section 12: Resistance Management Recommendations

For resistance management, Advantage Glufosinate 150 is a Group 10 herbicide. Any weed population may contain or develop plants naturally resistant to Advantage Glufosinate 150 and other Group 10 herbicides. The resistant biotypes may dominate the weed population if these herbicides are used repeatedly in the same field. Other resistance mechanisms that are not linked to site of action, but specific for individual chemicals, such as enhanced metabolism, may also exist. Appropriate resistance management strategies should be followed.

To delay herbicide resistance:

- Where possible, rotate the use of Advantage Glufosinate 150 or other Group 10 herbicides within a growing season (sequence) or among growing seasons with different herbicide groups that control the same weeds in a field.
- Use tank mixtures with herbicides from a different group when such use is permitted. To delay resistance, the less resistance-prone partner should control the target weed(s) as effectively as the more resistance-prone partner.
- Herbicide use should be based on an integrated weed management program that includes scouting, historical information related to herbicide use and crop rotation, and considers tillage (or other mechanical control methods), cultural (for example, higher crop seeding rates; precision fertilizer application method and timing to favour the crop and not the weeds), biological (weed-competitive crops or varieties) and other management practices.
- Monitor weed populations after herbicide application for signs of resistance development (for example, only one weed species on the herbicide label not controlled). If resistance is suspected, prevent weed seed production in the affected area if possible by an alternative herbicide from a different group.
- Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment when moving between fields, and planting clean seed.

- Have suspected resistant weed seeds tested by a qualified laboratory to confirm resistance and identify alternative herbicide options.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or integrated weed-management recommendations for specific crops and weed biotypes.
- For further information or to report suspected resistance, contact your local Advantage Crop Protection Inc. representative at 1-888-931-2530.

Section 13: Mixing Instructions

- Advantage Glufosinate 150 must be applied with properly calibrated, clean equipment.
- Prior to adding Advantage Glufosinate 150 to the spray tank, ensure that the spray tank is thoroughly clean (see Section 14 “Sprayer Cleanup”).
 1. Fill tank to three-quarters full with clean water prior to adding Advantage Glufosinate 150.
 2. Add the correct amount of Advantage Glufosinate 150.
 3. Add the remaining amount of water, begin agitation, and spray out immediately.

Tank-Mixing Instructions:

- When tank mixing Advantage Glufosinate 150 always add the tank mix partner to the tank **first**, ensure that it is thoroughly mixed, **and then** add Advantage Glufosinate 150.
- The addition of an anti-foaming agent may reduce foaming, especially when using soft water.
- Ensure that all circuits (pipes, booms, etc.) have the correct Advantage Glufosinate 150 /water concentration before application is started.

Advantage Glufosinate 150 and Facet L (Glufosinate Ammonium Tolerant Canola only):

When tank mixing with Facet L, always add Advantage Glufosinate 150 first followed by Facet L, then add Merge Adjuvant.

Advantage Glufosinate 150 and Centurion or Select or FBN Clethodim 240: Glufosinate Ammonium Tolerant Canola only

When tank mixing Advantage Glufosinate 150 and Centurion or Select or FBN Clethodim 240, always add Amigo adjuvant or FBN Clethodim Adjuvant to the tank first, **then** add Advantage Glufosinate 150 to the tank followed by the Centurion or Select or FBN Clethodim 240.

1. Thoroughly clean the sprayer by flushing the system with water containing detergent (see Section 14, “Sprayer Cleanup”).
2. Fill clean spray tank half full with clean water. Start agitation system.
3. Add the correct amount of Amigo or FBN Clethodim Adjuvant. Continue to agitate until Amigo or FBN Clethodim Adjuvant is thoroughly mixed.
4. STOP agitation. Add the required amount of Advantage Glufosinate 150 to the spray tank. Start agitation system.
5. Add the correct amount of Centurion or Select or FBN Clethodim 240 along with the remaining amount of water necessary to fill the spray tank.
6. Continue to agitate or run the by-pass system, and spray out immediately.
7. After any break in the spraying operation, agitate thoroughly before spraying again. Check inside the tank to ensure that sprayer agitation is sufficient to remix the spray materials. Do not allow the mixture to sit overnight.
8. If an oil film starts to build up in the tank, drain it and clean tank with strong detergent solution.
9. Immediately after use, thoroughly clean the sprayer by flushing the system with water containing detergent (see Section 14, “Sprayer Cleanup”).

Section 14: Sprayer Cleanup

- Before and after using Advantage Glufosinate 150 always complete a thorough cleaning of the spray tank, lines and filter. Spray equipment should be thoroughly rinsed using a strong detergent solution.

- When using tank mixes, consult the tank mix product label for additional cleanup instructions.

Section 15: Livestock Feeding, Pre-Harvest Intervals, Plant-Back Intervals

Livestock Feeding:

Canola:

- Grain and meal from treated crops can be fed to livestock.
- **CAUTION:** Do not graze the treated crops or cut for hay; sufficient data are not available to support such use.

Corn (used as separator rows in Hybrid Canola Seed Production):

- Do not feed treated crop to livestock; sufficient data are not available to support such use.

Soybean:

- Do not graze the treated fields within 20 days of application.

Pre-Harvest Intervals (PHI):

Canola:

- When Advantage Glufosinate 150 is tank mixed with Centurion or Select or FBN Clethodim 240, observe a PHI of 60 days from the date of treatment (or last treatment when a second application has been made).
- When Advantage Glufosinate 150 is tank mixed with Facet L or Clever Dry Flowable Herbicide, observe a PHI of 60 days from the date of treatment.

Soybean:

- Do not apply within 70 days of harvesting Soybean seed.

Strawberries.....	1 day
Potatoes.....	9 days
Dry Common Beans.....	9 days
Apricots.....	14 days
Cherries (sweet and sour).....	14 days
Highbush Blueberries.....	14 days
Nectarines.....	14 days
Peaches.....	14 days
Plums.....	14 days
Tree Nuts.....	14 days
Apples.....	40 days
Grapes.....	40 days
Pears.....	40 days

Section 16: Notices

NOTICE TO USER: This pest control product is to be used only in accordance with the directions on the label. It is an offence under the *Pest Control Products Act* to use this product in a way that is inconsistent with the directions on the label.

All products listed are registered trademarks or trademarks of their respective companies.