

# DISRUPTOR<sup>®</sup> 360 GLYPHOSATE HERBICIDE

COMMERCIAL (AGRICULTURAL AND INDUSTRIAL)

Soluble concentrate

ACTIVE INGREDIENT: glyphosate 356 g/L (acid equivalent) present as the isopropylamine salt

REGISTRATION NO.: 29290 PEST CONTROL PRODUCTS ACT

**READ THE LABEL AND ATTACHED BOOKLET BEFORE USING**



**WARNING EYE IRRITANT**

NET CONTENTS: XXX L Bulk

**For Hazardous Materials [or Dangerous Goods] Incident Spill, Leak, Fire, Exposure, or Accident Call  
CHEMTREC 1-800-424-9300 / +1 703-527-3887**

**NewAgco Inc.**

320 – 22<sup>nd</sup> Street East  
Saskatoon, Saskatchewan  
Canada S7K 0H1  
Ph: 1-844-269-3276

**Distributed by:**

**AgraCity Crop & Nutrition Ltd.**

320 – 22<sup>nd</sup> Street East  
Saskatoon, Saskatchewan  
Canada S7K 0H1  
Ph: 1-844-269-3276

DISRUPTOR<sup>®</sup> is a trademark of AgraCity Crop & Nutrition Ltd. or its' affiliates.

PMRA Approved Label – M.A.  
2021-5105 2021-11-01

**READ ENTIRE LABEL CAREFULLY BEFORE USE**

**DISRUPTOR 360 GLYPHOSATE HERBICIDE** is a non-selective, non-residual herbicide containing 360 g/L Glyphosate (free acid) as isopropylamine salt, formulated as a water-soluble liquid. It is used for the control of most herbaceous weeds in agricultural and industrial sites. The product is absorbed through the foliage and translocated throughout the plant down to the root system. Visible symptoms such as gradual wilting and yellowing are usually obvious within 2 to 4 days of application to annual weeds, but may not be apparent for 7 to 10 days on perennial weeds.

**GENERAL PRECAUTIONS**

- KEEP OUT OF REACH OF CHILDREN
- CAUSES EYE IRRITATION
- HARMFUL IF SWALLOWED
- DO NOT GET ON EYES AND SKIN
- WASH HANDS AND EXPOSED SKIN PRIOR TO EATING, DRINKING, OR SMOKING, AND AFTERWORK

If this pest control product is to be used on a commodity that may be exported to the U.S. and you require information on acceptable residue levels in the U.S, visit CropLife Canada's website at [www.croplife.ca](http://www.croplife.ca)

**FOR GOOD AGRICULTURAL PRACTICE:**

- WEAR GLOVES, COVERALLS, AND EYE PROTECTION DURING MIXING, LOADING, CLEANUP, AND REPAIR PROCEDURES
- WASH SPLASHES FROM SKIN AND EYES IMMEDIATELY

**FIRST AID**

**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 ON SKIN OR CLOTHING:**

Remove 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 further treatment advice.

**IF IN CONTACT WITH EYES:**

Immediately flush eye using a gentle stream of water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. SEEK IMMEDIATE MEDICAL ATTENTION. Call a poison control centre or doctor for treatment advice.

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

**TOXICOLOGICAL INFORMATION:**

Treat Symptomatically.

**ENVIRONMENTAL PRECAUTIONS:**

**DISRUPTOR 360 GLYPHOSATE HERBICIDE** is harmful to aquatic organisms. Avoid direct application to any body of water populated with fish or used for domestic purposes. DO NOT use in areas where adverse impact on domestic water or aquatic species is likely. DO NOT contaminate water by disposal of waste or cleaning of equipment. Avoid all drift or contact with vegetation for which treatment is not intended as damage or destruction may occur.

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**PHYSICAL OR CHEMICAL HAZARDS:**

Spray solutions of this product should be mixed, stored and applied only in stainless steel, aluminum, fiberglass, plastic, or plastic-lined containers. DO NOT MIX, STORE, OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS. This product or the spray solutions of this product react with such containers and tanks to produce hydrogen gas, which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury if ignited by open flame, spark, welder's torch, lighted cigarette, or other ignition source.

**STORAGE**

KEEP AWAY FROM FOOD, DRINK, AND ANIMAL FEEDSTUFFS.

KEEP ONLY IN ORIGINAL CONTAINER, TIGHTLY CLOSED.

**IN CASE OF SPILL:** Contact the provincial regulatory authorities and AgraCity Crop & Nutrition Ltd. at 1-844-269-3276 in case of spill, and for clean up of spills.

**DISPOSAL OF CONTAINERS:**

**RECYCLABLE CONTAINERS:**

DO NOT reuse this container for any purpose. This is a recyclable container, and is to be disposed of at a container collection site. For environmental concerns call collect **CHEMTREC 1-800-424-9300 / +1 703-527-3887**. For details on collection and disposal of containers contact AgraCity Crop & Nutrition Ltd at 1-844-269-3276. Before taking the container to the collection site:

1. Triple- or pressure-rinse the empty container. Add the rinsing 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. For information on disposal of unused, unwanted product, contact the distributor or the provincial regulatory agency. Contact the distributor and the provincial regulatory agency in case of spill, and for clean-up of spills.

**RETURNABLE CONTAINERS**

DO NOT reuse this container for any purpose. For disposal, this empty container may be returned to the point of purchase (distributor/dealer). For information on disposal of unused, unwanted product, contact the distributor or the provincial regulatory agency. Contact the distributor and the provincial regulatory agency in case of spill, and for clean-up of spills.

**RETURNABLE-REFILLABLE CONTAINERS:**

For disposal, this container may be returned to the point of purchase (distributor/dealer). It must be refilled by the distributor/dealer with the same product. DO NOT reuse this container for any other purpose. For information on disposal of unused, unwanted product, contact the distributor or the provincial regulatory agency. Contact the distributor and the provincial regulatory agency in case of spill, and for clean-up of spills.

**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.

**PRECAUTIONS FOR USE**

Avoid contact with desirable vegetation by direct application or spray drift as severe injury or destruction may result. Avoid drift or overspray to non-target vegetation and wildlife habitats.

**DO NOT USE IN GREENHOUSES.**

Drain and clean sprayer and parts immediately after using this product.

DO NOT contaminate water sources by disposal of wastes or cleaning of equipment.

Reduced results may occur if water which contains suspended soil is used; examples are water from ponds

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and ditches. Poor control may also occur when treating weeds heavily covered with dust.

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**GENERAL PRECAUTIONS**

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- CAUSES EYE IRRITATION
- HARMFUL IF SWALLOWED
- DO NOT GET ON EYES OR SKIN
- WASH HANDS AND EXPOSED SKIN BEFORE EATING, DRINKING, OR SMOKING, AND AFTER WORK

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- WASH SPLASHES FROM SKIN AND EYES IMMEDIATELY

**FIRST AID**

**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 ON SKIN OR CLOTHING:**

Remove 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 further treatment advice.

**IF IN CONTACT WITH EYES:**

Immediately flush eye using a gentle stream of water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. SEEK IMMEDIATE MEDICAL ATTENTION. Call a poison control centre or doctor for treatment advice.

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

**TOXICOLOGICAL INFORMATION**

Treat symptomatically.

**ENVIRONMENTAL PRECAUTIONS**

TOXIC to aquatic organisms and non-target terrestrial plants. Observe buffer zones specified under DIRECTIONS FOR USE. To reduce runoff from treated areas into aquatic habitats, avoid application to areas with a moderate to steep slope, compacted soil or clay. Avoid direct application to any body of water populated with fish or used for domestic purposes. DO NOT use in areas where adverse impact on domestic water or aquatic species is likely. DO NOT contaminate water by disposal of waste or cleaning of equipment. Avoid all drift or contact with vegetation for which treatment is not intended as damage or destruction may occur. Avoid application when heavy rain is forecast. Contamination of aquatic areas as a result of runoff



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may be reduced by including a vegetative strip between the treated area and the edge of the water body.

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### **PHYSICAL OR CHEMICAL HAZARDS**

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### **STORAGE**

KEEP AWAY FROM FOOD, DRINK, AND ANIMAL FEEDSTUFFS.  
KEEP ONLY IN ORIGINAL CONTAINER, TIGHTLY CLOSED.

### **DISPOSAL OF CONTAINERS:**

#### **RECYCLABLE CONTAINERS**

DO NOT reuse this container for any purpose. This is a recyclable container, and is to be disposed of at a container collection site. For details on collection and disposal of containers contact AgraCity Crop & Nutrition Ltd. at 1-844-269-3276. Before taking the container to the collection site:

1. Triple- or pressure-rinse the empty container. Add the rinsing 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.

For information on disposal of unused, unwanted product, contact the distributor or the provincial regulatory agency. Contact the distributor and the provincial regulatory agency in case of spill, and for clean-up of spills.

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#### **RETURNABLE-REFILLABLE CONTAINERS**

For disposal, this container may be returned to the point of purchase (distributor/dealer). It must be refilled by the distributor/dealer with the same product. DO NOT reuse this container for any other purpose. For information on disposal of unused, unwanted product, contact the distributor or the provincial regulatory agency. Contact the distributor and the provincial regulatory agency in case of spill, and for clean-up of spills.

#### **NOTICE TO USER:**

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

### **PRECAUTIONS FOR USE**

Avoid contact with desirable vegetation by direct application or spray drift as severe injury or destruction may result. Avoid drift or overspray to non-target vegetation and wildlife habitats.

Apply only when the potential for drift to areas of human habitation or 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.

#### **DO NOT USE IN GREENHOUSES.**

Drain and clean sprayer and parts immediately after using this product.

DO NOT contaminate water sources by disposal of wastes or cleaning of equipment.

Reduced results may occur if water which contains suspended soil is used; examples are water from ponds and ditches. Poor control may also occur when treating weeds heavily covered with dust.

### **GENERAL PRODUCT INFORMATION**

**DISRUPTOR 360 GLYPHOSATE HERBICIDE** is a water- soluble herbicide for non-selective weed control. **DISRUPTOR 360 GLYPHOSATE HERBICIDE** is applied as a foliar spray for the control of most herbaceous plants. It may be applied through most standard industrial or field type sprayers after dilution and thorough mixing with water in accordance with the booklet instructions.

**DISRUPTOR 360 GLYPHOSATE HERBICIDE** moves through the plant from the point of foliage contact into the root system. Visible effects on most annual weeds occur within 2 to 4 days, but on most perennial weeds effects may not occur until 7 to 10 days. Extremely cool or cloudy weather at treatment time may slow down the activity of this product and delay visual effects of control. Visible effects are a gradual wilting and yellowing of the plant, which advances to complete browning of above ground growth and deterioration of underground plant parts.

**DISRUPTOR 360 GLYPHOSATE HERBICIDE** does not provide residual weed control. For subsequent residual weed control, apply a registered residual herbicide. Read and carefully observe cautionary statements and all other information appearing on the labels of all herbicides used. Heavy rainfall immediately after application may wash the chemical off the foliage and a repeat treatment may be required. **DO NOT** apply if rainfall is forecast for the time of application.

### **DIRECTIONS FOR USE**

#### GENERAL APPLICATION NOTES:

Glyphosate is not to be applied using hand-wicking or hand-daubing methods. The restricted entry interval is 12 hours after application for all agricultural uses. Results are best when weeds are actively growing. If weeds have been mowed, allow to return to recommended growth stage. Delay application until vegetation has emerged to the stage described for the control of such vegetation under the ANNUAL and PERENNIAL WEED CONTROL charts of this booklet to provide adequate leaf surface to receive the spray. Un emerged plants arising from underground rhizomes or rootstocks of perennials will not be affected by the spray and will continue to grow. For this reason best control of most perennial weeds is obtained when the treatment is made at the late growth stages approaching maturity.

Always use higher rates of **DISRUPTOR 360 GLYPHOSATE HERBICIDE** per hectare within the recommended range when weed growth is heavy or dense or weeds are growing in an undisturbed (uncultivated) area. **DO NOT treat weeds under poor growing conditions such as drought, flooding, frost, high temperatures, disease or insect damage as reduced weed control may result.** Reduced results may also occur when treating weeds heavily covered with dust. Heavy rainfall immediately after application may wash the product off the foliage and a repeat treatment may be required. **DO NOT** apply if rainfall is forecast for the time of application.

- 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.

In some cases, tank mixing a pest control product with another pest control product or a fertilizer can result in biological effects that could include but are not limited to: reduced pest efficacy or increased host crop injury. The user should contact AgraCity Crop & Nutrition Ltd. at 1-844-269-3276 or [www.agracity.com](http://www.agracity.com) for information before mixing any pesticide or fertilizer that is not specifically recommended on this label.

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) coarse classification. Boom height must be 60 cm or less above the crop or ground.

Airblast or mist blower application: **DO NOT** apply during periods of dead calm. Avoid application of this product when winds are gusty. **DO NOT** direct spray above plants to be treated. **DO NOT** apply when wind speed is greater than 16 km/h at the application site as measured outside of the treatment area on the upwind side. For airblast applications, turn off outward pointing nozzles at row ends and outer rows.

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**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. To reduce drift caused by turbulent wingtip vortices, the nozzle distribution along the spray boom length **MUST NOT** exceed 65% of the wing- or rotorspan.

**Buffer zones:**

Use of the following spray methods or equipment **DO NOT** require a buffer zone: hand-held or backpack sprayer and spot treatment, inter-row hooded sprayer, low-clearance hooded or shielded sprayers that ensure spray drift does not come in contact with orchard crop fruit or foliage, soil drench and soil incorporation.

For application to rights-of-way and for forestry uses, buffer zones for protection of sensitive terrestrial habitats are not required; however, the best available application strategies which minimize off-site drift, including meteorological conditions (e.g., wind direction, low wind speed) and spray equipment (e.g., coarse droplet sizes, minimizing height above canopy), should be used. Applicators must, however, observe the specified buffer zones for protection of sensitive aquatic habitats. The 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 aquatic habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs, wetlands and estuarine/marine water bodies).

**TANK MIXES**

**DISRUPTOR 360 GLYPHOSATE HERBICIDE** may be used with the following surfactants: Agral 90®, AgSurf®, Companion™, and Frigate®.

See charts on **TANK MIXES FOR ANNUAL** and for **PERENNIAL WEED CONTROL**.

**DISRUPTOR 360 GLYPHOSATE HERBICIDE** may be used with the following herbicides

Banvel, Oracle, Pardner®, Pursuit®, 2,4-D low volatile ester or amine formulations:  
See section on **MINIMUM AND ZERO TILLAGE TANK MIXES**.

Princep® Nine-T®, Simadex®: See section on **TREE, VINE, AND BERRY CROPS**.

DyCleer 480®, Simazine 80W, Simadex® Flowable, 2,4-D amine:  
See section on **NONCROPLAND AND INDUSTRIAL USES**.

Always refer to the surfactant and herbicide labels for specific instructions regarding the use of that product.

When a tank mixture is used, consult the labels of the tank-mix partners and observe the largest (most restrictive) buffer zone of the products involved in the tank mixture.

**VEGETATION CONTROLLED**

**DISRUPTOR 360 GLYPHOSATE HERBICIDE** controls many annual and perennial grasses, broadleaf weeds and woody brush and trees when applied as recommended and under the conditions described. For information on how to control specific weeds, including herbicide rate, refer to the **ANNUAL WEED CONTROL** and **PERENNIAL WEED CONTROL** charts of this label. The following is a partial list of the weeds controlled:

**Table 1: Buffer Zones for the Protection of Aquatic and Terrestrial Habitats from Spray Drift of Glyphosate Products Formulated with POEA**

Uses	Maximum number of applications	Buffer Zones (metres) Required for the Protection of:	
		Aquatic habitats	Terrestrial habitats
<b>Agricultural crop system and ground boom application method</b>			
Cranberry and all other crops for pre-seeding treatments only, filberts or hazelnut pre-seeding only pasture and summer fallow	1	1	1
Canola — Roundup Ready® hybrid for seed production	2	1	1
Filberts or hazelnut	4	1	1
Corn (glyphosate non-tolerant varieties including grain, silage and ornamental types), walnut, chestnut, Japanese heartnut, turfgrass (prior to establishment or renovation)	2	1	2
Wheat, barley, oats, soybean (glyphosate non-tolerant varieties), canola (glyphosate non-tolerant varieties), peas, dry beans, flax (including low linoleic acid varieties), lentils, corn (glyphosate tolerant varieties), forage grasses and legume including seed production	3	1	2
Canola (glyphosate tolerant varieties), soybean (glyphosate tolerant varieties)	4	1	2
Apple, apricot, cherry (sweet/sour), peaches, pears, plums, grapes	3	1	3
<b>Agricultural crop system and airblast application method (including mist blower)</b>			
Pasture	1	20	30
Turfgrass (Prior to establishment or renovation)	2	25	35
<b>Non-cropland system and ground boom application method</b>			
Non-crop land and industrial uses: Industrial and rights of way areas, Recreational and public areas	3	1	3*
<b>Non-cropland system and airblast application method (including mist blower)</b>			
Non-crop land and industrial uses: Industrial and rights of way areas, Recreational and public areas	3	1	30*

**Table 1: Buffer Zones for the Protection of Aquatic and Terrestrial Habitats from Spray Drift of Glyphosate Products Formulated with POEA (continued)**

Uses	Wing Type	Maximum number of applications	Buffer Zones (metres) Required for the Protection of:	
			Aquatic habitats	Terrestrial habitats
<b>Agricultural crop system and aerial application method</b>				
Corn (glyphosate non-tolerant varieties), all other crops for pre-seeding treatments only	Fixed and rotary wing	1	15	20
Canola (glyphosate tolerant varieties)	Fixed and rotary wing	3	20	40
Wheat, barley, oats, soybean (glyphosate non-tolerant varieties), canola (glyphosate non-tolerant varieties), peas, dry beans, flax (including low linoleic acid varieties), lentils	Fixed wing	2	20	35
	Rotary wing	2	20	30
Forage grasses and legume including seed production	Fixed and rotary wing	1	20	40
Soybean (glyphosate tolerant varieties)	Fixed wing	3	20	45
	Rotary wing	3	20	40
Summer fallow	Fixed wing	1	20	45
	Rotary wing	1	20	40
Corn (glyphosate tolerant varieties)	Fixed wing	2	20	50
	Rotary wing	2	20	45
Pasture	Fixed Wing	1	30	70
	Rotary Wing	1	30	55
<b>Non-cropland system and aerial application method</b>				
Non-crop land and industrial uses: rights-of way areas only	Fixed wing	3	100	NR
	Rotary wing	3	60	NR

\* Buffer zones for the protection of terrestrial habitats are not required for use on rights-of-way including railroad ballast, rail and hydro rights-of-way, utility easements and, roads.  
NR = Not Required

For tank mixes, consult the labels of the tank-mix partners and observe the largest (most restrictive) 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 buffer zones for this product can be modified based on weather conditions and spray equipment configuration by accessing the Buffer Zone Calculator on the Pest Management Regulatory Agency.

**Table 2: Annual weed control by DISRUPTOR 360 GLYPHOSATE HERBICIDE**

Weed Type: Annual Weeds	Genus and Species
Annual bluegrass	<i>Poa annua</i>
Barnyard grass	<i>Echinochloa crus-galli</i>
Broomcorn millet	<i>Panicum miliaceum</i>
Cheatgrass	<i>Bromus tectorum</i>
Chickweed	<i>Stellaria</i>
Cleavers	<i>Galium aparine</i>
Cocklebur	<i>Xanthium strumarium</i>
Corn Spurry	<i>Spergula arvensis</i>
Common Lamb's quarters	<i>Chenopodium album</i>
Cow Cackle	<i>Saponaria vaccaria</i>
Dodder	<i>Cuscuta spp.</i>
Downy brome	<i>Bromus tectorum</i>
Eastern black flowering nightshade	<i>Solanum ptycanthum</i>
Fall panic grass	<i>Panicum dichotomiflorum</i>
Fleabane (Canada)	<i>Erigeron canadensis</i>
Flixweed	<i>Descurainia sophia</i>
Giant foxtail	<i>Setaria faberii</i>
Green foxtail	<i>Setaria viridis</i>
Green Smartweed	<i>Polygonum persicaria</i>
Hairy crabgrass	<i>Digitaria sanguinalis</i>
Hemp nettle	<i>Galeopsis tetrahit</i>
Kochia	<i>Kochia scoparia</i>
Lady's thumb	<i>Polygonum persicaria</i>
Narrow-leaf hawk's beard	<i>Crepis tectorum</i>

Weed Type: Annual Weeds	Genus and Species
Narrow-leaf vetch	<i>Vicia angustifolia</i>
Night flowering catchfly	<i>Silene noctiflora</i>
Pennsylvania smartweed	<i>Polygonum pennsylvanicum</i>
Persian darnel	<i>Lolium persicum</i>
Prickly lettuce	<i>Lactuca scariola</i>
Ragweed (common)	<i>Ambrosia artemisiifolia</i>
Redroot Pigweed	<i>Amaranthus retroflexus</i>
Russian thistle	<i>Salsola pestifier</i>
Shepherd's purse	<i>Capsella bursa-pastoris</i>
Smooth crabgrass	<i>Digitaria ischaemum</i>
Smooth Pigweed	<i>Amaranthus hybridus</i>
Sowthistle (annual)	<i>Sonchus oleraceus</i>
Stinkweed	<i>Thlaspi arvense</i>
Velvetleaf	<i>Abutilon theophrasti</i>
Volunteer barley	<i>Hordeum spp.</i>
Volunteer canola	<i>Brassica spp.</i>
Volunteer corn	<i>Zea mays.</i>
Volunteer flax	<i>Linum spp.</i>
Volunteer wheat	<i>Triticum spp.</i>
Wild buckwheat	<i>Polygonum convolvulus</i>
Wild mustard	<i>Sinapsis arvensis</i>
Wild oats	<i>Avena fatua</i>
Wild tomato	<i>Solanum triflorum</i>
Yellow foxtail	<i>Setaria glauca</i>

**Table 3 Perennial weeds control by DISRUPTOR 360 GLYPHOSATE HERBICIDE**

Weed Type: Perennial Weeds	Genus and Species
Alfalfa	<i>Medicago sativa</i>
Bluegrass (Canada)	<i>Poa compressa</i>
Bluegrass (Kentucky)	<i>Poa pratensis</i>
Brome grass (smooth)	<i>Bromus inermis</i>
Canada thistle	<i>Cirsium arvense</i>
Common cattail	<i>Typha latifolia</i>
Common milkweed	<i>Asclepias syriaca</i>
Cottontop	<i>Eriophorum chamissonis</i>
Curled dock	<i>Rumex crispus</i>
Dandelion	<i>Taraxacum officinale</i>
Field bindweed	<i>Convolvulus Arvensis</i>

Weed Type: Perennial Weeds	Genus and Species
Foxtail barley	<i>Hordeum jubatum</i>
Hemp dogbane	<i>Apocynum cannabinum</i>
Hoary cress	<i>Cardaria draba</i>
Japanese knotweed	<i>Polygonum cuspidatum</i>
Perennial sow thistle	<i>Sonchus arvensis</i>
Poison ivy	<i>Rhus radicans</i>
Purple loosestrife	<i>Lythrum salicaria</i>
Quack grass	<i>Elytrigia repens</i>
Toad flax	<i>Linaria vulgaris</i>
Wormwood (Absinth)	<i>Artemisia absinthium</i>
Yellow Nutsedge	<i>Cyperus esculentus</i>

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**Table 4: Woody, weeds, bush and tree control by DISRUPTOR 360 GLYPHOSATE HERBICIDE**

Weed Type: Bush and Trees	Genus and Species	Weed Type: Bush and Trees	Genus and Species
Alder	<i>Alnus spp.</i>	Pine	<i>Pinus spp.</i>
Birch	<i>Betula spp.</i>	Poplar	<i>Populus spp.</i>
Broadleaf meadowsweet	<i>Spiraea latifolia</i>	Raspberry	<i>Rubus sp.</i>
Canadian rhododendron	<i>Rhododendron canadense</i>	Salmonberry	<i>Rubus spectabilis</i>
Cedar	<i>Thuja spp.</i>	Sheep laurel	<i>Kalmia angustifolia</i>
Cherry	<i>Prunus spp.</i>	Snowberry (western)	<i>Symphoricarpos occidentalis</i>
Douglas fir	<i>Pseudotsuga spp.</i>	Sweet fern	<i>Comptonia peregrina</i>
Hemlock	<i>Tsuga spp.</i>	Willow	<i>Salix spp.</i>
Maple	<i>Acer spp.</i>	Withrod	<i>Viburnum cassinoides</i>
Mountain-fly honeysuckle	<i>Lonicera villosa</i>		

### **APPLICATION EQUIPMENT AND MIXING INSTRUCTIONS**

#### **GROUND BOOM AND BOOMLESS SPRAYERS**

**Mixing:** For field or industrial type sprayers, fill the spray tank with one half the required amount of water. Add the proper amount of **DISRUPTOR 360 GLYPHOSATE HERBICIDE** (see appropriate chart) and mix well before adding the remaining portion of water. Placing the filling hose below the surface of the liquid solution will prevent any excessive foaming. Remove the hose from the tank immediately after filling to avoid back siphoning into water source (a one-way valve should be installed to prevent back siphoning). Use of mechanical agitators may cause excessive foaming. By-pass lines should terminate at the bottom of the tank.

**Application:** Use flat fan nozzles in boom sprayers. To control perennial weeds, woody brush, and trees as listed, apply **DISRUPTOR 360 GLYPHOSATE HERBICIDE** in 50 to 300 L of water per hectare as a broadcast spray. Use no more than 275 kPa pressure. To control annual weeds as listed, apply **DISRUPTOR 360 GLYPHOSATE HERBICIDE** in 50 L to 100 L of water per hectare as a broadcast spray. Use no more than 275 kPa pressure.

#### **KNAPSACK SPRAYERS, HAND HELD & HIGH VOLUME EQUIPMENT**

High volume spraying utilizes handguns or other suitable nozzle arrangements to apply a directed spray to weeds, woody brush, and trees. Use coarse sprays only.

**Mixing:** Mix the proper amount of **DISRUPTOR 360 GLYPHOSATE HERBICIDE** with water in a large container. Fill the sprayer with the mixed solution. Unless otherwise stated, make a 1% solution of **DISRUPTOR 360 GLYPHOSATE HERBICIDE** in water (1 L of **DISRUPTOR 360 GLYPHOSATE HERBICIDE** in 100 L of water). A 2% solution (2 L of **DISRUPTOR 360 GLYPHOSATE HERBICIDE** in 100 L of water) should be used on harder to control perennials.

**Application:** Spray coverage should be uniform and complete. Apply on a spray-to-wet basis. Do not spray to the point of runoff. Hand gun application should be properly directed to avoid spraying desirable plants.

#### **MIST BLOWERS**

For control of woody weeds, brush, and trees listed in the VEGETATION CONTROLLED list, use the recommended rate of **DISRUPTOR 360 GLYPHOSATE HERBICIDE** in at least 200 L of water per hectare.

#### **WIPER, WICK AND ROLLER EQUIPMENT**

These applicators apply **DISRUPTOR 360 GLYPHOSATE HERBICIDE** solution directly onto the weeds by contacting the weed with an absorbent material containing the herbicide solution. Weeds should be a minimum of 15 cm above the desired vegetation to prevent contact of **DISRUPTOR 360 GLYPHOSATE HERBICIDE** with the desired vegetation.

**Mixing:** Mix the proper amount of **DISRUPTOR 360 GLYPHOSATE HERBICIDE** with water in a large container. Use this mixed solution in the wiper, wick or roller equipment.

**Application:** These applicators can be used to control weeds in:

- Industrial sites, tree plantings, and non-crop sites as specified.
- The following agricultural crops:
  - Apple, cherry, peach, pear and plum orchards, grape vineyards, soybeans, dry beans, strawberries, and
  - Cranberries (note: applications must be made before initial pod set in soybeans and dry beans).

The applicator should be adjusted so that the contact point of the wiper, roller, or wick is at least 5 cm above the desirable vegetation. Droplets or foam of the **DISRUPTOR 360 GLYPHOSATE HERBICIDE** solution settling on desirable vegetation may result in discoloration, stunting or destruction. Best results are obtained when more of the weed is exposed to the herbicide solution. It is recommended that two applications be made in opposite directions, if possible. Weeds not contacted will not be affected. This may occur in dense clumps, severe infestation, or when the height of the weeds varies so that not all weeds are contacted. In these instances, a repeat treatment may be necessary.

**AVOID CONTACT WITH DESIRABLE VEGETATION**

#### **Wiper, Wick, Roller Application Notes:**

- Maintain wiper equipment in good operating condition. Care must be taken with all types of wipers to ensure that the absorbent material does not become over-saturated, causing the herbicide to drip onto desirable vegetation.
- Avoid leakage or dripping onto desirable vegetation.
- Adjust height of wiper applicator to ensure proper contact with weeds.
- Keep wiping surfaces clean.
- Maintain recommended roller speed on roller applicators while in use.
- DO NOT use wiper equipment when weeds are wet.
- DO NOT operate equipment at ground speeds less than 4 or greater than 10 km/h. Weed control may be affected by speed of application equipment. As weed density increases, reduce equipment ground speed to ensure good coverage of weeds.
- Be aware that on sloping ground the herbicide solution may migrate, causing dripping on the lower end and drying on the upper end of the wiper applicator.
- Variation in equipment design may affect weed control. With wiper applicators, the wiping material and its orientation must allow delivery of sufficient quantities of the recommended **DISRUPTOR 360 GLYPHOSATE HERBICIDE** solution directly to the weed.
- Mix only the amount of solution to be used during a one day period, as reduced activity may result from use of leftover solution. Thoroughly drain and clean all equipment immediately after use.

#### **AERIAL APPLICATION**

Directions for Use (for additional information see section on Aerial Application for Industrial Rights-of-Way ONLY)

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.

Ensure that the maximum boom width does not exceed 65% of the wing span. Nozzle type, size and orientation must be configured to deliver a droplet size VMD in the coarse (400-600 microns) or very coarse (600-1000) range. 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. The use of a spotter plane is recommended.

### **Aerial Use Precautions**

Apply only when weather 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. DO NOT apply to any body of water. Avoid drifting of spray onto any body of water or other non-target areas. Specified buffer zones should be observed. DO NOT angle nozzles forward into the airstream and DO NOT increase spray volume by increasing nozzle pressure. Coarse sprays are less likely to drift, therefore, avoid combinations of pressure and nozzle type that result in fine particles (mist). DO NOT apply during periods of dead calm or when wind velocity and direction pose a risk of spray drift. DO NOT spray when the wind is blowing towards a nearby sensitive crop, garden, terrestrial habitat (such as shelter-belt) or aquatic habitat.

### **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, obtain technical advice from the distributor or your provincial agricultural representative. Application of this specific product must meet and/or conform to the following: Volume: Apply the recommended rate in a spray volume of 30-100 L/ha.

Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove residues of **DISRUPTOR 360 GLYPHOSATE HERBICIDE** accumulated during spraying or from spills. **PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART. LANDING GEARS ARE MOST SUSCEPTIBLE.** The maintenance of an organic coating (paint) which meets aerospace specification MIL-C-38412 may prevent corrosion.

### **AGRICULTURAL AND CROPLAND USES**

The following are use situations for **DISRUPTOR 360 GLYPHOSATE HERBICIDE**. The type of vegetation present and the use situation will dictate the choice of application equipment. Information on the equipment selected to apply **DISRUPTOR 360 GLYPHOSATE HERBICIDE** can be found in the APPLICATION EQUIPMENT AND MIXING INSTRUCTIONS section. Use rates can then be selected from the ANNUAL and PERENNIAL WEED CONTROL charts.

#### **PREPLANT TREATMENT**

**DISRUPTOR 360 GLYPHOSATE HERBICIDE** can be applied prior to planting of all crops for control of emerged weeds listed on the label. Ensure weeds are at the recommended growth stage at the time of application. Apply BEFORE seeding or transplanting crop.

#### **SUMMER FALLOW**

**DISRUPTOR 360 GLYPHOSATE HERBICIDE** may be applied in summer fallow to control weeds listed on the label. Ensure weeds are at the recommended growth stage and actively growing at the time of application. Reduced control may result if weeds are drought stressed. Repeat treatments may be necessary to control later germinating weeds.

**MINIMUM AND ZERO TILLAGE SYSTEMS  
(ALL FIELD CROPS INCLUDING CEREALS, OILSEEDS, PULSES, FORAGES AND CORN)**

**DISRUPTOR 360 GLYPHOSATE HERBICIDE** may be applied before or after seeding but before crop emerges for control of emerged weeds in minimum and zero tillage cropping systems for all field crops. Weeds should be treated at the growth stage according to the ANNUAL and PERENNIAL WEED CONTROL charts. **DO NOT APPLY AFTER CROP EMERGENCE.**

Since **DISRUPTOR 360 GLYPHOSATE HERBICIDE** does not provide residual control, application too far in advance of seeding may allow weeds to germinate between application and crop emergence.

**MINIMUM AND ZERO TILLAGE TANK MIXES**

**DISRUPTOR 360 GLYPHOSATE HERBICIDE** plus Pardner (bromoxynil) can be applied prior to seeding or after seeding, but before crop emergence in wheat, barley, and oats. See chart on TANK MIXES for ANNUAL WEED CONTROL.

**DISRUPTOR 360 GLYPHOSATE HERBICIDE** plus Pursuit can be applied before or after seeding, but prior to crop emergence in soybeans. **DISRUPTOR 360 GLYPHOSATE HERBICIDE** will control emerged weeds listed on this label when applied as directed (see VEGETATION CONTROLLED lists). Pursuit will control weeds germinating from seed. Add the recommended rates of both products in 100 L of water/ha following the instructions on the Pursuit herbicide label.

Refer to the Pursuit label for further information on weeds controlled, application directions, and use precautions. Only SOYBEANS, FIELD CORN, SPRING BARLEY, SPRING WHEAT and WINTER WHEAT may be planted the season following a Pursuit application. Winter wheat may be planted the same year as a Pursuit application to soybeans, but not earlier than 120 days after the application.

**DO NOT APPLY AFTER CROP EMERGENCE.**

**Table 5: DISRUPTOR 360 GLYPHOSATE HERBICIDE TANK MIXES for ANNUAL WEED CONTROL: Summer fallow & minimum tillage systems treatment rates**

Tank Mixture:	DISRUPTOR 360 GLYPHOSATE HERBICIDE	Banvel or Oracle
Rate (L/Ha)	0.75 - 1.0	0.29
Weeds Controlled ++	Volunteer cereals, wild oats, green foxtail, volunteer canola (rapeseed), wild mustard, flixweed*, lamb's quarters, lady's thumb, stinkweed, kochia, Russian thistle, cow cockle, redroot pigweed**, wild buckwheat**	
COMMENTS: (Apply in 50-100 L/ha water; add 350 mL/ha surfactant)	<p><b>This tank mix for summer fallow use only.</b> Weeds should be less than 15 cm tall and actively growing. Use higher rate if weeds are taller than 8 cm.</p> <p>* <b>DISRUPTOR 360 GLYPHOSATE HERBICIDE</b> applied at 1.0 L/ha rate only.</p> <p>** Suppression only. See other tank mixtures for control options.</p>	

Tank Mixture:	DISRUPTOR 360 GLYPHOSATE HERBICIDE	Pardner
Rate (L/Ha)	0.75 - 1.0	1.25
Weeds Controlled ++	Volunteer cereals, green foxtail, volunteer canola (rapeseed), wild mustard, lady's thumb, stinkweed, wild buckwheat*, redroot pigweed**, kochia**, wild oats**	
COMMENTS: (Apply in 50-100 L/ha water; add 350 mL/ha surfactant)	<p>This tank mix for summer fallow use; and prior to planting wheat, oats, and barley in minimum tillage systems.</p> <p>Weeds should be less than 15 cm tall and actively growing. Use higher rate if weeds are taller than 8 cm.</p> <p>* Use <b>DISRUPTOR 360 GLYPHOSATE HERBICIDE</b> at 1.0L/ha rate for wild buckwheat control.</p> <p>** 1.0L/ha rate, suppression only. See other tank mixtures for control options.</p>	

<b>Tank Mixture:</b>	<b>DISRUPTOR 360 GLYPHOSATE HERBICIDE</b>	<b>2,4-D #</b>
<b>Rate (L/Ha)</b>	0.75 – 1.0	1.2
<b>Weeds Controlled ++</b>	Volunteer cereals, wild oats*, green foxtail*, volunteer canola, wild mustard, flixweed, redroot pigweed, green smartweed, stinkweed, kochia, common lamb's-quarters**, Russian thistle**	
<b>COMMENTS: (Apply in 50-100 L/ha water; add 350 mL/ha surfactant)</b>	<p><b>Tank mix for summer fallow only.</b> Weeds should be less than 15 cm in height and actively growing. Use the higher rate if weeds are over 8 cm in height.</p> <p>* Use DISRUPTOR 360 GLYPHOSATE HERBICIDE at 1.0 L per ha rate only for control of wild oats and green foxtail.</p> <p>** Suppression only. See other possible tank mixes for control options.</p>	

# 0.56 kg ai/ha of 2,4-D. Adjust rates accordingly for other 2,4-D formulations. Use only low volatile ester or amine formulations of 2,4-D.

++ For foxtail barley suppression, refer to chart on ANNUAL WEED CONTROL.

NOTE: All **DISRUPTOR 360 GLYPHOSATE HERBICIDE** tank mixtures for annual weed control require the addition of a non-ionic surfactant registered for this use, such as Agral 90, AgSurf and Companion. Surfactant should be added at a rate of 350 mL per hectare in 50-100 L of clean water.

**Table 6: DISRUPTOR 360 GLYPHOSATE HERBICIDE: Tank mixtures for perennial weed control summer fallow or fall stubble**

<b>Tank Mixture:</b>	<b>DISRUPTOR 360 GLYPHOSATE HERBICIDE</b>	Banvel or Oracle
<b>Rate (L/Ha)</b>	1.7 L/ha	1.25 L/ha
<b>Weeds Controlled</b>	Canada thistle, perennial sow thistle	
<b>COMMENTS: (Apply in 50-100 L/ha water; add 350 mL/ha surfactant)</b>	<p>Summer fallow: Cultivate in the spring and apply when majority of thistles are 15 to 25 cm tall, and before the bud stage. Cultivate 3 weeks after application.</p> <p>Fall stubble: Apply to actively growing thistles at least 2 weeks prior to a killing frost.</p>	

NOTE: All **DISRUPTOR 360 GLYPHOSATE HERBICIDE** tank mixtures for perennial weed control require the addition of a non-ionic surfactant registered for this use, such as Agral 90, AgSurf, or Companion.

Grow only cereals, canola (including rapeseed), soybeans, field corn, sweet corn, or white beans after application of this tank mix.

If application is made after September 1st, or if soil moisture levels are extremely low after application, crop injury may occur in the spring following application.

#### FALL STUBBLE

Apply in the fall as a postharvest stubble treatment for control of perennial weeds including quack grass and Canada thistle. Allow the Canada thistle and quack grass to regrow to 20-25 cm tall. Straw should be removed or evenly spread to allow for proper regrowth and spray coverage. Heavy frost prior to treatment may decrease control.

#### SPOT TREATMENT (IN CROP)

**DISRUPTOR 360 GLYPHOSATE HERBICIDE** may be applied for the control of Canada thistle, quack grass and other perennial weeds in forage crops, barley, wheat, oats, soybeans and legumes, including seed production. Treatments may be made up to heading of small grain, initial pod set on soybeans and legumes, silking of corn, and emergence of seed heads. Avoid drift beyond the treated area.

Application can be made using a boom sprayer, knapsack, or high volume equipment (see APPLICATION AND MIXING INSTRUCTIONS section). Applications should be made using the same growth stages as listed in the ANNUAL and PERENNIAL WEED CONTROL charts. Or, use a 1% solution for annual weeds and quack grass and a 2% solution for other perennial weeds (a 1% solution equals 1 litre **DISRUPTOR 360 GLYPHOSATE HERBICIDE** in 100 litres of spray solution). The 1% and 2% solutions should be applied to wet, but not to run off.

NOTE: THE CROP IN THE TREATED AREA WILL BE KILLED BY THE TREATMENT.

DO NOT APPLY IF CROP GROWTH HAS ADVANCED BEYOND SEED SET. ALLOW 3 TO 5 DAYS BEFORE GRAZING IN, OR HARVESTING TREATED AREAS AS FORAGES.

#### **FORAGE GRASSES AND LEGUMES**

Use **DISRUPTOR 360 GLYPHOSATE HERBICIDE** to control or suppress existing vegetation prior to emergence of legumes and grasses. If legumes and grasses are underseeded with a cover crop, **DISRUPTOR 360 GLYPHOSATE HERBICIDE** must be applied prior to planting any cover crop.

#### **PASTURE RENOVATION**

**DISRUPTOR 360 GLYPHOSATE HERBICIDE** may be used to control or suppress existing vegetation for zero tillage seeding of legume or grass pasture into established sod for renovation. Weed growth should be at least 20 cm high and most weed seeds should have germinated at the time of spraying.

#### **FORAGE SEED PRODUCTION (FOR SPOT TREATMENT)**

**DISRUPTOR 360 GLYPHOSATE HERBICIDE** may be applied as a spot treatment for control of perennial weeds such as quack grass and Canada thistle in seed fields. Apply to weeds at least 20-25 cm in height but before emergence of seed head.

The crop in the treated area will be killed. For this reason, take particular care to avoid drift outside the treated area.

#### **PREHARVEST CONTROL OF QUACKGRASS, CANADA THISTLE, DANDELION, TOADFLAX and MILKWEED; SEASON-LONG CONTROL OF PERENNIAL SOW THISTLE, AND HARVEST MANAGEMENT**

For control of quack grass, Canada thistle, dandelion, toadflax and common milkweed, and season-long control of perennial sow thistle, **DISRUPTOR 360 GLYPHOSATE HERBICIDE** can be applied prior to harvest of wheat, barley (including malting barley), oats, canola (rapeseed), flax (including low-linolenic acid varieties), lentils, peas, dry beans and soybeans. DO NOT apply to crops grown for seed production.

This treatment may also provide harvest management benefits, by drying down crop and weed vegetative growth, for example, where late flushes of annual weeds, green vegetative crop growth, or late tilling may interfere with harvest operations. EXTREMELY COOL, WET AND/OR CLOUDY WEATHER CONDITIONS BETWEEN THE TIME OF APPLICATION AND THE ANTICIPATED HARVEST DATE MAY SLOW DOWN THE ACTIVITY OF THIS PRODUCT, THEREBY DELAYING CROP DRYDOWN AND HARVEST DATE.

**DISRUPTOR 360 GLYPHOSATE HERBICIDE** should be applied pre-harvest at 2.5 L/ha in 50 to 100 L/ha of clean water, by GROUND APPLICATION ONLY.

**When to Apply:** Apply only when the crop has 30% or less grain moisture content. This stage typically occurs 7 to 14 days before harvest. Consult the GUIDELINES FOR TIMING OF PREHARVEST APPLICATIONS chart for visual indicators of this stage in each crop. For the best weed control results quack grass should be actively growing and have at least 4 to 5 green leaves. Canada thistle and perennial sow thistle should be actively growing and at or beyond the bud stage for best results. Common milkweed should be at the bud to bloom stage and actively growing for best results. Applications for weed control (not for harvest management) must be made at the correct stage of both weed and crop growth. Apply only during the period 7-14 days before harvest to ensure best weed control and to maximize harvest management benefits. Earlier application may reduce crop yield and/or quality, and may lead to excess glyphosate residues in the crop.

DO NOT expose or contaminate any body of water or non-target vegetation by direct application, spray drift, or when cleaning and rinsing spray equipment.

**\*DO NOT APPLY USING AERIAL EQUIPMENT**

**Table 7: Guidelines for timing of preharvest applications**

<b>CROP(S)</b>	<b>PERCENT GRAIN MOISTURE</b>	<b>VISUAL INDICATORS</b>
Wheat, barley, oats	Less than 30	Hard dough stage; a thumbnail impression remains on seed.
Canola (including glyphosate tolerant varieties)	Less than 30	Pods are green to yellow; most seeds are yellow to brown.
Flax (including low-linolenic acid varieties)	Less than 30	Majority (75%-80%) of bolls are brown.
Peas	Less than 30	Majority (75%-80%) of pods are brown.
Lentils	Less than 30	Lowermost pods (bottom 15%) are brown and seeds rattle.
Dry beans	Less than 30	Stems are green to brown in colour, pods are mature (yellow to brown in colour); 80%-90% leaf drop (original leaves).
Soybeans	Less than 30	Stems are green to brown in colour; pod tissue is dry and brown in appearance; 80%-90% leaf drop.
Forages	Not applicable	Normal stage for forage harvesting.

Refer to the general guidelines for aerial application as well as specific instructions in this section.

## RESTRICTED USE

### AERIAL PREHARVEST APPLICATION FOR PRAIRIE PROVINCES ONLY (Including PEACE RIVER REGION OF B.C.)

**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.

**NATURE OF RESTRICTION:** This product is to be used only in the manner authorized. For use only by aerial applicators and aerial application services approved by the provincial regulatory agency to apply this product with aerial application equipment. To qualify for consideration of provincial approval, the following requirements must be demonstrated to the provincial regulatory agency:

1. Aircraft used in the application of this product must have been configured and calibrated to acceptable standards at a recognized calibration (patterning) clinic within 20 months of the date of application. The spray system must not have been subjected to major changes (new nozzles, booms or configurations) since the calibration, and must meet critical drift management standards e.g. maximum boom width 65% of wing span; nozzle type, size and orientation to minimize drift and deliver droplet size VMD in the coarse (400 - 600 microns) or very coarse (600 - 1000 microns) range.
2. Aircraft used in the application of this product must carry a minimum of \$25,000 drift insurance in addition to any provincial requirements for general comprehensive insurance coverage.
3. Applicators using this product must have successfully completed a **DISRUPTOR 360 GLYPHOSATE HERBICIDE** aerial application training course.
4. Aerial application services applying this product must employ on staff at least one pilot applicator with at least 250 hours of actual aerial application time and a minimum of 100 hours within the last 24 month period. All pilots who DO NOT meet the minimum experience standard must work under the direct daily supervision of a qualified pilot.

## DIRECTIONS FOR USE

**DISRUPTOR 360 GLYPHOSATE HERBICIDE** may be applied with aerial application equipment for control of quack grass, Canada thistle, common milkweed, toadflax and dandelion, and season-long control of perennial sow thistle. **DISRUPTOR 360 GLYPHOSATE HERBICIDE** can be applied prior to harvest of wheat, barley (including malting barley), oats, canola (rapeseed), flax (including low-linoleic acid varieties), lentils, peas, dry beans, and soybeans. DO NOT apply to any crops if grown for seed production.

This treatment may also provide harvest management benefits, by drying down crop and weed vegetative growth, for example, where late flushes of annual weeds, green vegetative crop growth, or late tillering may interfere with harvest operations.

EXTREMELY COOL, WET AND/OR CLOUDY WEATHER CONDITIONS BETWEEN THE TIME OF APPLICATION AND THE ANTICIPATED HARVEST DATE MAY SLOW DOWN ACTIVITY OF THIS PRODUCT, THEREBY DELAYING CROP DRYDOWN AND HARVEST DATE.

**DISRUPTOR 360 GLYPHOSATE HERBICIDE** should be applied at 2.5 L/ha in 20 - 50 L/ha of clean water with aerial application equipment. Apply only when the crop has 30% or less grain moisture content. This stage typically occurs 7 to 14 days before harvest. Consult the table GUIDELINES FOR TIMING OF PREHARVEST APPLICATIONS for visible indicators of this stage in each crop. For the best weed control results quack grass should be actively growing and have at least 4 to 5 green leaves. Canada thistle and perennial sow thistle should be actively growing and at or beyond the bud stage for best results. Common milkweed should be at the bud to bloom stage and actively growing for best results. Applications for weed control (not for harvest management) must be made at the correct stage of both weed and crop growth.

Apply only during the period 7 - 14 days before harvest to ensure best weed control and to maximize harvest management benefits. Earlier application may reduce crop yield and/or quality, and may lead to excess glyphosate residues in the crop.



**Table 8: GUIDELINES FOR TIMING OF PREHARVEST APPLICATIONS (restricted use)**

CROP(S)	PERCENT GRAIN MOISTURE	VISUAL INDICATORS
Wheat, barley, oats	Less than 30	Hard dough stage; a thumbnail impression remains on seed.
Canola	Less than 30	Pods are green to yellow; most seeds are yellow to brown.
Flax (including low-linolenic acid varieties)	Less than 30	Majority (75%-80%) of bolls are brown.
Forages	Not applicable	Normal stage for forage harvesting.
Peas	Less than 30	Majority (75%-80%) of pods are brown.
Lentils	Less than 30	Lowermost pods (bottom 15%) are brown and seeds rattle.
Dry beans	Less than 30	Stems are green to brown in colour, pods are mature (yellow to brown in colour); 80%-90% leaf drop (original leaves).
Soybeans (including glyphosate tolerant varieties)	Less than 30	Stems are green to brown in colour; pod tissue is dry and brown in appearance; 80%-90% leaf drop.

**USE PRECAUTIONS:**

AVOID DRIFT ON TO IMPORTANT WILDLIFE HABITATS. EXTREME CARE MUST BE TAKEN WHEN APPLYING THIS PRODUCT TO PREVENT INJURING DESIRABLE PLANTS AND CROPS.

Apply only in wind conditions in compliance with local and/or provincial regulations. DO NOT apply when other climatic conditions, including lesser wind velocities, will allow significant drift to occur.

Coarse sprays are less likely to drift, therefore DO NOT use nozzles or nozzle configurations which disperse spray as fine spray droplets. DO NOT angle nozzles forward into the airstream and DO NOT increase spray volume by increasing nozzle pressure. See # 1 of the NATURE OF RESTRICTION section for additional details.

Ensure uniform application - To avoid streaked, uneven or overlapped application, use appropriate marking devices, or equivalent electronic positioning systems (GPS). Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove residues of this product accumulated during spraying or from spills.

**PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART. LANDING GEAR IS MOST SUSCEPTIBLE.**

The maintenance of an organic coating (paint) which meets aerospace specification MILC-38412 may prevent corrosion.

**TREE, VINE, and BERRY CROPS**

**DISRUPTOR 360 GLYPHOSATE HERBICIDE** controls annual and perennial weeds in established vineyards or orchards, in blueberry, cranberry, and strawberry, or for site preparation prior to transplanting tree or vine crops. See chart on WEED CONTROL IN TREE, BERRY, AND VINE CROPS for rate and time of application information.

This product does not provide residual or pre-emergent weed control. Repeat applications may be necessary to control weeds originating from underground parts of untreated weeds or from seeds. For subsequent weed control, follow a program using residual herbicides or use repeated applications of **DISRUPTOR 360 GLYPHOSATE HERBICIDE**.

DO NOT APPLY MORE THAN 35 L OF **DISRUPTOR 360 GLYPHOSATE HERBICIDE** PER HECTARE PER YEAR. EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF THE HERBICIDE SOLUTION, SPRAY DRIFT OR MIST WITH FOLIAGE OR GREEN BARK OF TRUNK, BRANCHES, SUCKERS, FRUIT, CANES OF BLUEBERRY BUSHES OR OTHER PARTS OF TREES OR VINES. CONTACT OF THIS PRODUCT WITH OTHER THAN MATURE BROWN BARK CAN RESULT IN SERIOUS CROP DAMAGE.

Allow annual and perennial weeds that have been mowed, grazed, or cut, time to regrow to recommended growth stage for treatment.

Applications may be made with boom sprayer, shielded sprayers, hand held and high volume orchard guns, or with wiper, wick, or roller equipment (orchards, vineyards, cranberry and strawberry only).

**TREE PLANTING - Shelterbelts, Nursery Stock, Woody Ornamentals**

**DISRUPTOR 360 GLYPHOSATE HERBICIDE** may be applied to control annual and perennial weeds listed on this label. This may be used for site preparation prior to establishing plantations, or as a post directed spray in established plantations of the following species:

**Table 9: Trees where DISRUPTOR 360 GLYPHOSATE HERBICIDE may be applied to control**

Deciduous Trees	
Name	Genus and Species
Ash	<i>Fraxinus spp.</i>
Caragana	<i>Caragana spp.</i>
Cherry	<i>Prunus spp.</i>
Elm	<i>Ulmus spp.</i>
Lilac	<i>Syringa spp.</i>
Maple	<i>Acer spp.</i>
Mountain ash	<i>Sorbus americana</i>
Poplar	<i>Populus spp.</i>
Russian olive	<i>Elaeagnus spp.</i>
Willow	<i>Salix spp.</i>

Coniferous Trees	
Name	Genus and Species
Fir	<i>Abies spp.</i>
Juniper	<i>Juniperus spp.</i>
Pine	<i>Pinus spp.</i>
Spruce	<i>Picea spp.</i>
Yew	<i>Taxus spp.</i>

SPRAY MAY CONTACT MATURE BROWN BARK ONLY.

Avoid contact with non-target plants, foliage, or suckers of established plantations

**NOTE:** This product is not recommended for use as an over-the-top broadcast spray in forest tree nurseries or in Christmas tree plantations. Application in such sites should be limited to directed sprays. DO NOT treat Christmas tree plantations in the year of anticipated harvest.

**GLYPHOSATE TOLERANT CROPS**

**WEED CONTROL IN GLYPHOSATE TOLERANT CANOLA (I.E., VARIETIES WITH THE ROUNDUP READY GENE).**

WARNING: APPLY **DISRUPTOR 360 GLYPHOSATE HERBICIDE** ON GLYPHOSATE TOLERANT CANOLA VARIETIES ONLY (I.E., VARIETIES WITH THE ROUNDUP READY GENE).

NOTE: ALWAYS USE PEDIGREED (I.E., CERTIFIED) GLYPHOSATE TOLERANT CANOLA SEED. CANOLA WHICH IS NOT DESIGNATED AS GLYPHOSATE TOLERANT WILL BE DAMAGED OR DESTROYED BY THIS TREATMENT.

- For additional information and precautions refer to the **GENERAL PRODUCT INFORMATION, GENERAL APPLICATION NOTES,** and **APPLICATION EQUIPMENT AND MIXING INSTRUCTIONS** sections.
- Apply **DISRUPTOR 360 GLYPHOSATE HERBICIDE** in glyphosate tolerant canola only as directed in the following weed control table.
- Some short-term, visible yellowing may occur when **DISRUPTOR 360 GLYPHOSATE HERBICIDE** is applied at the late growth stage (4-6 leaves) of the crop. This effect is temporary and will not influence crop growth, maturity or yield.

DO NOT APPLY USING AERIAL EQUIPMENT

The following table describes the rate and specific application instructions for control of annual and perennial weeds in glyphosate tolerant canola varieties.

**Table 10 WEED CONTROL IN CANOLA WITH THE ROUNDUP READY GENE**

<b>DISRUPTOR 360 GLYPHOSATE HERBICIDE</b>	
<b>Rate (L/Ha)</b>	0.825 – 1.875
<b>GROWTH STAGE OF CROP</b>	0 to 6 leaf
<b>Weeds Controlled</b>	<p><b><u>Annual Grasses</u></b> Wild oats, green foxtail, volunteer barley, volunteer wheat, barnyard grass</p> <p><b><u>Annual Broadleaves</u></b> Stinkweed, redroot pigweed, wild mustard, Russian thistle, lamb's quarters, non-glyphosate tolerant volunteer canola (rapeseed), hemp nettle, lady's thumb, kochia, chickweed, corn spurry, wild tomato, cleavers*, wild buckwheat*, shepherd's purse*, cow cockle*, night-flowering catchfly*, smartweed*, storksbill*, flixweed*, narrow-leaf hawk's beard*, roundleaf, mallow* * *</p> <p><b><u>Perennials (suppression)**</u></b> Canada thistle, perennial sow thistle, dandelion</p> <p><b><u>Perennials (season-long control)</u></b> Quack grass**, foxtail barley***, Canada thistle****, perennial sow thistle*</p>
<b>Comments</b>  (Apply in 50 – 100 L/Ha Water)	<p>Repeat applications may be required if a second flush of weeds germinate prior to canopy closure. Ensure the crop has not advanced beyond the recommended growth stage.</p> <p>* Use the 1.25 L/ha rate for control of these weeds at all crop growth stages. The lower rate can be used for control of shepherd's purse, cow cockle and night-flowering catchfly at the 1-3 leaf stage of the crop or for control of smartweed at the 4-6 leaf stage.</p> <p>** <b>A single application at the 1.25 L/ha rate is required.</b></p> <p>*** <b>Sequential applications at the 1.25 L/ha rate are required.</b></p> <p>**** <b>Sequential applications at the 1.25 L/ha rate are required or a single application of 1.875 L/ha.</b></p> <ul style="list-style-type: none"> <li>• For sequential applications ensure the crop has not advanced beyond the recommended growth stage.</li> <li>• Maximum 2.5 L/ha is allowed for the postemergence use.</li> </ul>

**TANK MIXTURES**

For season long control of top growth of Canada thistle and control of wild buckwheat in glyphosate tolerant canola (i.e., varieties with the Roundup Ready Gene), apply a tank mixture of 0.28 L/ha of Lontrel™ 360 with 1.25 L/ha of **DISRUPTOR 360 GLYPHOSATE HERBICIDE**, in 100 litres of water per hectare. Apply when canola is in the 2-6 leaf stage. Refer to the Lontrel 360 and to the **DISRUPTOR 360 GLYPHOSATE HERBICIDE** labels for a list of other weeds controlled, timing of application, water volumes and use precautions.

**WEED CONTROL IN GLYPHOSATE TOLERANT SOYBEAN (I.E., VARIETIES WITH THE ROUNDUP READY GENE).**

WARNING: APPLY **DISRUPTOR 360 GLYPHOSATE HERBICIDE** ON GLYPHOSATE TOLERANT SOYBEAN VARIETIES ONLY (I.E., VARIETIES WITH THE ROUNDUP READY GENE).

NOTE: ALWAYS USE PEDIGREED (I.E., CERTIFIED) SOYBEAN SEED DESIGNATED AS GLYPHOSATE TOLERANT. SOYBEANS WHICH ARE NOT DESIGNATED AS GLYPHOSATE TOLERANT WILL BE DAMAGED OR DESTROYED BY THIS TREATMENT.

DO NOT APPLY BY AIR.

**Table 11: WEED CONTROL IN SOYBEAN WITH THE ROUNDUP READY GENE**

<b>DISRUPTOR 360 GLYPHOSATE HERBICIDE</b>	
<b>Rate (L/ha)</b>	2.5
<b>GROWTH STAGE OF CROP</b>	First trifoliate leaf stage through flowering
<b>Weeds Controlled</b>	Velvetleaf, common ragweed, common lamb's quarters, redroot pigweed, smooth pigweed, cocklebur, green smartweed, lady's thumb, Pennsylvania smartweed, eastern black flowering nightshade, wild mustard, wild buckwheat, foxtail (green, yellow, giant), barnyard grass, crabgrass (smooth, large), quack grass, milkweed*, yellow nutsedge*, fall panicum, wild proso millet
<b>Comments (Use 100- 200 L/ha Water)</b>	A second 2.5 L/ha application may be used for late weed flushes emerging after the initial treatment. This second application must be made no later than the flowering stage of the soybean. * Suppression only
<b>Rate (L/ha)</b>	2.5 - 5.0
<b>GROWTH STAGE OF CROP</b>	First trifoliate leaf stage through flowering
<b>Weeds Controlled</b>	Perennial sow thistle, Canada thistle, wire- stemmed muhly
<b>Comments (Use 100- 200 L/ha Water)</b>	A single application at the higher rate or a second (sequential) application of 2.5 L/ha will improve control in heavy weed infestations. If sequential applications of 2.5 L/ha are used they should be at least 2 weeks apart for best results on perennial weeds. This second application must be made no later than the flowering stage of the soybean. Perennial sow thistle and Canada thistle should be from the rosette stage to 50 cm in height and actively growing. Wire-stemmed muhly should be 10-20 cm in height and actively growing. Plants not fully emerged at the time of application will escape the treatment.
<b>Rate (L/ha)</b>	5.0
<b>GROWTH STAGE OF CROP</b>	First trifoliate leaf stage through flowering
<b>Weeds Controlled</b>	All weeds listed above, plus milkweed**, yellow nutsedge**, field bindweed* *
<b>Comments (Use 100- 200 L/ha Water)</b>	Only one application per season at 5.0L/ha. ** Will also be controlled by sequential applications of 2.5 L/ha. Applications should be at least 2 weeks apart for optimum control. This second application must be made no later than the flowering stage of the soybean. Milkweed should be 15-60 cm in height and actively growing; nutsedge should be 5-15 cm in height and actively growing. Plants not fully emerged at time of treatment will not be controlled.

Weeds will be more easily controlled and early crop competition avoided with applications made when the weeds are small. Control of annual weeds greater than 25 cm in height will be inconsistent, although some weeds may be controlled.

#### **Tank Mixtures for Roundup Ready Soybeans**

For added residual control of late germinating eastern black nightshade, common lamb's quarters, redroot pigweed, velvetleaf, fall panicum and wild proso millet, Pursuit herbicide may be tank mixed with **DISRUPTOR 360 GLYPHOSATE HERBICIDE** at a rate of 2.5 litres per hectare. Use 0.16 to 0.21 litres per hectare of Pursuit and apply up to and including the 3rd trifoliate leaf stage of the Roundup Ready soybeans in 100-200 litres per hectare of clean water. The higher rate is recommended for heavier infestations. This tank mix is recommended primarily for soybean systems with row spacings of 50 centimetres (20 inches) or more where a single application timing is desired.

Mixing: Add and mix Pursuit as per instructions on the Pursuit label and then add **DISRUPTOR 360 GLYPHOSATE HERBICIDE** as per instructions on this label.

A PHI of 100 days is required for the tank mix of **DISRUPTOR 360 GLYPHOSATE HERBICIDE** and Pursuit herbicide on glyphosate tolerant soybeans.

Only one application per season of **DISRUPTOR 360 GLYPHOSATE HERBICIDE** at 2.5 litres per hectare tank mixed with Pursuit herbicide at 0.16 to 0.21 litres per hectare is permitted. Refer to the Pursuit herbicide label for further safety precautions and handling instructions.

**Table 12: DISRUPTOR 360 GLYPHOSATE HERBICIDE plus Assure™ II Herbicide**

Tank Mixture:	DISRUPTOR 360 GLYPHOSATE HERBICIDE	Assure II Herbicide
Rate (L/Ha)	2.5–5.0 L/ha	0.38 L/ha
Growth Stage of the Crop	First trifoliolate leaf stage through flowering.	
Weeds Controlled	Volunteer Roundup Ready Corn Apply at the 2-6 leaf stage of the weed.	
COMMENTS:	See additional information following this table.	

Weeds will be more easily controlled and early crop competition avoided with applications made when the weeds are small. Control of annual weeds greater than 25 cm in height will be inconsistent, although some weeds may be controlled.

#### **Volunteer Roundup Ready Corn Control**

For control of volunteer Roundup Ready Corn, Assure II Herbicide may be tank mixed with **DISRUPTOR 360 GLYPHOSATE HERBICIDE**. Use 2.5 – 5.0 litres per hectare of **DISRUPTOR 360 GLYPHOSATE HERBICIDE** and 0.38 litre per hectare of Assure II Herbicide. Apply in 100 – 300 litres per hectare of clean water.

Mixing: Add and mix Assure II Herbicide as per instructions on the Assure II Herbicide label and then add **DISRUPTOR 360 GLYPHOSATE HERBICIDE** as per instructions on this label.

This tank mix is to be applied when the crop is from the first trifoliolate leaf stage through flowering and when the volunteer Roundup Ready Corn is at the 2-6 leaf stage.

A preharvest interval of 80 days is required for the tank mix of **DISRUPTOR 360 GLYPHOSATE HERBICIDE** and Assure II Herbicide on Roundup Ready (glyphosate tolerant) soybeans.

Refer to the Assure II Herbicide label for further safety precautions and handling instructions.

#### **WEED CONTROL IN GLYPHOSATE TOLERANT CORN I.E., VARIETIES WITH THE ROUNDUP READY GENE**

WARNING: APPLY **DISRUPTOR 360 GLYPHOSATE HERBICIDE** ON GLYPHOSATE TOLERANT CORN VARIETIES ONLY; I.E., VARIETIES WITH THE ROUNDUP READY GENE.

NOTE: ALWAYS USE PEDIGREED (I.E., CERTIFIED) CORN SEED DESIGNATED AS GLYPHOSATE TOLERANT. CORN WHICH IS NOT DESIGNATED AS GLYPHOSATE TOLERANT WILL BE DAMAGED OR DESTROYED BY THIS TREATMENT.

DO NOT APPLY BY AIR.

**Table 13: Weed Control In Corn With The Roundup Ready Gene**

<b>DISRUPTOR 360 GLYPHOSATE HERBICIDE</b>	
<b>Rate (L/Ha)</b>	2.5
<b>GROWTH STAGE OF CROP</b>	Up to and including 8-leaf stage
<b>Weeds Controlled*</b>	Velvetleaf, common ragweed, common lamb's quarters, redroot pigweed, smooth pigweed, cocklebur, green smartweed, lady's thumb, Pennsylvania smartweed, eastern black flowering nightshade, wild mustard, wild buckwheat, foxtail (green, yellow, giant), barnyard grass, crabgrass (smooth, large), quack grass, fall panicum, wild proso millet, wild oats, volunteer barley, volunteer wheat, stinkweed, Russian thistle, non-glyphosate tolerant canola (rapeseed), hemp nettle, kochia, chickweed, corn spurry, wild tomato, cleavers, shepherd's purse, cow cockle, night flowering catchfly, storksbill, flixweed, narrow-leaved hawk's beard
<b>Comments (Use 100- 200 L/Ha Water)</b>	<ul style="list-style-type: none"> <li>• A second application may be used for late weed flushes emerging after the initial treatment. This second application must be made no later than the 8-leaf stage of the corn.</li> </ul>
<b>Rate (L/Ha)</b>	2.5
<b>GROWTH STAGE OF CROP</b>	Up to and including 8-leaf stage
<b>Weeds Controlled*</b>	Common milkweed, yellow nutsedge, round leaved mallow, field bindweed
<b>Comments (Use 100- 200 L/Ha Water)</b>	<ul style="list-style-type: none"> <li>• For control of common milkweed, yellow nutsedge, round leaved mallow and field bindweed use two applications of 2.5 L/ha.</li> <li>• This second application must be made no later than the 8-leaf stage of the corn.</li> <li>• Milkweed should be 15-60 cm in height and actively growing.</li> <li>• Yellow nutsedge should be 5-15 cm in height and actively growing.</li> </ul>
<b>Rate (L/Ha)</b>	2.5
<b>GROWTH STAGE OF CROP</b>	Up to and including 8-leaf stage
<b>Weeds Controlled*</b>	Perennial sow thistle, Canada thistle, wire stemmed muhly
<b>Comments (Use 100- 200 L/Ha Water)</b>	<ul style="list-style-type: none"> <li>• A second (sequential) application of 2.5 L/ha will improve control in heavy weed infestations.</li> <li>• If sequential applications are used they should be at least 2 weeks apart for best results on perennial weeds.</li> <li>• This second application must be made no later than the 8 leaf stage of the corn.</li> <li>• Perennial sow thistle and Canada thistle should be from the rosette stage to 50 cm in height and actively growing.</li> <li>• Wire-stemmed muhly should be 10-20 cm in height and actively growing.</li> <li>• Plants not fully emerged at the time of application will escape treatment.</li> </ul>

\* Weeds will be more easily controlled and early crop competition avoided with applications made when the weeds are small. Control of weeds greater than 25 cm in height will be inconsistent, although some weeds may be controlled.

**Tank Mixtures**

For tank mixtures, add either atrazine or Marksman® Herbicide according to instructions on the product label, and then add **DISRUPTOR 360 GLYPHOSATE HERBICIDE** according to instructions on this label. Refer to the atrazine and Marksman Herbicide product labels for further safety precautions and product handling instructions.

DO NOT APPLY BY AIR.

**Table 14: DISRUPTOR 360 GLYPHOSATE HERBICIDE Tank Mixes**

Tank Mixture:	DISRUPTOR 360 GLYPHOSATE HERBICIDE	atrazine*
Rate (L/Ha)	2.5	0.75–1.0 kg ai/ha
Growth Stage of the Crop	Up to and including the 5 <sup>th</sup> leaf stage.	
Weeds Controlled**	Residual control of lamb's-quarters, redroot pigweed, common ragweed	
COMMENTS (use 100-200 L/ha water volumes)	Tank mix should be used when only a single application timing is desired. Use the higher rate of atrazine for heavier weed infestations.	

Tank Mixture:	DISRUPTOR 360 GLYPHOSATE HERBICIDE	Marksman Herbicide
Rate (L/Ha)	2.5	2.5–3.7
Growth Stage of the Crop	Up to and including the 5 <sup>th</sup> leaf stage	
Weeds Controlled**	Residual control of lamb's-quarters, redroot pigweed, common ragweed, velvetleaf	
COMMENTS (use 100-200 L/ha water volumes)	Tank mix should be used when only a single application timing is desired. Use the higher rate of Marksman Herbicide for heavier weed infestations	

\* 0.75-1.0 kg ai atrazine/ha is equivalent to 1.56-2.08 L/ha Atrazine 480, or 0.83-1.11 kg/ha Aatrex® Nine-O.

\*\* Weeds will be more easily controlled and early crop competition avoided with applications made when the weeds are small. Control of weeds greater than 25 cm in height will be inconsistent, although some weeds may be controlled.

#### **NONCROPLAND AND INDUSTRIAL USES**

When applied as recommended under the conditions described, **DISRUPTOR 360 GLYPHOSATE HERBICIDE** will control weeds in the noncropland and industrial uses as listed in the WEED CONTROL IN NONCROPLAND, INDUSTRIAL USES chart.

#### **TURFGRASS**

**DISRUPTOR 360 GLYPHOSATE HERBICIDE** may be applied to control existing vegetation prior to turfgrass establishment or renovation. DO NOT DISTURB SOIL OR UNDERGROUND PLANT PARTS BEFORE TREATMENT. Where existing vegetation is growing under field or unmowed conditions, apply **DISRUPTOR 360 GLYPHOSATE HERBICIDE** to actively growing weeds at the growth stages given in the charts on ANNUAL and PERENNIAL WEED CONTROL. Where the vegetation is growing under mowed turfgrass management, apply **DISRUPTOR 360 GLYPHOSATE HERBICIDE** after omitting at least one regular mowing to allow sufficient growth for good spray interception and translocation into underground plant parts.

Tillage or renovation techniques, such as vertical mowing, coring or slicing, should be delayed for 7 days after application to allow proper translocation into the underground plant parts. Delay establishment of the turfgrass to determine if regrowth from escaped underground plant parts occurs. When repeat treatments are necessary, sufficient weed regrowth must be attained prior to application.

#### **AVOID ALL CONTACT WITH DESIRABLE VEGETATION IN THE VICINITY OF THE RENOVATION OR ESTABLISHMENT AREA.**

#### **TREE INJECTION APPLICATIONS**

See VEGETATION CONTROLLED lists for species controlled. Trees may be controlled if **DISRUPTOR 360 GLYPHOSATE HERBICIDE** is injected directly into the trunk using suitable equipment that penetrates into the living tissue. **DISRUPTOR 360 GLYPHOSATE HERBICIDE** is to be used at a rate of 1 mL (undiluted product) per 10 cm of trunk diameter at chest height. The injections should be spaced evenly around the tree and below any major branches. Application may be done during periods of active growth and full leaf expansion.

Control of trees greater than 20 cm may not be acceptable. Total control may not be evident for 1-2 years following treatment. This treatment will only provide suppression of big-leaf maple; late fall application will provide optimum suppression of big-leaf maple.

## **CUT STUMP APPLICATIONS**

See VEGETATION CONTROLLED lists for species controlled. Woody vegetation may be controlled by the application of this product to freshly cut stumps to prevent regrowth. Application must be made using low-pressure equipment (i.e. squirt bottle). Apply **DISRUPTOR 360 GLYPHOSATE HERBICIDE** immediately to the surface of the freshly cut stump (i.e. within 5 minutes) at a rate of 0.5 mL **DISRUPTOR 360 GLYPHOSATE HERBICIDE** for every 5 cm of trunk diameter at chest height. Treat only the cambial tissues (outer edge) of the cut surface. DO NOT treat the central area of the stump, or exposed roots or bark. This treatment may be made at any time of year, except during heavy sap flow or when freezing temperatures prevent application of **DISRUPTOR 360 GLYPHOSATE HERBICIDE**. A water soluble dye added to the solution may be used as a treatment indicator. Total control may not be apparent until 1-2 years after treatment.

## **WOODY BRUSH AND TREES (FOLIAR APPLICATIONS)**

Spray coverage should be uniform and complete. DO NOT spray to the point of run off. DO NOT allow spray drift to contact desirable vegetation as severe injury or destruction may occur. For woody brush and trees, early season applications may take 30-45 days for symptoms to develop on the target species. Late season application may be made to species that have some autumn colours provided no major leaf drop has occurred. Control will be observed the following spring.

**EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF SPRAY WITH FOLIAGE OF DESIRABLE TURFGRASSES, TREES, SHRUBS, OR OTHER DESIRABLE VEGETATION SINCE SEVERE DAMAGE OR DESTRUCTION MAY RESULT.**

For woody brush and trees, apply 3 to 6 litres of **DISRUPTOR 360 GLYPHOSATE HERBICIDE** per hectare. Use ground boom or boomless equipment, or apply as a 1 to 2% solution using hand held high volume equipment. Use the 6 L/ha rate for maple, alder and willow\* species, as well as hard to control perennial weed species. (\*Suppression only).

## **INDUSTRIAL SITES, RIGHTS-OF-WAY, RECREATIONAL AND PUBLIC AREAS**

**DISRUPTOR 360 GLYPHOSATE HERBICIDE** may be applied to control brush, trees, and annual and perennial weeds listed on this label **in industrial and rights-of-way areas, such as:** railways, forest roadsides, pipelines, highways, pumping stations, petroleum tank farms, telephone and power rights-of-ways, etc., **and in recreational and public areas, such as:** parks, golf courses, schoolyards, airports and other public areas.

NOTE: For all industrial sites, rights-of-ways, recreational and public areas, repeat treatment may be necessary to control regeneration or new growth.

**EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF SPRAY WITH FOLIAGE OF DESIRABLE TURFGRASSES, TREES, SHRUBS, OR OTHER DESIRABLE VEGETATION SINCE SEVERE DAMAGE OR DESTRUCTION MAY RESULT.**

## **GROUND APPLICATION FOR ALL NON-CROPLAND USES:**

For woody brush and trees, apply **DISRUPTOR 360 GLYPHOSATE HERBICIDE** at 3 to 6 L/ha using ground boom, or boomless, or mist blower equipment. Or, apply as a 1 to 2% solution using hand-held high volume equipment. Use the higher rate for maple, alder and willow\* species, and for hard to control perennial weeds (\*suppression only). Apply as directed to foliage of actively growing vegetation. Spray coverage should be uniform and complete. DO NOT spray to the point of runoff, or allow spray drift to contact desirable vegetation as severe injury or destruction may occur.

Mowed or tilled weeds should be allowed to reach optimum growth stage at time of application.

## **DO NOT APPLY UNDER WIND OR OTHER CONDITIONS THAT ALLOW DRIFT.**

### **AERIAL APPLICATION: FOR INDUSTRIAL RIGHT-OF-WAY ONLY:**

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. Ensure uniform application. To avoid streaked, uneven or overlapped application, use appropriate marking devices. The use of a spotter plane is recommended.



### **Use Precautions Directions for Use:**

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.

DO NOT apply to any body of water. Avoid drifting of spray onto any body of water or other non-target areas. Specified buffer zones should be observed.

Coarse sprays are less likely to drift, therefore, avoid combinations of pressure and nozzle type that result in fine particles (mist). DO NOT apply during periods of dead calm or when wind velocity and direction pose a risk of spray drift. DO NOT spray when the wind is blowing towards a nearby sensitive crop, garden, terrestrial habitat (such as shelter-belt) or aquatic habitat.

### **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, obtain technical advice from your provincial agricultural representative. Application of this specific product must meet and/or conform to the following:

Volume: Apply the recommended rate in a spray volume of 30-100 L/ha

DO NOT angle nozzles forward into the air stream and DO NOT increase spray volume by increasing nozzle pressure.

Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove residues of **DISRUPTOR 360 GLYPHOSATE HERBICIDE** accumulated during spraying or from spills. **PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART. LANDING GEARS ARE MOST SUSCEPTIBLE.** The maintenance of an organic coating (paint) which meets aerospace specification MIL-C-38412 may prevent corrosion. For woody brush and trees, apply 3-6 L/ha. Use 6 L/ha for maple, alder and willow\* species, and for hard to control perennial weed species. Use the recommended rates of the herbicide in 30 to 100 litres of water per hectare. As density of vegetation increases, spray volume should be increased within the allowed range to ensure complete coverage. (\*suppression only)

### **PURPLE LOOSESTRIFE CONTROL**

- **DO NOT TREAT PLANTS OVER OPEN WATER. DISRUPTOR 360 GLYPHOSATE HERBICIDE** is not registered for direct application to bodies of water.
- Treat when plants are actively growing at or beyond the bloom stage. If using handheld equipment, spray-to-wet.
- For wiper applications, see WIPER, WICK AND ROLLER EQUIPMENT section.
- Where feasible, remove flower heads before treatment to ensure prevention of seed set.
- For large (>1.6 ha) monocultures of loosestrife, work from the periphery inward in successive years to allow competing vegetation to invade the treated area.
- A long-term control strategy should include measures to control both established plants and seedlings. Sprayed areas should be monitored to determine the appropriate follow-up management. Early detection and treatment of second and third generation seedlings is important to prevent re-infestation of purple loosestrife. Desirable native plant communities will then have a chance to become re-established.

**Table 15: WEED CONTROL IN NONCROPLAND AREAS, AND INDUSTRIAL USES**

WEEDS	GROUND APPLICATION*			COMMENTS
	BOOM APPLICATION		HAND HELD HIGH VOLUME APPLICATION % SOLUTION	
	RATE* (L/ha)	WATER VOL.* (L/ha)		
Annual grasses and broad leaf weeds	2.25-3.5	50 - 100	1	Treat actively growing weeds
Perennial Weeds	2.5	50 - 300	1	Treat actively growing weeds. Add 0.5% v/v of a recommended surfactant when using more than 150 L of water (see MINIMUM AND ZERO TILLAGE TANK MIXES) Use higher rate for heavy infestations and for long term control.  See PURPLE LOOSESTRIFE CONTROL section for instructions on application. Summer through fall is optimum
Quack grass	4.75-7.0	50 - 300	2	
Canada thistle (bud stage)	4.75-7.0	100 - 300	2	
Purple loosestrife	6.0	300 – 600	1-2 (or 33% for wiper application)	
Other perennials	7.0-12	100 – 300	2	
<b>Brush and Trees</b>				
Birch, Cherry, Poplar, Western Snowberry, Willow	3.0-6.0	100-300	1-2	Summer through early fall
Maple, Raspberry/Salmonberry, Alder	6.0	100 – 300	2	Late summer through fall. Fall is optimum.
<b>Turfgrass renovation:</b>				
Annual & Perennial Weeds	2.5 – 12.0	100 – 300	1-2	Use higher end of rate range for perennials.

**Table 15: WEED CONTROL IN NONCROPLAND AREAS, AND INDUSTRIAL USES (continued)**

WEEDS	GROUND APPLICATION*			COMMENTS
	BOOM APPLICATION		HAND HELD HIGH VOLUME APPLICATION % SOLUTION	
	RATE* (L/ha)	WATER VOL.* (L/ha)		
Roadside vegetation (1-2 metres wide along shoulder)	0.75 – 1.0 <b>DISRUPTOR 360 GLYPHOSATE HERBICIDE +</b>  1) 1.25 – 2.5L DyClee Agricultural Herbicide  <b>OR</b> 2) 0.30L DyClee Agricultural Herbicide + 1.2L 2,4-D amine 500	25 – 150	-	Refer to tank mix section on product labels for specific weeds controlled. Refer to chart on ANNUAL WEED CONTROL for rates for specific weeds. For different 2,4-D formulations, adjust the rate accordingly. DO NOT apply to standing water.
Residual Control Annual & Perennial weeds.	2.5 – 12 <b>DISRUPTOR 360 GLYPHOSATE HERBICIDE</b>  + 1) 2.5 – 5.6 kg Simazine 80W  <b>OR</b> 2) 4.0 – 9.0 L Simadex Flowable	200 – 400	-	The simazine part of this tank mix will provide season-long control of most germinating broadleaf weeds and grasses, and may also provide post-emergent control of certain annual weeds.  DO NOT apply to coarse, sandy soil or gravelly soil. One application per year. Use the most restrictive label directions for each product in the mix.  For other simazine products registered for this use, use rates equivalent to 2.0 - 4.5 kg simazine/ha.

**Table 16: WEED CONTROL IN TREE, VINE AND BERRY CROPS**

<u>Crop</u>	<u>APPLICATION</u>			
Apples, apricot, cherry (sweet/sour), peaches, pears, plums	Rate (L/ha)	PRE-HARVEST INTERVAL (days)	Max Appl. Per year	Weeds Controlled
		2.25-12 (directed spray)	30	3
	Apply as directed spray with no more than 275 kPa pressure.			
Apples, grapes	Rate (L/ha)	PRE-HARVEST INTERVAL (days)	Max Appl. Per year	Weeds Controlled
	Tank Mix: 2.25-12 + Simazine 2.0-4.5 kg ai/ha	-		Annual and perennial weeds
	Will provide season-long pre-emergent control. DO NOT apply to coarse, sandy or gravelly soil. Use the more restrictive label directions for each product in the mix. DO NOT apply to orchards established less than 1 year or vineyards established less than 3 years. Simazine rate is equivalent to 2.25-5.0 kg/ha Princep Nine-T; or 4.0-9.0 Kg/ha Simadex.			

**Table 16: WEED CONTROL IN TREE, VINE AND BERRY CROPS (Continued)**

<b>Crop</b>	<b>APPLICATION</b>			
Grapes	<b>Rate (L/ha)</b>	<b>PRE-HARVEST INTERVAL (days)</b>	<b>Max Appl. Per year</b>	<b>Weeds Controlled</b>
	2.25-12 (directed spray)	14	3	Annual and perennial weeds
	Remove all sucker growth from the spray zone before spraying, except for the Concord variety of grape. Suckering should be conducted within 2 weeks prior to application. DO NOT apply to vines that have been established less than 3 years.			
Highbush (cultivated) blueberry	<b>Rate (L/ha)</b>	<b>PRE-HARVEST INTERVAL (days)</b>	<b>Max Appl. Per year</b>	<b>Weeds Controlled</b>
	2.8-5.6 (directed spray)	30	1	Quack grass
	Use as a directed spray, with no more than 275 kPa pressure.			
Lowbush blueberry	<b>Rate (L/ha)</b>	<b>PRE-HARVEST INTERVAL (days)</b>	<b>Max Appl. Per year</b>	<b>Weeds Controlled</b>
	1-2% solution (spot treatment)	Apply in non-bearing year only	1	Wood brush
	Apply as directed spray in mid-summer of the vegetative (non-bearing) year. See AGRICULTURAL AND CROPLAND USES section for instructions on spot treatments.			
Filberts, hazelnut (established plantations)	<b>Rate (L/ha)</b>	<b>PRE-HARVEST INTERVAL (days)</b>	<b>Max Appl. Per year</b>	<b>Weeds Controlled</b>
	2.25-3.5 (directed spray)	14	-	Annual weeds
	Use as directed spray, with no more than 275 kPa pressure.			
Walnut, chestnut, Japanese chestnut	<b>Rate (L/ha)</b>	<b>PRE-HARVEST INTERVAL (days)</b>	<b>Max Appl. Per year</b>	<b>Weeds Controlled</b>
	2.25-12 (directed spray)	-	2	Annual and perennial weeds
	Apply late spring and fall, post-harvest but prior to a killing frost. Apply in 200-300 L water as a directed spray, using no more than 275 kPa pressure. Apply alternatively as a 2% wiper solution. See APPLICATION EQUIPMENT AND MIXING INSTRUCTIONS section for instructions on wiper applications.			
Cranberry	<b>Rate (L/ha)</b>	<b>PRE-HARVEST INTERVAL (days)</b>	<b>Max Appl. Per year</b>	<b>Weeds Controlled</b>
	20% Solution (1L <b>DISRUPTOR 360 GLYPHOSATE HERBICIDE</b> + 4 L water)	30	1	Annual and perennial weeds
	Apply using wick or wiper applicators. See APPLICATION EQUIPMENT AND MIXING INSTRUCTIONS section for instructions on wiper applications.			
Strawberry	<b>Rate (L/ha)</b>	<b>PRE-HARVEST INTERVAL (days)</b>	<b>Max Appl. Per year</b>	<b>Weeds Controlled</b>
	1-2% Solution (spot treatment) 33% solution (wiper applicator)	30	1	Emerged perennial weeds
	Apply when weeds are at a susceptible growth stage. See AGRICULTURE AND CROPLAND USES section for instructions on spot treatments. See APPLICATION EQUIPMENT AND MIXING INSTRUCTIONS section for instructions on wiper applications.			

**Table 17a: ANNUAL WEED CONTROL: BOOM OR BOOMLESS EQUIPMENT**

WEEDS CONTROLLED	BOOM OR BOOMLESS EQUIPMENT		
	Growth Stage	Rate (L/ha)	Water Volume (L/ha)
Wild oats, green foxtail, volunteer barley volunteer wheat, volunteer canola, wild mustard, lady's thumb, stinkweed	Weeds up to 8 cm in height	0.75	50-100
	<b>Comments:</b> For wild oats apply at 1 to 3 leaf stage. Add 350 mL of a surfactant registered for use such as Agral 90, AgSurf, and Companion. For heavy wild oat infestations use 1.0 L/ha rate.		
All annual grasses listed above plus foxtail barley* (suppression only) All annual broadleaf weeds listed above plus flixweed** and kochia**.	Weeds 8 cm to 15 cm	1.0	50-100
	<b>Comments:</b> Add 350 mL of Surfactant registered for use as listed above. * Apply before initiation of seed head or senescence of the lower leaves. ** Suppression only. Refer to higher rates of this table.		
All annual grasses listed above plus downey brome, giant foxtail and Persian darnel. All annual broadleaf weeds listed above plus lamb's quarters, redroot pigweed, hemp nettle, flixweed, Russian thistle, volunteer flax,	Weeds up to 15 cm in height	1.25- 1.9	50-100
	<b>Comments:</b> No additional surfactant required. * DO NOT use these rates on plants greater than 8 cm in height. ** For 3 to 4 leaf stage use 1.9 L/ha rate. *** For weeds 8 cm to 15 cm in height use 1.9 L/ha.		
All annual grasses listed above plus crab grass and annual blue grass. All annual broadleaf weeds listed above plus kochia, prickly lettuce, shepherd's purse	Weeds up to 15 cm in height	2.25	50-100
	<b>Comments:</b>		
All annual grasses and broadleaf weeds listed above.	Weeds over 15 cm in height	3.5	50-100
	<b>Comments:</b>		

**Table 17b: ANNUAL WEED CONTROL: WIPERS AND WICKS EQUIPMENT**

WEEDS CONTROLLED	WIPERS AND WICKS EQUIPMENT		
	Growth Stage	Rate (L/ha)	Water Volume (L/ha)
Annual weeds	Weeds to be at least 15 cm Above desirable vegetation	1	2
	<b>Comments:</b> This mixture is a 33% solution. Contact point for wiper or wick must be at least 5 cm above desirable vegetation. In severe weed infestations, reduce ground speed to ensure adequate control. See APPLICATION EQUIPMENT AND MIXING INSTRUCTIONS section for instructions on wiper and wick applications		

**Table 17c: ANNUAL WEED CONTROL: ROLLER EQUIPMENT**

WEEDS CONTROLLED	ROLLER EQUIPMENT		
	Growth Stage	Rate (L/ha)	Water Volume (L/ha)
Annual weeds	Weeds to be at least 15 cm Above desirable vegetation	0.5- 1.0	10
	<b>Comments:</b> This mixture is a 5- 10% solution. Roller speed 50-150 rpm. See APPLICATION EQUIPMENT AND MIXING INSTRUCTIONS section for instructions on roller applications.		

**Table 18: PERENNIAL WEED CONTROL**

<b>BOOM OR BOOMLESS EQUIPMENT</b>			
<b>WEEDS CONTROLLED</b>	<b>Growth Stage</b>	<b>Rate (L/ha)</b>	<b>Water Volume (L/ha)</b>
Alfalfa	Early bud to full bloom stage. Fall Applications only.	3.7 - 5.0	50-300
<b>Comments:</b>			
<ul style="list-style-type: none"> <li>Allow 5 or more days after treatment before tillage.</li> <li>Use the higher rates when alfalfa populations are high or when heavy grass infestations are also present.</li> <li>For spring applications and control in minimum tillage systems using a 2,4-D tank mix, see ALFALFA CONTROL WITH 2,4-D TANK MIX section under SPECIAL NOTES FOR PERENNIAL WEED CONTROL section.</li> </ul>			
<b>WEEDS CONTROLLED</b>	<b>Growth Stage</b>	<b>Rate (L/ha)</b>	<b>Water Volume (L/ha)</b>
Canada thistle	Bud stage or beyond	4.75 - 7.0	100-300
	Rosette stage (summer fallow)	2.5	50-100
<b>Comments:</b>			
Bud stage or beyond: <ul style="list-style-type: none"> <li>Allow 5 days after application before tillage.</li> <li>Heavy frost prior to application may decrease control.</li> </ul>			
Rosette stage (summer fallow): <ul style="list-style-type: none"> <li>Apply in clean water using flat fan nozzles.</li> <li>Ensure proper growth stage by performing last summer fallow tillage between July 5 and August 1st.</li> <li>Allow regrowth for a minimum of 5 weeks to reach rosette stage and a minimum of 15 cm in diameter. Allow 10 days after application before tillage.</li> <li>Treatment after a mild frost is possible if leaves are still green and actively growing but not after heavy damaging frost.</li> </ul>			
<b>WEEDS CONTROLLED</b>	<b>Growth Stage</b>	<b>Rate (L/ha)</b>	<b>Water Volume (L/ha)</b>
Dandelion	Up to 15 cm. in height	2.5	50-100
	Over 15 cm. in height	3.7	50-300
	Rosette to full bloom (preharvest)	2.5	50-100
<b>Comments:</b>			
<ul style="list-style-type: none"> <li>Allow 3 or more days after treatment before tillage for all rates.</li> <li>Use the higher rates when infestations are heavy.</li> <li>Refer to DANDELION notes in SPECIAL NOTES FOR PERENNIAL WEED CONTROL for more information.</li> <li>Allow 7 or more days after treatment before tillage.</li> <li>For more information, see PREHARVEST CONTROL OF QUACKGRASS, CANADA THISTLE, MILKWEED, TOADFLAX, AND DANDELION; SEASON-LONG CONTROL OF PERENNIAL SOW THISTLE; AND HARVEST MANAGEMENT section.</li> </ul>			
<b>WEEDS CONTROLLED</b>	<b>Growth Stage</b>	<b>Rate (L/ha)</b>	<b>Water Volume (L/ha)</b>
Field bindweed	Full bloom or beyond	7-12	100-300
<b>Comments:</b>			
Allow 7 days or more after application before tillage.			
<b>WEEDS CONTROLLED</b>	<b>Growth Stage</b>	<b>Rate (L/ha)</b>	<b>Water Volume (L/ha)</b>
Foxtail barley	Seeding to heading	2.5-5	50-100
<b>Comments:</b>			
<ul style="list-style-type: none"> <li>Allow a minimum of 1 day after treatment before tillage or seeding.</li> <li>Use higher rates for larger more established plants, heavy infestations, or if plants are stressed</li> </ul>			

**Table 18: PERENNIAL WEED CONTROL (continued)**

<b>WEEDS CONTROLLED</b>	<b>Growth Stage</b>	<b>Rate (L/ha)</b>	<b>Water Volume (L/ha)</b>
Common Milkweed	Bud to full Bloom (preharvest)	2.5	50 – 100
	Bud to full bloom	12	100 - 300
<b>Comments:</b>			
<ul style="list-style-type: none"> <li>• Reduced results may occur if sprayed after full bloom. Milkweed may not all be in the correct stage, therefore, repeat treatments may be required.</li> <li>• Allow 7 days or more after application before tillage.</li> <li>• See PREHARVEST CONTROL OF QUACKGRASS, CANADA THISTLE, MILKWEED, TOADFLAX, and DANDELION; SEASON-LONG CONTROL OF PERENNIAL SOW THISTLE; AND HARVEST MANAGEMENT section.</li> </ul>			
<b>WEEDS CONTROLLED</b>	<b>Growth Stage</b>	<b>Rate (L/ha)</b>	<b>Water Volume (L/ha)</b>
Foxtail barley	Seeding to heading	2.5-5	50-100
<b>Comments:</b>			
<ul style="list-style-type: none"> <li>• Allow a minimum of 1 day after treatment before tillage or seeding.</li> <li>• Use higher rates for larger more established plants, heavy infestations, or if plants are stressed</li> </ul>			
<b>WEEDS CONTROLLED</b>	<b>Growth Stage</b>	<b>Rate (L/ha)</b>	<b>Water Volume (L/ha)</b>
Toadflax	Vegetative stage (summer fallow)	2.5	50-100
	Bud to full bloom (pre-harvest)		
<b>Comments:</b>			
<ul style="list-style-type: none"> <li>• Apply in clean water using flat fan nozzles.</li> <li>• Allow 7 or more days after treatment before tillage in summer fallow.</li> <li>• For more information, see Summerfallow Control under TOADFLAX in SPECIAL NOTES FOR PERENNIAL WEED CONTROL section, or PREHARVEST CONTROL OF QUACKGRASS, CANADA THISTLE, MILKWEED, TOADFLAX, and DANDELION; SEASON-LONG CONTROL OF PERENNIAL SOW THISTLE; AND HARVEST MANAGEMENT section.</li> </ul>			
<b>WEEDS CONTROLLED</b>	<b>Growth Stage</b>	<b>Rate (L/ha)</b>	<b>Water Volume (L/ha)</b>
Quack grass control, light to moderate infestations	3 to 4 green leaves or more	2.5	50-300
<b>Comments:</b>			
<ul style="list-style-type: none"> <li>• Apply in clean water using flat fan nozzles.</li> <li>• Allow 3 or more days after treatment before tillage.</li> <li>• Refer to QUACKGRASS noted in SPECIAL NOTES FOR PERENNIAL WEED CONTROL for more information.</li> <li>• For higher water volumes (ie.,150- 300L/ha) an approved surfactant must be added at 0.5 L per 100L of clean water. (0.5% v/v).</li> <li>• Refer to list of surfactants in QUACKGRASS part of SPECIAL NOTED FOR PERENNIAL WEED CONTROL section. See also below.</li> </ul>			
<b>WEEDS CONTROLLED</b>	<b>Growth Stage</b>	<b>Rate (L/ha)</b>	<b>Water Volume (L/ha)</b>
Quack grass (long term control, heavy infestations, high water volumes)	3-4 green leaves or more	2.5 - 7.0	50 - 300
<b>Comments:</b>			
<ul style="list-style-type: none"> <li>• Allow 3 or more days after treatment before tillage.</li> <li>• Rates higher than 2.5L/ha will provide more consistent, longer term control especially with heavy infestations and/or higher (150-300 L) water volumes.</li> <li>• Refer to QUACKGRASS noted in SPECIAL NOTES FOR PERENNIAL WEED CONTROL for more information.</li> </ul>			
<b>WEEDS CONTROLLED</b>	<b>Growth Stage</b>	<b>Rate (L/ha)</b>	<b>Water Volume (L/ha)</b>
<b>Woody brush and trees</b>	Actively growing from June through August	3-6	100-300
<b>Comments:</b>			
<ul style="list-style-type: none"> <li>• Use higher rate for maple, alder, Rubus species and willow*.</li> <li>• Spray to wet</li> </ul>			

**Table 18: PERENNIAL WEED CONTROL (continued)**

<b>WEEDS CONTROLLED</b>	<b>Growth Stage</b>	<b>Rate (L/ha)</b>	<b>Water Volume (L/ha)</b>
<b>Other Perennial weeds</b>	Early heading or early bud stage (See VEGETATION CONTROLLED section)	7-12	100-300
<b>Comments:</b>			
<ul style="list-style-type: none"> <li>• Use higher rate for weeds beyond 8 cm in height or in heavy weed infestation.</li> <li>• Allow 7 days after application before tillage.</li> <li>• <b>DISRUPTOR 360 GLYPHOSATE HERBICIDE</b> rate is equivalent to 70 to 120 mL/100 m<sup>2</sup>.</li> </ul>			
<b>High volume or knapsack</b>			
<b>WEEDS CONTROLLED</b>	<b>Growth Stage</b>	<b>Rate (L/ha)</b>	<b>Water Volume (L/ha)</b>
<b>Woody brush and trees</b>	Actively growing from June through August	1-2.0	100
<b>Comments:</b>			
<ul style="list-style-type: none"> <li>• This mixture is a 1 to 2% solution. Use higher rate for maple, alder, Rubus species and willow*.</li> <li>• Spray to wet.</li> <li>• See APPLICATION EQUIPMENT AND MIXING INSTRUCTIONS section for instructions on high volume or knapsack applications.</li> </ul>			
<b>Wipers and wicks</b>			
<b>WEEDS CONTROLLED</b>	<b>Growth Stage</b>	<b>Rate (L/ha)</b>	<b>Water Volume (L/ha)</b>
Perennial weeds	Weeds to be at least 15 cm above desirable vegetation	1	2
<b>Comments:</b>			
<ul style="list-style-type: none"> <li>• See APPLICATION EQUIPMENT AND MIXING INSTRUCTIONS section for instructions on wiper and wick applications.</li> </ul>			
<b>Rollers</b>			
<b>WEEDS CONTROLLED</b>	<b>Growth Stage</b>	<b>Rate (L/ha)</b>	<b>Water Volume (L/ha)</b>
Annual and perennial weeds	Weeds to be at least 15 cm above desirable vegetation	0.5-1.0	10
<b>Comments:</b>			
<ul style="list-style-type: none"> <li>• This mixture is a 5-10% solution.</li> <li>• See APPLICATION EQUIPMENT AND MIXING INSTRUCTIONS section for instructions on roller applications. This treatment will only suppress perennial weeds contacted.</li> <li>• Roller speed 50-150 rpm.</li> </ul>			
<b>Tree injectors</b>			
<b>WEEDS CONTROLLED</b>	<b>Growth Stage</b>	<b>Rate (L/ha)</b>	<b>Water Volume (L/ha)</b>
Trees*	During periods of active growth and full leaf expansion except during periods of heavy sap flow.	0.5 mL/ 5 cm of trunk diameter at chest height	None
<b>Comments:</b>			
<ul style="list-style-type: none"> <li>• Suitable equipment must be used to penetrate to living tissue. Space applications evenly around the circumference of the trunk below major branches.</li> <li>• Control of trees with trunk diameters greater than 20 cm may not be acceptable. See APPLICATION EQUIPMENT AND MIXING INSTRUCTIONS section for instructions on TREE INJECTION APPLICATIONS.</li> <li>• *Suppression only for willow.</li> </ul>			



## **SPECIAL NOTES FOR PERENNIAL WEED CONTROL**

### **QUACKGRASS**

For **season-long control on fall tilled ground**: Apply 2.5 litres per hectare of this product in spring prior to seeding. Apply in 50 to 100 litres per hectare of clean water as described in the preceding table. Delay application until the majority of quack grass plants have 4 to 5 green leaves. This stage usually occurs 1 to 4 weeks later on fall tilled ground than on undisturbed ground. Reduced control may result on ground tilled deeper than 15 centimetres.

**NOTE:** This treatment will provide season-long control of quack grass on fall tilled ground. Reduced control will be experienced versus this product on non-fall tilled ground. Repeat treatments may be necessary.

**Applications on forages** should be followed by tillage 3 days or later and should be made when good growing conditions exist.

**If a frost has occurred**, wait several days to determine if the quack grass has recovered. Quack grass can be treated after a mild frost provided there are 3 to 4 green leaves actively growing at the time of application. **DO NOT** apply after the first damaging frost in the fall.

### **SURFACTANTS**

The following is a list of approved surfactants for use with **DISRUPTOR 360 GLYPHOSATE HERBICIDE** for control of quack grass:

Agral 90, Companion, Ag Surf, Frigate

**Always refer to surfactant label for specific instructions regarding use of that product.**

### **CANADA THISTLE**

**Control of Canada Thistle at the rosette stage:** to ensure the proper timing of application the following steps must be followed:

1. Conduct summerfallow tillage as usual and perform the last tillage operation between July 15<sup>th</sup> and August 1<sup>st</sup>.
2. Allow the thistles to regrow for a minimum of 5 weeks until they are a minimum of 15 centimetres in diameter and in the rosette stage of growth.

**NOTE: Canada thistle can be treated after a mild frost** provided the leaves are still green and actively growing at the time of application. **DO NOT** apply after the first damaging frost in the fall.

### **DISRUPTOR 360 GLYPHOSATE HERBICIDE PLUS BANVEL OR ORACLE TANK MIXTURES**

For control of Canada thistle (and perennial sow thistle) in summerfallow or in postharvest stubble, apply 1.7 litres per hectare **DISRUPTOR 360 GLYPHOSATE HERBICIDE** plus 1.25 litres per hectare Banvel or Oracle in 100-200 litres per hectare of clean water. In addition, add 350 millilitres per hectare of a non-ionic surfactant registered for use with this product, such as Agral 90, Ag Surf or Companion. For best results in summerfallow, cultivate in the spring and apply when the majority of thistles are 15 centimetres to 25 centimetres tall and before the bud stage. Cultivate 3 weeks after application.

In postharvest stubble, apply this tank mixture to actively growing thistles at least 2 weeks prior to a killing frost.

**NOTE:** Grow only cereals, canola (including rapeseed), soybeans, field corn, sweet corn, or white beans after application of this tank mixture.

If application is made after September 1st, or if soil moisture levels are extremely low after application, crop injury may occur in the spring following application.

## **TOADFLAX**

### **Control of Toadflax in a Summerfallow Vegetative Stage**

To ensure the proper timing of application, the following steps must be followed:

1. Conduct summerfallow tillage as usual and perform the last tillage operation between July 10<sup>th</sup> and July 21<sup>st</sup>.
2. Allow toadflax to regrow for a minimum of 4 to 5 weeks until they are a minimum of 15 centimetres tall and at a lush green vegetative stage.

**NOTE:** Toadflax can be treated after a mild frost provided the leaves are still green and actively growing at the time of application. DO NOT apply after the first damaging frost.

## **DANDELION**

Applications should be made up to and including bloom for best results. Follow-up control measures should be used to manage new dandelions germinating from seed to maintain control throughout the season.

## **ALFALFA CONTROL WITH 2,4-D TANK MIX**

The addition of 2,4-D may improve alfalfa control in situations where control may be more difficult to obtain, such as in minimum tillage systems where populations are heavy, and with spring applications.

For fall control of established stands of alfalfa, apply 2.5 to 5.0 litres per hectare **DISRUPTOR 360 GLYPHOSATE HERBICIDE** and 1.2 to 2.4 litres per hectare of any 500 grams per litre 2,4-D amine or low volatile ester formulation in 100 to 200 litres of water per hectare. (Adjust product rates accordingly for other 2,4-D formulations).

For spring applications, use only the low rate of 2,4-D (i.e., 1.2 litres per hectare) and 2.5 to 5.0 litres per hectare **DISRUPTOR 360 GLYPHOSATE HERBICIDE**. Only cereal crops not underseeded to legumes may be planted following spring applications of this tank mix, and a 14 day interval between application and planting is required.

Use the higher **DISRUPTOR 360 GLYPHOSATE HERBICIDE** rates when perennial grasses are prevalent.

## **ALL PERENNIAL WEEDS**

**Weed Stages:** Weeds must be at the proper stage for effective control. Refer to **PERENNIAL WEED CONTROL WITH DISRUPTOR 360 GLYPHOSATE HERBICIDE** table.

**Nozzle Type:** For best results with conventional boom equipment apply this product with 50 to 300 litres per hectare of clean water using flat fan nozzles and no more pressure than 275 kPa.

**Rhizome Dormancy:** Reduced control may result if rhizomes have become dormant. Dormancy may occur if soil fertility is low and/or the land has not been tilled for several years.

**Mowing Effects:** Mowing prior to application will reduce effectiveness unless weeds are allowed to regrow to the proper stage before application.

**Tillage Effects:** Fall or spring tillage prior to spring applications and tillage between harvesting and fall applications will reduce the effectiveness on perennial weeds. Follow up tillage after application should be delayed 5 to 7 days for best results. See **ANNUAL AND PERENNIAL WEED CONTROL** tables for specific tillage interval for each weed.

**Rainfall Effects:** Heavy rainfall immediately after application may wash the chemical off the foliage and a repeat treatment may be required to control weeds regenerating from seeds or other underground parts.

DO NOT apply if rainfall is forecast for the time of application.

**Regrowth from Germinating Seeds:** This product only control emerged plants. Repeat treatments or other weed control measures may be required to control weeds regenerating from seeds or other underground parts.

**Frost Effects:** Heavy frosts prior to application may reduce control. DO NOT apply after the first damaging frost in the fall.

**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.

### Resistance Management Recommendations:

For resistance management, **DISRUPTOR 360 GLYPHOSATE HERBICIDE** is a Group 9 herbicide. Any weed population may contain or develop plants naturally resistant to **DISRUPTOR 360 GLYPHOSATE HERBICIDE** and other Group 9 herbicides. The resistance 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 **DISRUPTOR 360 GLYPHOSATE HERBICIDE** or other Group 9 herbicides 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.
- Herbicide use should be based in an IPM program that includes scouting, historical information related to herbicide use and crop rotation, and considers tillage (or other mechanical), cultural, biological and other chemical control practices.
- Monitor treated weed populations for resistance development,
- Prevent movement and resist weed seeds to other fields by cleaning harvesting and tillage equipment and planting clean seed.
- Contact your local extension specialist or certified crop advisor 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 AgraCity Crop & Nutrition Ltd. at 1-844-269-3276 or at [www.agracity.com](http://www.agracity.com)

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