

VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION

COMMERCIAL (AGRICULTURAL)

AND INDUSTRIAL

CAUTION -- EYE IRRITANT

WATER SOLUBLE HERBICIDE FOR NON-SELECTIVE WEED CONTROL

REGISTRATION NO. 35569 PEST CONTROL PRODUCTS ACT.

ACTIVE INGREDIENT: Glyphosate, 360 grams acid equivalent per litre present as isopropylamine salt.

READ THE LABEL AND ATTACHED BOOKLET BEFORE USING.

READ NOTICE BEFORE BUYING OR USING. IF NOTICE TERMS ARE NOT ACCEPTABLE, RETURN AT ONCE UNOPENED.

AGX Pioneer Enterprise Limited

4249 Hudson St., Vancouver, BC, V6H 3B3

Canadian Representative:

Hanson Industry Company

400 Sangeet Place, Richmond, Ontario K0A 2Z0

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NET CONTENTS: 1-1000 L, Bulk

PRECAUTIONS

KEEP OUT OF REACH OF CHILDREN
MAY CAUSE EYE IRRITATION.

Avoid contact with eyes or prolonged contact with skin.

Wear a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes during mixing, loading, clean-up and repair. Gloves are not required during application within a closed cab.

DO NOT enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours. For non-crop areas, **DO NOT** enter or allow worker entry into treated areas until sprays have dried.

Apply only when the potential for drift beyond the area to be treated is minimal. Take into consideration wind speed, wind direction, temperature inversions, application equipment, and sprayer settings.

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

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

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

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

TOXICOLOGICAL INFORMATION

Treat symptomatically.

ENVIRONMENTAL PRECAUTIONS

- TOXIC to aquatic organisms and non-target terrestrial plants. Observe spray 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 application when heavy rain is forecast.
- Contamination of aquatic areas as a result of runoff may be reduced by including a vegetative filter strip between the treated area and the edge of the water body.

PHYSICAL OR CHEMICAL HAZARDS

Spray solutions of this product should be mixed, stored and applied only in stainless steel, aluminum, fibreglass, plastic and plastic-lined steel 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 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.

EMERGENCY TELEPHONE NUMBERS:

In case of an emergency involving this product, call 911

For additional information on this or other AGX Pioneer Enterprise Limited agricultural products, call the Product Support Line: 1-519-702-2185.

STORAGE

Store this product away from seed, feed, and food. Soak up small amounts of spill with absorbent clays.

AVOID CONTACT WITH FOLIAGE, GREEN STEMS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, SINCE SEVERE INJURY OR DESTRUCTION MAY RESULT.

DISPOSAL

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. Contact your local distributor/dealer or municipality for the location of the nearest collection site. Before taking the container to the collection site:

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

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

Disposal of unused, unwanted product: For information on disposal of unused, unwanted product, contact the registrant or the provincial or territorial regulatory agency. Contact the registrant and the provincial or territorial regulatory agency in case of a spill, and for cleanup 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).

Disposal of unused, unwanted product: For information on disposal of unused, unwanted product, contact the registrant or the provincial or territorial regulatory agency. Contact the registrant and the provincial or territorial regulatory agency in case of a spill, and for

cleanup of spills.

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 the disposal of unused, unwanted product, contact the registrant or the provincial or territorial regulatory agency. Contact the registrant and the provincial or territorial regulatory agency in case of a spill, and for the 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.

Not for relabelling or repackaging.

VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION

COMMERCIAL (AGRICULTURAL) and INDUSTRIAL

CAUTION - EYE IRRITANT

REGISTRATION NO. 35569 PEST CONTROL PRODUCTS ACT

ACTIVE INGREDIENT: Glyphosate, 360 grams acid equivalent per litre, present as isopropylamine salt.

WATER SOLUBLE HERBICIDE FOR NON-SELECTIVE WEED CONTROL

READ THE LABEL BEFORE USING.

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(FRANÇAIS AU VERSO)

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VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION

1.0 PRODUCT DESCRIPTION

Water soluble herbicide for non-selective weed control in CROPLAND SYSTEMS AND IN NON-CROPLAND AREAS.

CROPLAND USES INCLUDE:

In cropping systems before planting of all crops; in minimum tillage systems; postemergent in glyphosate tolerant canola, soybean and corn i.e., varieties with the Roundup Ready® gene; preharvest applications in wheat, barley, oats, canola (rapeseed), flax (including low linolenic acid varieties), peas, lentils, dry beans, soybeans and forages; in pasture renovation; in forage, legume and grass establishments; in tree crops including apple, pear, cherry, plum, peach, apricot, filbert, hazelnut, walnut, chestnut and Japanese heartnut; in grapes, cranberries, blueberries and strawberry; in sugar beets; in asparagus; in North American ginseng; in tree plantings; and grasses for seed production.

NON-CROPLAND USES INCLUDE:

Industrial, recreational, rights-of-way, and public areas; turf grass renovation.

NOT FOR RELABELLING OR REPACKAGING.

2.0 EMERGENCY NUMBERS

In case of an emergency involving this product, call 911

Read NOTICE before buying or using. If NOTICE terms are not acceptable, return at once unopened.

2.1 INFORMATION

For additional information on this or other AGX Pioneer Enterprise Limited agricultural products, call the Product Support Line at: 1-519-702-2185.

3.0 PRECAUTIONS

KEEP OUT OF REACH OF CHILDREN.
MAY CAUSE EYE IRRITATION.

Avoid contact with eyes or prolonged contact with skin.

Wear a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes during mixing, loading, clean-up and repair. Gloves are not required during application within a closed cab.

DO NOT enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours. For non-crop areas, **DO NOT** enter or allow worker entry into treated areas until sprays have dried.

Apply only when the potential for drift beyond the area to be treated is minimal. Take into consideration wind speed, wind direction, temperature inversions, application equipment, and sprayer settings.

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

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

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

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

3.2 TOXICOLOGICAL INFORMATION

Treat symptomatically.

3.3 ENVIRONMENTAL PRECAUTIONS

- TOXIC to aquatic organisms and non-target terrestrial plants. Observe spray 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 application when heavy rain is forecast.

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

3.4 PHYSICAL OR CHEMICAL HAZARDS

Spray solutions of this product should be mixed, stored and applied only in stainless steel, aluminum, fiberglass, plastic and plastic-lined steel 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 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.

3.5 STORAGE

Store this product away from seed, feed, and food. Soak up small amounts of spill with absorbent clays.

3.6 DISPOSAL

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. Contact your local distributor/dealer or municipality for the location of the nearest collection site. Before taking the container to the collection site:

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

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

RETURNABLE CONTAINERS:

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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 registrant or the provincial or territorial regulatory agency. Contact the registrant and the provincial or territorial regulatory agency in case of a spill, and for clean-up of spills.

NOTICE

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.

DIRECTIONS FOR USE

4.0 GENERAL INFORMATION

DO NOT apply this product by air except under conditions specified within this label.

Glyphosate is not to be applied using hand-wicking or hand-daubing methods.

Observe spray buffer zones specified in Section 5.3.

VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION, a water soluble liquid, mixes readily with water for application as a foliage spray for the control or destruction 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.

This herbicide moves through the plant from the point of foliage contact to and into the root system. Visible effects on most annual weeds occur within 2 to 4 days but on most perennial weeds may not occur until 7 to 10 days. Extremely cool or cloudy weather at treatment time may slow down 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.

This product may be tank mixed with (a fertilizer, a supplement, or with) registered pest control products, whose labels also allow tank mixing, provided the entirety of both labels, including Directions For Use, Precautions, Restrictions, Environmental Precautions, and Spray Buffer Zones are followed for each product. In cases where these requirements differ between the tank mix partner labels, the most restrictive label must be followed. Do not tank mix products containing the same active ingredient unless specifically listed on this label.

In some cases, tank mixing pest control products can result in reduced pesticide efficacy or increased host crop injury. The user should contact AGX PIONEER ENTERPRISE LIMITED at 1-519-702-2185 for information before applying any tank mix that is not specifically recommended on this label.

Delay application until vegetation has emerged to the stages described for control of such vegetation under the “**Annual and Perennial Weed Control**” (section 7.0 and 8.0) to provide adequate leaf surface to receive the spray. Unemerged plants arising from underground rhizomes or root stocks 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 treatment is made at late growth stages approaching maturity.

Always use the higher rate of this product per hectare within the recommended range when weed growth is heavy or dense, or weeds are growing in an undisturbed (non-cultivated) area.

DO NOT treat weeds under poor growing conditions such as drought stress, disease or insect damage, as reduced weed control may result. Reduced results may also occur when treating weeds heavily covered with dust.

This product does not provide residual weed control. For subsequent residual weed control follow a label approved herbicide program. Read and carefully observe the precautionary statements and all other information appearing on the labels of all herbicides used.

Rainfall occurring within 60 minutes of treatment may result in reduced weed control. 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.

DO NOT mix with any surfactant or oils or any other material other than water unless specified in this booklet. For best results, spray coverage should be uniform and complete. DO NOT spray weed foliage to the point of run-off.

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.

RESISTANCE-MANAGEMENT RECOMMENDATIONS

For resistance management, VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION is a Group 9 herbicide. Any weed population may contain or develop plants naturally resistant to VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION and other Group 9 herbicides. The resistant biotypes may dominate the weed population if these herbicides are used repeatedly in the same field. Other resistance mechanisms that are not linked to site of action, but specific for individual chemicals, such as enhanced metabolism, may also exist. Appropriate resistance-management strategies should be followed.

To delay herbicide resistance:

- Where possible, rotate the use of VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION or other Group 9 herbicides within a growing season

(sequence) or among growing seasons with different herbicide groups that control the same weeds in a field.

- Use tank mixtures with herbicides from a different group when such use is permitted. To delay resistance, the less resistance-prone partner should control the target weed(s) as effectively as the more resistance-prone partner.
- Herbicide use should be based on an integrated weed management program that includes scouting, historical information related to herbicide use and crop rotation, and considers tillage (or other mechanical control methods), cultural (for example, higher crop seeding rates; precision fertilizer application method and timing to favour the crop and not the weeds), biological (weed-competitive crops or varieties) and other management practices.
- Monitor weed populations after herbicide application for signs of resistance development (for example, only one weed species on the herbicide label not controlled). If resistance is suspected, prevent weed seed production in the affected area if possible by an alternative herbicide from a different group. Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment when moving between fields, and planting clean seed.
- Have suspected resistant weed seeds tested by a qualified laboratory to confirm resistance and identify alternative herbicide options.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or integrated weed-management recommendations for specific crops and weed biotypes.
- For further information or to report suspected resistance, contact AGX Pioneer Enterprise Limited at 1-519-702-2185.

5.0 MIXING AND APPLICATION

5.1 PRECAUTIONS

ATTENTION: AVOID CONTACT WITH FOLIAGE, GREEN STEMS, OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES SINCE SEVERE INJURY OR DESTRUCTION MAY RESULT.

APPLY THESE SPRAY SOLUTIONS IN PROPERLY MAINTAINED AND CALIBRATED EQUIPMENT CAPABLE OF DELIVERING DESIRED VOLUMES.

DO NOT USE IN GREENHOUSES, REDUCED RESULTS MAY OCCUR IF WATER CONTAINING SOIL IS USED, SUCH AS WATER FROM PONDS AND UNLINED DITCHES.

Clean sprayers and parts immediately after using this product by thoroughly flushing with water. DO NOT contaminate water sources by disposal of wastes or cleaning of equipment.

NOTE: Use of this product in any manner not consistent with this booklet may result in injury to persons, animals or crops, or other unintended consequences. Keep container closed to prevent spills and contamination.

5.2 MIXING AND APPLICATION EQUIPMENT INFORMATION

MIXING

For ground or industrial type sprayers, fill the spray tank with one-half the required amount of water. Add the proper amount of herbicide, see “**Weed Control**” (sections 7.1 and 8.1) and mix well before adding the remaining portion of water. Placing the filling hose below the surface of the liquid solution will prevent excessive foaming. Removing hose from tank immediately will avoid back siphoning into water source. Use of mechanical agitators may cause excessive foaming. Bypass lines should terminate at the bottom of the tank.

For use in knapsack sprayers, it is suggested that the proper amount of this herbicide be mixed with water in a larger container. Fill sprayer with the mixed solution.

APPLICATION EQUIPMENT

BOOM EQUIPMENT

For control of perennial weeds and woody brush and trees listed on this booklet using conventional boom equipment – apply this product in 50 to 300 litres of clean water per hectare as a broadcast spray using no more than 275 kPa pressure. See “**Weed Control**” (sections 7.1 and 8.1) for rates to control specific weeds.

For control of annual weeds listed on this booklet using conventional boom equipment – Apply this product in 50 to 100 litres of clean water per hectare as a broadcast spray, except as otherwise stated on this label using no more than 275 kPa pressure. See “**Weed Control**” (sections 7.1 and 8.1) for rates to control specific weeds.

HAND HELD AND HIGH VOLUME EQUIPMENT (use coarse sprays only)

For control of weeds and woody brush and trees listed in the “Weed Control” section (6.0) of this label using knapsack sprayers or high volume spraying equipment utilizing handguns or other suitable nozzle arrangements – Unless otherwise specified, make a 1 percent solution of this product in water (1 litre of this product in 100 litres of water) and apply to foliage of vegetation to be controlled. For best results, use a 2 percent solution (2 litres of this product in 100 litres of water) on

harder to control perennials such as field bindweed, hemp dogbane, milkweed and Canada thistle.

Applications should be made on a spray-to-wet basis. Spray coverage should be uniform and complete. DO NOT spray to point of run-off. Handgun applications should be properly directed to avoid spraying desirable plants.

SELECTIVE EQUIPMENT

Selective equipment such as **WIPER** and **ROLLER** applicators can be used for weed control in soy and dry beans, orchards, vineyards, cranberries, strawberries and non-crop areas. For information regarding use of this product with selective equipment, refer to “**Selective Equipment**” (section 9.12).

AERIAL EQUIPMENT

Aerial application can only be used for weed control in pre-harvest situations or industrial rights-of-way. Refer to sections 5.3, 9.9.2 and 10.2.2 for application information.

Directions for use

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, or equivalent electronic positioning systems (GPS). The use of a spotter plane is recommended.

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 ARE MOST SUSCEPTIBLE.** The maintenance of an organic coating (paint) which meets aerospace specification MIL-C-38412 may prevent corrosion.

Use Precautions

Apply only when meteorological conditions at the treatment site allow for complete and even crop coverage. Apply only under conditions of good practice specific to aerial

application as outlined in the *National Aerial Pesticide Application Manual*, developed by the Federal/Provincial/Territorial Committee on Pest Management and Pesticides.

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

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

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 generic label recommendations on the existing ground boom label.

All personnel on the job site must wash hands and face thoroughly before eating and drinking. Protective clothing, aircraft cockpit and vehicle cabs must be decontaminated regularly.

Product Specific Precautions

Read and understand the entire label before opening this product. If you have questions, call AGX Pioneer Enterprise Limited at 1-519-702-2185 or obtain technical advice from the distributor or your provincial agricultural representative.

Application of this product must meet and/or conform to the following:

Volume: Apply the recommended rate in a minimum spray volume 30-100 litres per hectare.

5.3 SPRAY BUFFER ZONES

Field sprayer application: DO NOT apply when wind speed is less than 1 km/h. Avoid application of this product when winds are gusty. DO NOT apply with sprays finer than the American Society of Agricultural and Biological Engineers (ASABE) S572 (572.1 to 572.3) coarse classification. Boom height must be 60 cm or less above the crop or ground.

Airblast or mist blower application: DO NOT apply when wind speed is less than 1 km/h. Avoid application of this product when winds are gusty. DO NOT direct spray above plants to be treated. Turn off outward pointing nozzles at row ends and outer rows. 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.

Aerial Application

Conventionally piloted aircraft application: DO NOT apply when wind speed is less than 1 km/h. 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 sprays finer than the American Society of Agricultural and Biological Engineers (ASABE) S572 (572.1 to 572.3) coarse classification. Reduce drift caused by turbulent wingtip vortices. Nozzle distribution along the spray boom length MUST NOT exceed 65% of the wing- or rotorspan.

Spray Buffer zones:

A spray buffer zone is NOT required for:

- uses with hand-held application equipment permitted on this label,
- low-clearance hooded or shielded sprayers that prevent spray contact with crop, fruit or foliage.

For application to rights-of-way, spray 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 (for example, wind direction, low wind speed) and spray equipment (for example, coarse droplet sizes, minimizing height above canopy), should be used. Applicators must, however, observe the specified spray buffer zones for protection of sensitive aquatic habitats.

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

Agricultural and non-cropland systems	Maximum number of applications	Spray Buffer Zones (metres) Required for the Protection of:	
		Aquatic habitats	Terrestrial habitats
Agricultural crop system and ground boom application method			
Pre-seeding applications for all crops. Established pasture and summer fallow. Ginseng new garden.	1	1	1
Ginseng – existing established garden	2	1	1
Filberts or hazelnut, sugar beets (glyphosate tolerant varieties)	4	1	1
Corn (glyphosate non-tolerant varieties including grain, silage and ornamental types), sugar beets (glyphosate non-tolerant varieties), strawberry, blueberry highbush and lowbush, walnut, chestnut, Japanese heartnut, urfgrass (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, chickpea, asparagus, 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
Non-cropland system and ground boom application method			
Non-crop land and industrial uses: Industrial and rights of way areas, Recreational and public areas	3	1	3*
Non-cropland system and airblast application method (including mist blower)			
Non-crop land and industrial uses: Industrial and rights of way areas, Recreational and public areas	3	1	30*

Agricultural and non-cropland systems		Maximum number of applications	Spray Buffer Zones (metres) Required for the Protection of:	
			Aquatic habitats	Terrestrial habitats
Agricultural crop system and aerial application method	Wing type			
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
Corn (glyphosate tolerant varieties)	Fixed wing	2	20	50
	Rotary wing	2	20	45
Non-cropland system and aerial application method				
Non-crop land and industrial uses: rights-of way areas only	Fixed wing	3	100	NR
	Rotary wing	3	60	NR

* Spray Buffer zones for the protection of terrestrial habitats are not required for use on railroad ballast, rail and hydro rights-of-way, utility easements, roads, and training grounds and firing ranges on military bases.

NR = Not Required

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

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

6.0 WEEDS CONTROLLED

This product controls many annual and perennial grasses, broadleaf weeds, and woody brush and trees when applied as recommended and under conditions described. For information on how to control specific weeds including herbicide rate, refer to “**Annual Weed Control**” and “**Perennial Weed Control**” (sections 7.1 and 8.1). The following is a partial list of weeds controlled:

6.1 ANNUAL WEEDS

ANNUAL GRASSES

Barnyard Grass

Echinochloa crusgalli

Blue Grass (annual)

Poa annua

Crab Grass (large)

Digitaria sanguinalis

Crab Grass (smooth)

Digitaria ischaemum

Downy Brome Grass

Bromus tectorum

Fall Panicum

Panicum dichotomiflorum

Giant Foxtail

Setaria faberii

Green Foxtail

Setaria viridis

Persian Darnel

Lolium persicum

Volunteer Barley

Hordeum spp.

Volunteer Corn

Zea mays

Volunteer Wheat

Triticum spp.

Wild Oats

Avena fatua

Wild Proso Millet

Panicum miliaceum

Yellow Foxtail

Setaria glauca

OTHER

Dodder

Cuscuta spp.

ANNUAL BROADLEAF WEEDS

Chickweed

Stellaria media

Cleavers

Galium aparine

Cocklebur
Xanthium strumarium

Corn Spurry
Spergula arvensis

Cow Cockle
Saponaria vaccaria

Eastern Black Nightshade
Solanum ptycanthum

Fleabane (Canada)
Erigeron canadensis

Flixweed
Descurainia sophia

Green Smartweed
Polygonum scabrum

Hemp-nettle
Galeopsis tetrahit

Kochia
Kochia scoparia

Lady's-Thumb
Polygonum persicaria

Lamb's-quarters (common)
Chenopodium album

Narrow-leaved Hawk's Beard
Crepis tectorum

Narrow-leaved Vetch
Vicia angustifolia

Night-flowering Catchfly
Silene noctiflora

Pennsylvania Smartweed
Polygonum pennsylvanicum

Prickly Lettuce
Lactuca scariola

Ragweed (common)
Ambrosia artemisiifolia

Redroot Pigweed
Amaranthus retroflexus

Round-Leaved Mallow
Malva pusilla

Russian Thistle
Salsola pestifer

Shepherd's Purse
Capsella bursa-pastoris

Smooth Pigweed
Amaranthus hybridus

Sowthistle (annual)
Sonchus oleraceus

Stinkweed
Thlaspi arvense

Storksbill
Erodium cicutarium

Velvetleaf
Abutilon theophrasti

Volunteer Canola (rapeseed)
Brassica spp.

Volunteer Flax
Linaria spp.

Wild Buckwheat
Polygonum convolvulus

Wild Mustard
Sinapis arvensis

Wild Tomato
Solanum triflorum

6.2 PERENNIAL WEEDS

PERENNIAL GRASSES/SEDGES

Blue Grass (Canada)
Poa compressa

Blue Grass (Kentucky)
Poa pratensis

Brome Grass (smooth)
Bromus inermis

Cattail (common)
Typha latifolia

Foxtail Barley
Hordeum jubatum

Quackgrass
Agropyron repens

Wire-Stemmed Muhly
Muhlenbergia frondosa

Yellow Nutsedge
Cyperus esculentus

PERENNIAL BROADLEAVED WEEDS**Alfalfa***Medicago spp.***Cottontop***Eriophorum chamissonis***Curled Dock***Rumex crispus***Dandelion***Taraxacum officinale***Field Bindweed***Convolvulus arvensis***Hemp Dogbane***Apocynum cannabinum***Hoary Cress***Cardaria draba***Knotweed (Japanese)***Polygonum cuspidatum***Milkweed (common)***Asclepias syriaca***Poison Ivy***Rhus radicans***Purple Loosestrife***Lythrum salicaria***Sow-Thistle (perennial)***Sonchus arvensis***Thistle (Canada)***Cirsium arvense***Toad Flax***Linaria vulgaris***Wormwood (Absinth)***Artemisia absinthium***6.3 WOODY BRUSH AND TREES****Alder***Alnus spp.***Birch***Betula spp.***Raspberry/Salmonberry***Rubus spp./Rubus spectabilis***Rhododendron (Canadian)***Rhododendron canadense***Broadleaved meadowsweet***Spiraea latifolia***Cedar***Thuja spp.***Cherry***Prunus spp.***Douglas Fir***Pseudotsuga spp.***Hemlock***Tsuga spp.***Sheep laurel***Kalmia angustifolia***Snowberry (Western)***Symphoricarpos occidentalis***Sweet fern***Comptonia peregrina***Willow***Salix spp.***Withrod***Viburnum cassinoides***Maple***Acer spp.***Mountain-fly honeysuckle***Lonicera villosa***Pine***Pinus spp.***Poplar**

CROPLAND USES

ALWAYS READ PRECAUTIONARY STATEMENTS, GENERAL INFORMATION AND MIXING AND APPLICATION PRECAUTIONS (SECTIONS 3.0, 4.0 AND 5.0) PRIOR TO SPECIFIC APPLICATION INFORMATION IN ANY LABEL SECTION.

7.0 ANNUAL WEED CONTROL

The following tables provide rates and specific application instructions for control of the annual weeds listed.

7.1 ANNUAL WEED CONTROL WITH VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION

RATE (L/ha)	GROWTH STAGE	WEEDS CONTROLLED	COMMENTS† (Apply in 50-100 L/ha water)
0.75	Weeds up to 8 cm in height	Wild oats, green foxtail, volunteer barley, volunteer wheat Non-glyphosate tolerant volunteer canola (rapeseed), wild mustard, lady's-thumb, stinkweed	<ul style="list-style-type: none"> • For wild oats apply at 1-3 leaf stage. • Add 350 mL of a surfactant registered for use such as Agral® 90, Ag Surf®, or Companion™ Adjuvant • For heavy wild oat infestations use 1.0 L/ha rate.
1.0	Weeds 8 cm to 15 cm in height	All annual grasses listed above. All annual broadleaved weeds listed above plus flixweed* and kochia*	<ul style="list-style-type: none"> • Add 350 mL of surfactant registered for use as listed above. * Suppression only. Refer to higher rates of this table or tank mix table (section 7.2) for control options.
1.25 – 1.9	Weeds up to 15 cm in height	All annual grasses listed above plus downy brome, giant foxtail, and Persian darnel. All annual broadleaved weeds listed above plus cleavers, lamb's-quarters, redroot pigweed, hempnettle, flixweed, Russian thistle, volunteer flax, common ragweed*, Canada fleabane*, wild	<ul style="list-style-type: none"> • No surfactant required. • For tank mix weed control options see section 7.2. * DO NOT use these rates on plants greater than 8 cm in height. ** For 3-4 leaf stage use 1.9 L/ha rate. *** For weeds 8 cm to 15 cm in height use 1.9 L/ha rate.

RATE (L/ha)	GROWTH STAGE	WEEDS CONTROLLED	COMMENTS (Apply in 50-100 L/ha water)
		buckwheat**, narrow-leaved hawk's beard***	
2.25	Weeds up to 15 cm in height	All annual grasses listed above plus crab grass and annual blue grass All annual broadleaved weeds listed above plus kochia, prickly lettuce, shepherd's purse, annual sow thistle, and narrow-leaved vetch	• For additional annual broadleaved weed control options, refer to tank mix table (section 7.2).
3.5	Weeds over 15 cm in height	All annual grasses and broadleaved weeds listed above	• For additional annual broadleaved weed control options, refer to tank mix table (section 7.2).

†Agral 90 refers to Agral 90 Non-ionic Wetting & Spreading Agent Liquid or Agral 90 Non-ionic Liquid Wetting & Spreading Agent; Ag-Surf refers to IPCO Ag-Surf Original or Weedaway Ag-Surf Liquid Spray Adjuvant. Agral is a registered trademark of Syngenta Crop Group Company. Ag-Surf is a registered trademark of Interprovincial Cooperative Ltd. Companion is a trademark of Corteva Agriscience.

NOTE: For spot treatment, 0.75 – 3.5 litres per hectare is approximately equivalent to 8 – 35 mL/100m², respectively.

7.2 ANNUAL WEED CONTROL WITH VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION TANK MIXTURES

FOR SUMMERFALLOW & MINIMUM TILLAGE SYSTEMS

FOLLOW THE MORE RESTRICTIVE LABEL FOR THE APPLICATION OF THESE TANK MIXES

TANK MIXTURES	RATE (L/ha)	WEEDS CONTROLLED♦	COMMENTS (Apply in 50-100 L/ha water)
VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION	0.75 – 1.0 + 0.29	Volunteer cereals, wild oats, green foxtail Non-glyphosate tolerant volunteer canola (rapeseed), wild mustard, flixweed*, lamb's-quarters, lady's-thumb,	This tank mix is registered for summerfallow use only . Weeds should be less than 15 cm tall and actively growing for best results. Use higher rate if weeds are beyond 8 cm in height.

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TANK MIXTURES	RATE (L/ha)	WEEDS CONTROLLED♦	COMMENTS (Apply in 50-100 L/ha water)
Herbicide		stinkweed, kochia, Russian thistle, cow cockle, redroot pigweed**, wild buckwheat**	* VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION applied at 1.0 L/ha rate only. ** Suppression only. See other tank mixtures for control options. Add 350 mL/ha of surfactant – see list in section 7.3.
VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION + Pardner® Herbicide	0.75 – 1.0 + 1.25	Volunteer cereals, green foxtail, volunteer canola (rapeseed), wild mustard, lady's-thumb, stinkweed, wild buckwheat* Redroot pigweed**, kochia**, wild oats**	This tank mix is registered only for use in summerfallow, and prior to wheat, oats and barley in minimum tillage systems. Weeds should be less than 15 cm tall and actively growing for best results. Use higher rate if weeds are beyond 8 cm in height. * Use VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION at 1.0 L/ha rate only for wild buckwheat control. ** 1.0 L/ha rate, suppression only. See other tank mixtures for control options. Add 350 mL/ha of surfactant – see list in section 7.3.
VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION + 2,4-D ^A	1.25 – 1.9 + 0.6 – 0.9 ⁴ or 1.2 – 1.5 ⁵	Volunteer cereals, wild oats, green foxtail, downy brome, giant foxtail, and Persian dandel. Volunteer canola, (rapeseed) (non-Roundup Ready), wild mustard, flixweed, redroot pigweed, lady's-thumb, stinkweed, kochia, lamb's-quarters, hempnettle, Russian	Weeds should be less than 15 cm tall and actively growing for best results. Use higher rate if weeds are beyond 8 cm in height. * DO NOT use these rates on plants greater than 8 cm in height. ** For 3-4 leaf stage use 1.9 L/ha rate.

TANK MIXTURES	RATE (L/ha)	WEEDS CONTROLLED♦	COMMENTS (Apply in 50-100 L/ha water)
		<p>thistle, volunteer flax, common ragweed*, Canada fleabane, wild buckwheat**, narrow-leaved hawk's beard***</p> <p>Volunteer Roundup Ready canola (1-4 leaf stage)⁴, bluebur⁴, burdock⁴, cocklebur⁴, common plantain⁴, daisy fleabane⁴, false flax⁴, false ragweed⁴, goat's beard⁴, mustards⁴ (except dog and tansy), prickly lettuce⁴, ragweeds⁴, Russian pigweed⁴, shepherd's purse⁴, stinging nettle⁴, sweet clover⁴, thyme-leaved spurge⁴, wild radish⁴, wild sunflower⁴</p> <p>Volunteer Roundup Ready canola (4-6 leaf stage)⁵, annual sow thistle⁵, common chickweed⁵, common purslane⁵, dog and tansy mustard⁵, oak-leaved goosefoot⁵, common groundsel⁵, hairy galinsoga⁵, hawkweed⁵, heal-all⁵, knotweed⁵, peppergrass⁵, pineapple weed⁵, prostrate pigweed⁵, purslane⁵, sheep sorrel⁵, green smartweed⁵, tumble pigweed⁵, velvetleaf⁵, volunteer canola (rapeseed)⁵</p>	<p>*** For weeds 8 cm to 15 cm in height use 1.9 L/ha rate.</p> <p>⁴ 2,4-D at 0.6 – 0.9 L/ha (280 – 420 g ai/ha).</p> <p>⁵ 2,4-D at 1.2 – 1.5 L/ha (560 – 700 g ai/ha).</p> <p>Use this tank mix prior to seeding or after seeding but before crop emergence in wheat, winter wheat, barley and rye.</p> <p>No surfactant required.</p>
VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE	0.75 – 1.0	<p>Volunteer cereals, wild oats* and green foxtail*</p> <p>Volunteer canola</p>	<p>This tank mix is registered for summerfallow use only. Weeds should be less than 15 cm tall and actively growing for best results.</p>

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TANK MIXTURES	RATE (L/ha)	WEEDS CONTROLLED♦	COMMENTS (Apply in 50-100 L/ha water)
+ 2,4-D ^B	+ 1.2	(rapeseed), wild mustard, flixweed, redroot pigweed, lady's-thumb, stinkweed, kochia Lamb's-quarters**, Russian thistle**	Use higher rate if weeds are beyond 8 cm in height. * Use VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION at 1.0 L/ha rate only for wild oat and green foxtail control. ** Suppression only. See other tank mixtures for control options. Add 350 mL/ha of surfactant – see list in section 7.3.
VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION + MCPA ^C 500 g/L formulation, if another formulation is used, adjust rate accordingly	1.25 – 1.9 + 0.5 – 0.7 ¹ OR 0.5 – 1.0 ²	Volunteer cereals, wild oats, green foxtail, downy brome, giant foxtail, and Persian dandel. Volunteer canola (rapeseed) (non-Roundup Ready), wild mustard, flixweed, redroot pigweed, lady's thumb, stinkweed, kochia, lamb's quarters, hempnettle, Russian thistle, volunteer flax, common ragweed*, Canada fleabane, wild buckwheat**, narrow-leaved hawk's beard*** Volunteer Roundup Ready canola (1-4 leaf stage) ^{1,2} , bluebur ³ , burdock ³ (before 4 leaf stage), false flax ³ , flixweed ³ , lamb's quarters ³ , mustards ³ (except dog and tansy), prickly lettuce ³ , ragweeds ³ , redroot pigweed ³ , Russian pigweed ³ , shepherd's purse ³ , stinkweed (field	Weeds should be less than 15 cm tall and actively growing for best results. Use higher rate if weeds are beyond 8 cm in height. * DO NOT use these rates on plants greater than 8 cm in height. ** For 3-4 leaf stage use 1.9 L/ha rate. *** For weeds 8 cm to 15 cm in height use 1.9 L/ha rate. ¹ MCPA amine at 0.5 – 0.7 L/ha (250-350 g ai/ha) prior to peas. ² MCPA at 0.5 – 1.0 L/ha (250-500 g ai/ha) prior to wheat, barley, oats, corn (field and sweet MCPA ^C rye and flax. ³ MCPA at 0.7 – 1.0 L/ha (350 – 500 g ai/ha) only. Use this tank mix prior to seeding in wheat, barley, rye, oats, corn (field and sweet)

TANK MIXTURES	RATE (L/ha)	WEEDS CONTROLLED♦	COMMENTS (Apply in 50-100 L/ha water)
		pennycress) ³ , vetch ³ , wild radish ³ , wild sunflower ³	MCPA ^C , flax, and field peas MCPA ^C No surfactant required.
VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION	1.25 – 1.9	Volunteer cereals, wild oats, green foxtail, downy brome, giant foxtail and Persian darnel.	Weeds should be less than 15 cm tall and actively growing for best results. Use higher rate if weeds are beyond 8 cm in height.
+ Buctril M	+ 0.5 – 1.0 ¹	Volunteer canola (rapeseed) (non-Roundup Ready), wild mustard, flixweed, redroot pigweed, lady's thumb, stinkweed, kochia, lamb's quarters, hempnettle, Russian thistle, volunteer flax, common ragweed*, Canada fleabane, wild buckwheat**, narrow-leaved hawk's beard*** Volunteer Roundup Ready Canola (1-4 leaf stage) ^{1,2} Seedlings up to the 4-leaf stage ² : green smartweed, pale smartweed, lady's thumb, cow cockle, redroot pigweed, flixweed, bluebur, shepherd's purse, kochia ³ , Russian thistle ³ , scentless chamomile ⁴ , volunteer sunflower, night flowering catchfly, cocklebur, velvetleaf ⁵ , ball mustard, American nightshade Seedlings up to the 6-leaf stage ² : wild tomato	*DO NOT use these rates on plants greater than 8 cm in height. ** For 3-4 leaf stage use 1.9 L/ha rate. *** For weeds 8 cm to 15 cm in height use 1.9 L/ha rate. ¹ Buctril M at 0.5 – 1.0 L/ha (280-560 g ai/ha) for all crops listed. ² Buctril M at 1.0 L/ha (560 g ai/ha only). ³ Spray before plants are 5 cm high. ⁴ Spring annuals only. ⁵ Spray before plants are 8 cm high. Use this tank mix prior to seeding in wheat, barley, rye, oats, corn, flax, canary seed and seedling grasses (including brome grass, crested wheatgrass, intermediate wheat grass, slender wheatgrass, tall wheatgrass, Russian wild rye,

TANK MIXTURES	RATE (L/ha)	WEEDS CONTROLLED♦	COMMENTS (Apply in 50-100 L/ha water)
		<p>Seedlings up to the 8-leaf stage²: wild buckwheat, tartary buckwheat, common buckwheat, stinkweed, wild mustard, wormseed mustard, lamb's quarters, common ragweed, common groundsel</p> <p>Perennials (top growth)²: Canada thistle, perennial sow thistle</p>	<p>timothy, orchard grass, creeping red fescue, meadow fescue, meadow foxtail, seedling tall fescue, seedling meadow bromegrass, seedling streambank wheatgrass and reed canary grass.</p> <p>No surfactant required.</p>
<p>VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION + MCPA amine (500 g/L formulation; if another formulation is used, adjust rate accordingly)</p>	<p>1.25 – 1.9 + 0.5 – 0.7</p>	<p>Volunteer cereals, wild oats, green foxtail, downy brome, giant foxtail, and Persian dandel.</p> <p>Volunteer canola (rapeseed) (non Roundup Ready), wild mustard, flixweed, redroot pigweed, lady's thumb, stinkweed, kochia, lamb's quarters, hempnettle, Russian thistle, volunteer flax, common ragweed*, Canada fleabane, wild buckwheat**, narrow-leaved hawk's beard***</p> <p>Volunteer Roundup Ready canola (1-4 leaf stage)³, bluebur⁴, burdock⁴ (before 4 leaf stage), false flax⁴, flixweed⁴, lamb's quarters⁴, mustards⁴ (except dog and tansy), prickly lettuce⁴, ragweeds⁴, redroot pigweed⁴, Russian pigweed⁴, shepherd's</p>	<ul style="list-style-type: none"> • Weeds should be less than 15 cm tall and actively growing for best results. • Use higher rate if weeds are beyond 8 cm in height. <p>* DO NOT use these rates on plants greater than 8 cm in height.</p> <p>** For 3-4 leaf stage, use 1.9 L/ha rate.</p> <p>*** For weeds 8 cm to 15 cm in height, use 1.9 L/ha rate.</p> <p>³ MCPA amine at 0.5 – 0.7 L/ha (250 – 350 g ai/ha) prior to lentils and chickpeas.</p> <p>⁴ MCPA amine at 0.7 L/ha (350 g ai/ha) only.</p> <ul style="list-style-type: none"> • Use this tank mix prior to seeding in lentil and chickpea. • Use this tank mix prior to seeding in lentil and chickpea. <p>Under drought conditions, deep seeding and/or brief rain</p>

TANK MIXTURES	RATE (L/ha)	WEEDS CONTROLLED♦	COMMENTS (Apply in 50-100 L/ha water)
		purse ⁴ , stinkweed ⁴ (field pennycress), vetch ⁴ , wild radish ⁴ , wild sunflower ⁴	<p>showers after seeding may cause injury to emerging seedlings in sprayer overlaps.</p> <ul style="list-style-type: none"> • No surfactant required.

♦ For foxtail barley, refer to “**Perennial Weed Control**” table (section 8.1).

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

^C Use only amine formulations of MCPA prior to seeding in corn and field peas.

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7.3 SURFACTANT INFORMATION

NOTE: Addition of Surfactant – VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION tank mixtures for annual weed control may require the addition of a surfactant registered for use such as Agral 90, Non-Ionic Wetting & Spreading Agent Liquid, Agral 90 Non-Ionic Liquid Wetting & Spreading Agent, IPCO Ag-Surf Original, Weedaway Ag-Surf Liquid Spray Adjuvant, or Companion Adjuvant. Refer to Section 7.2 for recommendations. Surfactant should be added at a rate of 350 millilitres per hectare, in 50 - 100 litres of clean water.

7.4 ADDITIONAL IMPORTANT INFORMATION FOR ANNUAL WEED CONTROL

VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION, applied by itself, will not control volunteers from crops containing the Roundup Ready Gene.

Allow at least 1 day after treatment before tillage.

Annual weeds generally will continue to germinate from seed throughout the growing season. Repeat treatments may be necessary to control later germinating weeds, in some situations.

For additional information and precautions, refer to “**General Information**” and “**Mixing and Application**” (Sections 4.0 and 5.0, respectively).

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

WARNING: APPLY VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION 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 “**General Information**” and “**Mixing and Application**” (sections 4.0 and 5.0, respectively).
- Apply VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION in glyphosate tolerant canola only as directed in the following weed control table.
- Some short-term, visual yellowing may occur when VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION is applied at the late application (4 to 6 leaf stage) of the crop. This effect is temporary and will not influence crop growth, maturity or yield.

DO NOT apply by air.

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

WEED CONTROL IN CANOLA WITH THE ROUNDUP READY GENE

RATE (L/ha)	GROWTH STAGE OF CROP	WEEDS CONTROLLED	COMMENTS (Apply in 50 –100 L/ha water)
0.825 – 1.875	0 to 6 leaf	<p><u>Annual Grasses</u> Wild oats, green foxtail, volunteer barley, volunteer wheat, barnyard grass</p> <p><u>Annual Broadleaves</u> Stinkweed, redroot pigweed, wild mustard, Russian thistle, lamb’s-quarters, non-glyphosate tolerant volunteer canola (rapeseed), hempnettle, lady’s-thumb, kochia, chickweed, corn spurry, wild tomato, cleavers*, wild buckwheat*, shepherd’s purse*, cow cockle*, night-flowering catchfly*, smartweed*, storksbill*, flixweed*, narrow-leaved hawk’s beard*, round-leaved mallow***</p> <p><u>Perennials (suppression)**</u> Canada thistle, perennial sow thistle, dandelion</p> <p><u>Perennials (season-long control)</u> Quackgrass**, foxtail barley***, Canada thistle****, perennial sow thistle****</p>	<ul style="list-style-type: none"> • Repeat applications may be required if a second flush of weeds germinates prior to canopy closure. • Ensure the crop has not advanced beyond the recommended growth stage. <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>** A single application at the 1.25 L/ha rate is required.</p> <p>*** Sequential applications at the 1.25 L/ha rate are required.</p> <p>****Sequential applications at the 1.25 L/ha rate are required or a single application of 1.875 L/ha.</p> <ul style="list-style-type: none"> • For sequential applications, ensure the crop has not advanced beyond the recommended growth stage. • Maximum 2.5 L/ha is allowed for the postemergence use.

7.5.1 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 Herbicide with 1.25 L/ha of VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION, in 100 litres of water per hectare. Apply when canola is in the 2-6 leaf stage. Refer to the Lontrel 360 Herbicide and to the VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION labels for a list of other weeds controlled, timing of application, water volumes and use precautions.

Lontrel is a registered trademark of Corteva Agriscience.

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

WARNING: APPLY VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION ON GLYPHOSATE TOLERANT SOYBEAN VARIETIES ONLY (I.E., VARIETIES WITH THE ROUNDUP READY GENE).

NOTE: ALWAYS USE PEDIGREED (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.

RATE (L/ha)	GROWTH STAGE OF CROP	WEEDS CONTROLLED ♦	COMMENTS (Use 100 – 200 L/ha water volumes)
2.5	First trifoliolate leaf stage through flowering	Velvetleaf, common ragweed, common lamb's quarters, redroot pigweed, smooth pigweed, cocklebur, green smartweed, lady's-thumb, Pennsylvania smartweed, Eastern black nightshade, wild mustard, wild buckwheat, foxtail (green, yellow, giant), barnyard grass, crabgrass (smooth, large), quackgrass, fall panicum, wild proso millet, wild oats, volunteer barley, volunteer wheat, stinkweed, Russian thistle, non-glyphosate tolerant canola (rapeseed), hemp-	<p>¹ A single application of 2.5 L/ha will provide suppression only.</p> <p>² For control of common milkweed, yellow nutsedge, round-leaved mallow and field bindweed, a second sequential application may be at least 2 weeks after the first application.</p> <ul style="list-style-type: none"> • A second 2.5 L/ha application will improve control in heavy infestations • A second 2.5 L/ha application may be used for late weed flushes emerging after the initial treatment.

RATE (L/ha)	GROWTH STAGE OF CROP	WEEDS CONTROLLED ♦	COMMENTS (Use 100 – 200 L/ha water volumes)
		<p>nettle, kochia, chickweed, corn spurry, wild tomato, cleavers, shepherd's purse, cow cockle, night flowering catchfly, stork's bill, flixweed, narrow leaved hawk's-beard</p> <p>common milkweed^{1,2}, yellow nutsedge^{1,2}, field bindweed², perennial sow thistle³, Canada thistle³ wire-stemmed muhly³.</p>	<ul style="list-style-type: none"> • Any second application made must be applied no later than the flowering stage of the soybean. • Common milkweed should be 15-60 cm in height and actively growing. • Yellow nutsedge should be 5-15 cm in height and actively growing. • 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 treatment.
5.0	First trifoliolate leaf stage through to flowering	All weeds listed above plus horse-nettle ³	<ul style="list-style-type: none"> • Only one application per season at 5.0 L/ha. • Common milkweed should be 15-60 cm in height and actively growing. • Yellow nutsedge should be 5-15 cm in height and actively growing. • Plants not fully emerged at the time of application will escape treatment. <p>³ For season-long control of horse-</p>

RATE (L/ha)	GROWTH STAGE OF CROP	WEEDS CONTROLLED ♦	COMMENTS (Use 100 – 200 L/ha water volumes)
			nettle (<i>Solanum carolinense</i>) at the 2- to 12-leaf stage, apply 5.0 L/ha. Alternatively, sequential applications of 2.5 L/ha followed by 2.5 L/ha may be applied. Applications should be at least 2 weeks apart for best results.

♦ 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.

7.6.1 TANK MIXTURES

VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION plus Pursuit Herbicide

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 VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION at a rate of 2.5 litres per hectare. Use 0.16 to 0.21 litres per hectare of Pursuit Herbicide and apply up to and including the 3rd trifoliolate 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 Herbicide as per instructions on the Pursuit Herbicide label and then add VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION as per instructions on this label.

A PHI of 100 days is required for the tank mix of VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION and Pursuit Herbicide on glyphosate tolerant soybeans.

Only one application per season of VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION 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.

♦ 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.

Assure II is a registered trademark of AMVAC Canada ULC.

Volunteer Roundup Ready Corn Control

For control of volunteer Roundup Ready Corn, Assure II Herbicide may be tank mixed with VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION. Use 2.5 – 5.0 litres per hectare VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION and 0.25 - 0.38 litre per hectare of Assure II Herbicide.

The higher rate of Assure II Herbicide may be required when there are high populations of volunteer Roundup Ready corn, other grass weeds are present or when conditions at application are not favorable for weed growth.

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 VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION as per instructions on this label.

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

A PHI (preharvest interval) of 80 days is required for the tank mix of VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION and Assure II Herbicide on Roundup Ready (glyphosate tolerant) soybeans.

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

VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION plus Assure II Herbicide

Rate	Growth Stage of the Crop	Weeds Controlled	Comments
2.5–5.0 L/ha VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION + 0.25 - 0.38 L/ha Assure II Herbicide	First trifoliate leaf stage through flowering.	Volunteer Roundup Ready Corn. Apply at the 2-6 leaf stage of the weed.	See additional information following this table.

*Sure Mix may or may not be added to this tank mix

VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION and Classic Herbicide*

For season-long control of dandelion, annual sow thistle, and yellow nutsedge, apply Classic Herbicide at 36 grams per hectare plus VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION at 2.5 litres per hectare*. Add a non-ionic surfactant such as Agral 90 Non-Ionic Wetting & Spreading Agent Liquid, Citowett Plus, or IPCO Ag-Surf Original at 0.2% v/v. Apply when soybeans are in the 1-3 trifoliolate stage; dandelions and annual sow thistle less than 15 cm tall and across; and up to the 8 leaf stage for yellow nutsedge. USE THIS TANK MIXTURE ONLY ON SOYBEANS WITH THE ROUNDUP READY® TRAIT.

Consult the Classic Herbicide label for tank mixing instructions and use precautions including instructions on replanting to other crops.

*Use this tank mix only in cases of heavy infestation of yellow nutsedge.

Pursuit is a registered trademark of BASF Corporation II is a trademark of AMVAC Canada ULC, and Classic is a registered trademarks of Corteva Agriscience.

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

WARNING: APPLY VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION 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.

RATE (L/ha)	GROWTH STAGE OF CROP	WEEDS CONTROLLED◆	COMMENTS (use 100-200 L/ha water volumes)

2.5	Up to and including 8 leaf stage	Velvetleaf, common ragweed, common lamb's-quarters, redroot pigweed, smooth pigweed, cocklebur, green smartweed, lady's-thumb, Pennsylvania smartweed, Eastern black nightshade, wild mustard, wild buckwheat, foxtail (green, yellow, giant), barnyard grass, crabgrass (smooth, large), quackgrass, fall	<p>¹A single application of 2.5 L/ha will provide suppression only.</p> <p>² For control of common milkweed, yellow nutsedge, round-leaved mallow and field bindweed, a second sequential application may be at least 2 weeks after the first application.</p> <ul style="list-style-type: none"> • A second 2.5 L/ha application will improve control in heavy infestations.
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RATE (L/ha)	GROWTH STAGE OF CROP	WEEDS CONTROLLED♦	COMMENTS (use 100-200 L/ha water volumes)
		<p>panicum, wild proso millet, wild oats, volunteer barley, volunteer wheat, stinkweed, wild mustard, Russian thistle, non-glyphosate tolerant canola (rapeseed), hemp-nettle, kochia, chickweed, corn spurry, wild tomato, cleavers, shepherd's purse, cow cockle, night-flowering catchfly, stork's-bill, flixweed, narrow-leaved hawk's-beard</p> <p>common milkweed^{1,2}, yellow nutsedge^{1,2}, round-leaved mallow², field bindweed², perennial sow thistle³, Canada thistle³, wire-stemmed muhly³</p>	<ul style="list-style-type: none"> • A second 2.5 L/ha application may be used for late weed flushes emerging after the initial treatment. • Any second application must be applied no later than the 8 leaf stage of the corn. • Common milkweed should be 15-60 cm in height and actively growing. • Yellow nutsedge should be 5-15 cm in height and actively growing. • 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 treatment.
5.0	Up to and including 6 leaf stage	All weeds listed above	<ul style="list-style-type: none"> • Only one application per season at 5.0 L/ha. • Common milkweed should be 15-60 cm in height and actively growing. • Yellow nutsedge should be 5-15 cm in height and actively

RATE (L/ha)	GROWTH STAGE OF CROP	WEEDS CONTROLLED♦	COMMENTS (use 100-200 L/ha water volumes)
			growing. Plants not fully emerged at the time of application will escape treatment.

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

7.7.1 TANK MIXTURES

For tank mixtures, add either atrazine or Marksman Herbicide according to instructions on the product label, and then add VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION according to instructions on this label (section 5). Refer to the atrazine and Marksman Herbicide product labels for further safety precautions and product handling instructions.

DO NOT apply by air.

RATE (L/ha)	GROWTH STAGE OF CROP	WEEDS CONTROLLED♦	COMMENTS (use 100-200 L/ha water volume)
2.5 VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION + 0.75– 1.0 kg ai/ha atrazine*	Up to and including the 5 th leaf stage	Residual control of lamb's-quarters, redroot pigweed, common ragweed	Tank mix should be used when only a single application timing is desired. Use the higher rate of atrazine for heavier weed infestations.

<p>2.5 VANGU ARD GLYPH OSATE 41% LIQUID HERBIC IDE SOLUTI ON + 2.5-3.7 Marksman Herbicide</p>	<p>Up to and including the 5th leaf stage</p>	<p>Residual control of lamb's-quarters, redroot pigweed, common ragweed, velvetleaf</p>	<p>Tank mix should be used when only a single application timing is desired. Use the higher rate of Marksman Herbicide for heavier weed infestations.</p>
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* 0.75-1.0 kg ai atrazine/ha is equivalent to 1.56-2.08 L/ha of Aatrex Liquid 480.

Aatrex is a registered trademark of Syngenta Group Company.

Marksman is a registered trademark of BASF Corporation.

◆ 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.

7.8 WEED CONTROL IN GLYPHOSATE TOLERANT SUGAR BEETS (I.E. VARIETIES WITH THE ROUNDUP READY® GENE)

WARNING: APPLY VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION ON GLYPHOSATE TOLERANT SUGAR BEET VARIETIES ONLY (I.E., VARIETIES WITH THE ROUNDUP READY GENE).

NOTE: ALWAYS USE PEDIGREED (CERTIFIED) SUGAR BEET SEED DESIGNATED AS GLYPHOSATE TOLERANT. SUGAR BEETS WHICH ARE NOT DESIGNATED AS GLYPHOSATE TOLERANT WILL BE DAMAGED OR DESTROYED BY THIS TREATMENT.

DO NOT apply by air.

For weed control in glyphosate tolerant sugar beets (i.e. varieties with the Roundup Ready® gene) apply 1.25 – 2.5 L/ha of VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION to emerged weeds. Refer to “**Annual Weed Control**” and “**Perennial Weed Control**” (Sections 7.1 and 8.1, respectively) of the VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION label booklet for a listing of weeds controlled.

Apply VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION to emerged weeds up to 15 cm in height.

Up to four applications of VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION may be applied to glyphosate tolerant sugar beets (i.e. varieties with the Roundup Ready® gene). Allow a minimum of 10 days between applications.

DO NOT harvest glyphosate sugar beets (i.e. varieties with the Roundup Ready® gene) within 30 days after the final application of VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION.

8.0 PERENNIAL WEED CONTROL

ALWAYS READ PRECAUTIONS, GENERAL INFORMATION AND MIXING AND APPLICATION SECTIONS (3.0, 4.0 AND 5.0) PRIOR TO SPECIFIC APPLICATION INFORMATION IN ANY LABEL SECTION.

DO NOT apply by air.

When applied as recommended under the conditions described, this product will control the perennial weeds listed in the following table.

**8.1 PERENNIAL WEED CONTROL WITH VANGUARD GLYPHOSATE
41% LIQUID HERBICIDE SOLUTION**

WEED	APPLICATION			COMMENTS
	GROWTH STAGE	RATE (L/ha)	WATER VOLUME (L/ha)	
Quackgrass (control, light to moderate infestations)	3 to 4 green leaves or more	2.5	50 - 300	<ul style="list-style-type: none"> • Dilute in clean water using flat fan nozzles. • Allow 3 or more days after treatment before tillage. • Refer to “Quackgrass” notes in section 8.2.1 for more information. • For higher water volumes (i.e., 150 – 300 L/ha) an approved surfactant must be added at 0.5 L per 100 L of clean water (0.5% v/v). Refer to list in section 8.2.2. See also below.
Quackgrass (long term control, heavy infestations, high water volumes)	3 to 4 green leaves or more	2.5 – 7.0	50 - 300	<ul style="list-style-type: none"> • Allow 3 or more days after treatment before tillage. • Rates higher than 2.5 L/ha will provide more consistent, longer term control, especially with heavier infestations and/or higher water volumes (i.e., 150 – 300 L/ha). • Refer to “Quackgrass” notes in section 8.2.1 for more information.
Canada Thistle	Rosette stage (summerfallow)	2.5	50 - 100	<ul style="list-style-type: none"> • Dilute in clean water using flat fan nozzles. • Allow 10 or more days after treatment before tillage. • Refer to “Canada Thistle” notes in section 8.2.3 for more information.
Canada Thistle	Bud stage or beyond	4.75 – 7.0	100 - 300	<ul style="list-style-type: none"> • Allow 5 or more days after treatment before tillage.
Field Bindweed	Full bloom or beyond	7 - 12	100 - 300	<ul style="list-style-type: none"> • Allow 7 or more days after treatment before tillage.

WEED	APPLICATION			COMMENTS
	GROWTH STAGE	RATE (L/ha)	WATER VOLUME (L/ha)	
Common Milkweed*	Bud to full bloom (preharvest)	2.5	50 – 100	<ul style="list-style-type: none"> • See “Preharvest Treatment” (section 9.9) for more information. • Allow 7 or more days after treatment before tillage. • Reduced control may occur after full bloom. • Milkweed may not all be in the correct stage, therefore, repeat treatments may be required.
	Bud to full bloom	12	100 - 300	
Toadflax	Vegetative Stage (summerfallow)	2.5	50 - 100	<ul style="list-style-type: none"> • Dilute in clean water using flat fan nozzles. • Allow 7 or more days after treatment before tillage in summerfallow. • For more information, see “Toad Flax Control” (section 8.2.4), or “Preharvest Treatment” (Section 9.9).
	Bud to full bloom (preharvest)			
Alfalfa	Early bud to full bloom stage	3.7 – 5.0	50 - 300	<ul style="list-style-type: none"> • Allow 5 or more days after treatment before tillage. Use the higher rates when alfalfa populations are high or when heavy grass infestations are also present. • For spring applications and control in minimum tillage systems using a 2,4-D tank mix, see section 8.2.6.
	Fall applications only			

WEED	APPLICATION			COMMENTS
	GROWTH STAGE	RATE (L/ha)	WATER VOLUME (L/ha)	
Dandelion	< 15 cm	2.5	50 – 100	<ul style="list-style-type: none"> • Allow 3 or more days after treatment before tillage for all rates. • Use the higher rate when infestations are heavy. • Refer to “Dandelion” notes in section 8.2.5 for more information. • Allow 7 or more days after treatment before tillage. For more information, see “Preharvest Treatment” (section 9.9).
	> 15 cm	3.7 – 5.0	50 – 300	
	Rosette to full bloom (preharvest)	2.5	50 - 100	
Foxtail Barley	Seeding to heading	2.5 – 5.0	50 - 100	<ul style="list-style-type: none"> • Allow a minimum of 1 day after treatment before tillage or seeding. • Use higher rates for larger, more established plants, heavy infestations or if plants are stressed.
Other Perennials (see listing section 6.2)	Early heading or early bud stage	7 - 12	100 - 300	<ul style="list-style-type: none"> • Allow 7 or more days after treatment before tillage.

*NOTE: For spot treatment, mix 120 millilitres of product in 5 litres clean water per 100 m² (2.5 – 12 litres per hectare is approximately equivalent to 25 – 120 mL/100m², respectively).

8.2 SPECIAL NOTES FOR PERENNIAL WEED CONTROL

8.2.1 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 quackgrass 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 quackgrass 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 quackgrass has recovered. Quackgrass 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.

8.2.2 SURFACTANTS

The following is a list of approved surfactants for use with VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION for control of quackgrass:

Agral 90 Non-Ionic Wetting & Spreading Agent Liquid
 Agral 90 Non-Ionic Liquid Wetting & Spreading Agent
 IPCO Ag-Surf Original
 Weedaway Ag-Surf Liquid Spray Adjuvant
 Companion Adjuvant

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

8.2.3 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 15th and August 1st.
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.

VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION PLUS BANVEL HERBICIDE TANKMIXTURES

For control of Canada thistle (and perennial sow thistle) in summerfallow or in postharvest stubble, apply 1.7 litres per hectare VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION plus 1.25 litres per hectare Banvel Herbicide 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, Non-Ionic

Wetting & Spreading Agent Liquid, IPCO Ag-Surf Original or Companion Adjuvant.

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.

8.2.4 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 10th and July 21st.
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.

8.2.5 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.

8.2.6 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 VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION 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 VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION. 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 VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION rates when perennial grasses are prevalent.

8.2.7 ALL PERENNIAL WEEDS

Weed Stages: Weeds must be at the proper stage for effective control. Refer to “Perennial Weed Control with VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION” (section 8.1).

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 “Weed Control” tables (sections 7.1 and 8.1) 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. DO NOT apply if rainfall is forecast for the time of application.

Regrowth from Germinating Seeds: This product only controls 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.

9.0 CROPLAND SITUATIONS

ALWAYS READ PRECAUTIONS, GENERAL INFORMATION AND MIXING AND APPLICATION SECTIONS (3.0, 4.0 and 5.0) PRIOR TO SPECIFIC APPLICATION INFORMATION IN ANY LABEL SECTION.

DO NOT apply by air EXCEPT FOR PREHARVEST AERIAL APPLICATION (SECTION 9.9.2).

FOLLOW THE MORE RESTRICTIVE LABEL FOR THE APPLICATION OF THESE TANK MIXES.

This product can be applied as a broadcast spray or spot treatment prior to planting all crops, postharvest to annual crops, preharvest in wheat, barley, oats, canola (rapeseed), flax (including low linolenic acid varieties), lentils, peas, soybeans, dry beans and forages, and in summerfallow. It may also be applied as a broadcast spray in glyphosate tolerant corn, soybean or canola, i.e., varieties with the Roundup Ready gene (sections 7.5, 7.6 and 7.7). It may be applied as a directed spray in orchards, vineyards, blueberries and strawberry, and using selective equipment in soy and dry beans, orchards, vineyards, cranberries and strawberry (refer to specific sections below for more information). **For specific instructions on weed control in the following cropping situations, always refer to “Annual and Perennial Weed Control” (sections 7.0 and 8.0) for more information.**

9.1 PRIOR TO PLANTING – ALL CROPS

This product may be applied prior to planting all crops for control of emerged weeds listed on this label. Ensure weeds are at the desired stage at the time of application. This product does not provide preemergent weed control and newly germinating weeds may be a problem in the crop. APPLY BEFORE SEEDING OR TRANSPLANTING.

9.1.1 PRIOR TO PLANTING – TANK MIXES* - SOYBEANS

***TANK MIXES – REFER TO THE RESPECTIVE PRODUCT LABELS WHEN TANK MIXING FOR USE RATES, CAUTIONS/WARNINGS, MIXING INSTRUCTIONS, RE-CROPPING RECOMMENDATIONS AND OTHER DETAILS.**

VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION plus Pursuit Herbicide

VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION plus Pursuit Herbicide can be applied prior to or after seeding, but before crop emergence. VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION will control emerged weeds listed on this label when applied as directed (refer to Annual and Perennial Weed control sections in the VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION product label). Pursuit Herbicide will control weeds germinating from seed.

ONLY SOYBEANS, WHITE BEANS, KIDNEY BEANS, PROCESSING PEAS, 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 100 DAYS AFTER THE APPLICATION.

DO NOT APPLY AFTER CROP EMERGENCE.

VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION plus metribuzin (Sencor 75 DF, Sencor 480F, or Lexone DF Herbicide Dispersible Granules)

For burndown and residual control of selected annual weeds taller than 4 cm in soybeans, apply VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION in tank mix with Sencor 75 DF, Sencor 480F, or Lexone DF Herbicide Dispersible Granules as a preplant surface or pre-emergence application before crop emergence.

VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION plus Dual Magnum Herbicide or Dual II Magnum Herbicide

For burndown and residual control of selected annual weeds in soybeans. Apply VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION in tank mix with Dual Magnum Herbicide or Dual II Magnum Herbicide at 1.15– 1.75 L/ha as a preplant surface (up to 30 days before planting) or pre-emergence application before crop emergence.

Perennial weeds such as quack grass may not be controlled with lower rates of VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION. Use higher rates of VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION if perennial weeds are present.

VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION plus Dual Magnum Herbicide or Dual II Magnum Herbicide plus metribuzin (Sencor 75 DF, Sencor 480F, or Lexone DF Herbicide Dispersible Granules)

For burndown and residual control of selected annual weeds in soybeans. Apply as a preplant surface (up to 30 days before planting) or pre-emergence application before crop emergence. Perennial weeds such as quack grass may not be controlled with lower rates of VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION.

VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION plus Lorox L Herbicide or Afolan F Herbicide

For burndown and residual control of selected annual weeds apply VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION plus Lorox L Herbicide or Afolan F Herbicide after seeding but before crop emergence.

VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION plus Axiom DF Herbicide 68% Water Dispersible Granular Herbicide

Preplant Surface:

For use in conservation tillage, minimum-tillage or no-tillage crop production systems, when weeds are present at the time of application, apply the Axiom DF Herbicide 68% Water Dispersible Granular Herbicide treatment in tank mixture with VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION. Apply Axiom DF Herbicide 68% Water Dispersible Granular Herbicide in a minimum of 200 L/ha of total volume.

Preemergence:

VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION plus Axiom DF Herbicide 68% Water Dispersible Granular Herbicide may be applied to the soil surface as a broadcast spray after planting of the crop, but prior to weed or crop emergence.

For conservation tillage systems: Apply this tank mixture in a minimum of 200 L/ha of total volume.

9.1.2 PRIOR TO PLANTING – TANK MIXES* - CORN

***TANK MIXES – REFER TO THE RESPECTIVE PRODUCT LABELS WHEN TANK MIXING FOR USE RATES, CAUTIONS/WARNINGS, MIXING INSTRUCTIONS, RE-CROPPING RECOMMENDATIONS AND OTHER DETAILS.**

VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION plus Dual Magnum Herbicide or Dual II Magnum Herbicide

For burndown and residual control of selected annual weeds in corn. Apply VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION in tank mix with Dual Magnum Herbicide or Dual II Magnum Herbicide at 1.25 to 1.75 L/ha as a preplant surface (up to 30 days before planting) or pre-emergence application before crop emergence.

NOTE: The use on corn is for EASTERN CANADA ONLY.

Perennial weeds such as quack grass may not be controlled with lower rates of VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION. Use higher rates of VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION if perennial weeds are present.

VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION plus Dual Magnum Herbicide or Dual II Magnum Herbicide plus Aatrex Liquid 480 Herbicide

For burndown and residual control of selected annual weeds in corn. Apply VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION in tank mix with Dual Magnum Herbicide or Dual II Magnum Herbicide at 1.25 – 1.75 L/ha plus Aatrex Liquid 480 Herbicide at 2.1 - 3.1 L/ha as a preplant surface (up to 30 days before planting) or pre-emergence application before crop emergence.

NOTE: The use on corn is for EASTERN CANADA ONLY.

Perennial weeds such as quack grass may not be controlled with lower rates of VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION. Use higher rates of VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION if

perennial weeds are present.

VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION plus Primextra II Magnum Herbicide

For burndown and residual control of selected annual weeds in corn apply VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION plus Primextra II Magnum Herbicide preplant surface or pre-emergence application before crop emergence. This tank mixture requires the use of a surfactant, such as Agral 90 Non-Ionic Wetting & Spreading Agent Liquid or IPCO Ag-Surf Original. See Section 8.2.2 (Surfactant) and mixing instructions for more information.

Perennial weeds such as quack grass may not be controlled with lower rates of VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION. Use higher rates of VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION if perennial weeds are present.

VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION plus Lorox L Herbicide or Afolan F Herbicide

For burndown and residual control of selected annual weeds apply VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION plus Lorox L Herbicide or Afolan F Herbicide after seeding but before crop emergence.

VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION plus Converge Pro or Converge 75WDG Herbicide

Surface Preplant:

CONVERGE 75 WDG Herbicide can be applied to the soil surface up to 14 days prior to planting. CONVERGE 75 WDG Herbicide must be tankmixed with atrazine when applied as a surface preplant application. When weed growth is present at the time of application, VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION can be added to the Converge Pro or Converge 75 WDG Herbicide + atrazine treatment for burndown control of these weeds. DO NOT incorporate.

Preemergence:

Converge Pro or Converge 75 WDG Herbicide can also be applied after planting to just prior to crop emergence. Atrazine and/or VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION can be tank mixed with pre-emergent applications of Converge Pro or Converge 75 WDG Herbicide .

Apply Converge Pro at 165-220 mL per hectare, or Converge 75 WDG Herbicide at 105-140 g per hectare, tankmixed with VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION at 2.5 litres per hectare for burndown control of emerged weeds in all tillage management systems and improved control of established dandelion in zero-tillage management systems. A three-way tankmix of Converge Pro or Converge 75 WDG Herbicide + atrazine + VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION can be used to provide residual control of the weeds listed in the Converge Pro or Converge 75 WDG Herbicide + atrazine section.

**VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION plus Axiom DF 68%
Water Dispersible Granular Herbicide**

Preplant Surface:

For use in conservation tillage, minimum-tillage or no-tillage crop production systems, when weeds are present at the time of application, apply the Axiom DF 68% Water Dispersible Granular Herbicide treatment in tank mixture with VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION. Apply Axiom DF 68% Water Dispersible Granular Herbicide in a minimum of 200 L/ha of total volume.

Preemergence:

VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION plus Axiom DF 68% Water Dispersible Granular Herbicide may be applied to the soil surface as a broadcast spray after planting of the crop, but prior to weed or crop emergence.

For conservation tillage systems:

Apply this tankmix in a minimum of 200 L/ha of total volume.

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Lexone is a registered trademark of Corteva Agriscience and its affiliated companies.

Dual, Magnum and Primextra are registered trademarks of Syngenta group company.

9.2 POSTHARVEST STUBBLE TREATMENT

This product may be applied in the fall as a postharvest stubble treatment for control of perennial weeds such as quackgrass and Canada thistle. Allow weeds to regrow to the desired stage (20 to 25 centimetres tall for quackgrass and Canada thistle) before application and ensure they have a high proportion of green colouration. Straw should be removed or evenly spread to allow for proper regrowth and spray coverage. Heavy frosts prior to application may decrease control.

9.3 SPOT TREATMENT (IN-CROP)

This product can be applied as an in-crop spot treatment in barley, corn, oats, soybeans, wheat, strawberry, blueberry, forage grasses and legumes including seed production. Applications should be made using the same rates and at the same growth stages as listed in the “**Weed Control**” tables (sections 7.1 and 8.1) or use a 1 percent solution for annual weeds and quackgrass and a 2 percent solution for other perennial weeds (a 1 percent solution equals 1 litre VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION in 100 litres of spray solution). One or two percent solutions should be applied to wet, but not run-off.

Applications can be made using a boom sprayer, hose and handgun, or hand sprayer in accordance with instructions in “**Application Equipment**” (section 5.2).

9.3.1 GRAZING RESTRICTIONS

Applications can be made up to heading of small grains, initial pod set on soy and dry beans, silking of corn and emergence of seed heads. The crop in the treated area will be killed. Take care to avoid drift for the same reason. **DO NOT APPLY IF CROP GROWTH HAS ADVANCED BEYOND SEED SET. ALLOW 3 TO 5 DAYS FOR VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION TO TRANSLOCATE INTO ALL PLANT PARTS BEFORE GRAZING OR HARVESTING TREATED AREAS IN FORAGES.**

9.4 SUMMERFALLOW TREATMENT

This product, or labeled tank mixtures, may be applied in summerfallow to control weeds listed on this label. Ensure weeds are at the desired growth stage and actively growing at application for best results. Reduced control may result if weeds are drought stressed.

Weeds will continue to germinate from seed throughout the growing season. Repeat treatments may be necessary to control later germinating weeds.

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

This product may be applied prior to seeding or after seeding, but before crop emergence for control of emerged weeds in minimum and zero tillage cropping systems for all field crops. Applications made too far in advance of seeding may allow weeds to emerge between application and crop emergence, as this product does not provide residual weed control.

Minimum and Zero Tillage Tank Mixtures

9.5.1 VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION plus 2,4-D amine or ester can be applied prior to seeding or after seeding, but before crop emergence in wheat, winter wheat, barley and rye. Refer to “Annual Weed Control with VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION Tank Mixtures” table for information (section 7.2).

9.5.2 VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION plus bromoxynil (Pardner Herbicide) can be applied prior to seeding or after seeding, but before crop emergence in wheat, barley and oats. Refer to “Annual Weed Control with VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION Tank Mixtures” table for information (section 7.2).

9.5.3 VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION plus Pursuit® Herbicide can be applied prior to, or after seeding, but before crop emergence in soybeans. VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION will control emerged weeds listed on this label when applied as directed (refer to “Annual and Perennial Weed Control” sections 7.0 and 8.0). Pursuit Herbicide will control weeds germinating from seed. Add the recommended rates of both products in 100 litres of water per hectare, following the instructions on the Pursuit Herbicide label.

ALWAYS REFER TO THE PURSUIT HERBICIDE 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 HERBICIDE APPLICATION. WINTER WHEAT MAY BE PLANTED THE SAME YEAR AS A PURSUIT HERBICIDE APPLICATION TO SOYBEANS, BUT NOT EARLIER THAN 120 DAYS AFTER THE APPLICATION.

DO NOT APPLY AFTER CROP EMERGENCE.

Pursuit is a registered trademark of BASF Corporation.

9.5.4 VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION

plus MCPA can be applied prior to seeding in wheat, barley, rye, oats, corn (field and sweet; MCPA amine only), flax and field peas (MCPA amine only). Refer to “Annual Weed Control with VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION Tank Mixtures” table for information (section 7.2).

9.5.5 VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION

plus Buctril M® can be applied prior to seeding in wheat, rye, corn, barley, oats, flax, canary seed and seedling grasses (including brome grass, crested wheatgrass, intermediate wheat grass, slender wheatgrass, tall wheatgrass, Russian wild rye, Timothy, Orchard grass, creeping red fescue, meadow fescue, meadow foxtail, seedling tall fescue, seedling meadow bromegrass, seedling streambank wheatgrass and reed canary grass. Refer to “Annual Weed Control with VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION Tank Mixtures” table for information (section 7.2).

9.5.6 VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION

plus MCPA amine can be applied prior to seeding in lentil and chickpea. Refer to “Annual Weed Control with VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION Tank Mixtures” table for information (section 7.2).

9.6 FORAGES LEGUMES AND GRASSES

This product may be applied for control of emerged weeds prior to emergence of forage legumes and grasses. If the forages are to be under-seeded with a cover crop, this product must be applied prior to planting the cover crop.

9.7 PASTURE RENOVATION

Use this product to control or suppress existing vegetation for zero-tillage seeding of legumes into established sod for pasture renovation. Delay spraying until weed growth is at least 20 centimetres in height and a maximum number of seedlings or shoots have emerged. Application can be made immediately before, during or after seeding, but before crop emergence.

9.8 FORAGE SEED PRODUCTION

For spot treatment control of perennial weed problems such as quackgrass and Canada thistle in seed fields, apply as directed to vegetation that is at least 20 to 25 centimetres in height but before emergence of seed head. The crop in the treated areas will be killed. Take care to avoid drift outside target areas for the same reason.

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

For control of quackgrass, Canada thistle, common milkweed, toadflax and dandelion; and season-long control of perennial sow thistle, VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION can be applied prior to harvest of wheat, barley (including malting barley), oats, canola (rapeseed) (including glyphosate tolerant varieties), flax (including low linolenic acid varieties), lentils, peas, dry beans, soybeans (including glyphosate tolerant varieties) and forages. DO NOT apply to 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.

VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION should be applied preharvest at 2.5 litres per hectare in 50 to 100 litres per hectare of clean water, by ground application only. Apply only when the crop has 30 percent or less grain moisture content. This stage typically occurs 7 to 14 days before harvest. For forage crops, apply this product at 2.5 to 5.0 litres per hectare 3 to 7 days prior to the last cut before rotation or forage renovation. Consult the table “**Guidelines for Timing of Preharvest Applications**” (section 9.9.1) for visual indicators of this stage in each crop. For the best weed control results quackgrass 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 to 14 days (or 3 to 7 days for forage applications) 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 by air.

9.9.1 GUIDELINES FOR TIMING OF PREHARVEST APPLICATIONS

CROP(S)	PERCENT GRAIN MOISTURE	VISUAL SYMPTOMS
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 (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.
FORAGES	Not applicable	Normal stage for forage harvesting.

9.9.2 PREHARVEST AERIAL APPLICATION

Refer to the general guidelines for aerial application in Sections 5.2 and 5.3 as well as specific instructions in this section.

RESTRICTED USE

AERIAL PREHARVEST APPLICATION
For use in Manitoba, Saskatchewan, Alberta,
Peace River Region and Interior of British
Columbia only.

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:

Refer to general directions and precautions concerning aerial application (section 10.2.2).

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 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

VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION may be applied with aerial application equipment for control of quackgrass, Canada thistle, common milkweed, toadflax and dandelion, and season-long control of perennial sow thistle. VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION 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 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.

VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION 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% of less grain moisture content. This stage typically occurs 7 to 14 days before harvest. Consult the table “**Guidelines for Timing of Preharvest Applications**” (Section 9.9.1) for visual indicators of this stage in each crop. For the best weed control results quackgrass 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.

9.10 TREE PLANTINGS

SHELTERBELTS AND NURSERY STOCK (WOODY ORNAMENTALS)

This product may be used to control listed annual or perennial weeds prior to planting, or as a post directed spray in established nurseries or shelterbelts of the following species:

DECIDUOUS

Ash

Fraxinus spp.

Caragana

Caragana spp.

Cherry

Prunus spp.

Elm

Ulmus spp.

Lilac

Syringa spp.

Maple

Acer spp.

CONIFEROUS

Fir

Abies spp.

Juniper

Juniperus spp.

Pine

Pinus spp.

Spruce

Picea spp.

Yew

Taxus spp.

Mountain Ash*Sorbus spp.***Poplar***Populus spp.***Russian Olive***Elaeagnus spp.***Willow***Salix spp.*

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.

9.11 TREE, VINE, BERRY AND OTHER CROPS

This product is recommended for annual and perennial weed control in established vineyards or orchards, in blueberry, cranberry and strawberry, or for site preparation prior to transplanting tree and vine crops. Applications may be made with boom equipment, shielded sprayers, hand held and high volume orchard guns, or with wiper applicator equipment (orchards, vineyards, cranberry and strawberry only). See “**Mixing and Application Equipment Information**” (section 5.2) and the following table for specific information on the use of equipment.

Repeat treatments may be necessary to control weeds originating from underground parts of untreated weeds or from seeds. This product does not provide residual or pre-emergent weed control. For subsequent weed control, follow a program using residual herbicides or use repeated applications of this product. DO NOT apply more than 35 litres of this product per hectare per year.

EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF 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 MATURED BROWN BARK CAN RESULT IN SERIOUS CROP DAMAGE.

Reduced control may result when applications are made to annual or perennial weeds that have been mowed, grazed or cut and have not been allowed to regrow to the recommended stage for treatment.

WEED CONTROL IN TREE, VINE, BERRY AND OTHER CROPS

CROP	RATE (L/ha)	PREHARVEST INTERVAL (days)	MAX. APPL. PER YEAR	WEEDS CONTROLLED	COMMENTS (Refer to sections 7.1 and 8.1 for specific rates for weed control)
Apples, Apricot, Cherry (sweet/sour), Peaches, Pears, Plums	2.25 - 12	30	3	Annual and perennial weeds	
Apples, Grapes	Tank Mix 2.25 – 12 + Simazine 2.0 – 4.5 kg ai/ha	-	1	Annual and perennial weeds	<ul style="list-style-type: none"> • Will provide season-long preemergent control. • DO NOT apply to coarse, sandy or gravelly soil. • Use according to the more restrictive label direction for each product in the mix. • DO NOT apply to orchards or vineyards that have been established less than 1 or 3 years, respectively. • Simazine rate is equivalent to 2.25 – 5.0 kg/ha Princep® Nine-T® Herbicide, or 4.0 – 9.0 kg/ha Simadex® Simazine Flowable
Grapes	2.25 - 12	14	3	Annual and perennial weeds.	<ul style="list-style-type: none"> • 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 which have been established less than 3 years.
Highbush (cultivated) blueberry	2.8 – 5.6	30	1	quackgrass	<ul style="list-style-type: none"> • Use as a directed spray, with no more than 275 kPa pressure.

CROP	RATE (L/ha)	PREHARVEST INTERVAL (days)	MAX. APPL. PER YEAR	WEEDS CONTROLLED	COMMENTS (Refer to sections 7.1 and 8.1 for specific rates for weed control)
Lowbush blueberry	1 – 2% solution (spot application)	Apply in non-bearing year only	1	Woody brush (section 6.3)	<ul style="list-style-type: none"> • Apply as a directed spray in mid-summer of the vegetative (non-bearing) year. • See section 9.3 for instructions on spot treatments.
Filberts, Hazelnut (established plantations)	2.25 – 3.5	14	-	Annual Weeds	<ul style="list-style-type: none"> • Use as a directed spray, with no more than 275 kPa pressure.
Walnut, Chestnut, Japanese Heartnut	2.25 - 12	-	2	Annual and perennial weeds	<ul style="list-style-type: none"> • Apply late spring and fall, postharvest 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 “Wiper Applications” section 9.12).
Cranberry	20% solution (1L VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION + 4L water)	30	1	Annual and perennial weeds	<ul style="list-style-type: none"> • Apply using wick or wiper applicators (section 9.12).

Strawberry	1 – 2% solution (spot application) 33% solution (wiper application)	30	1	Emerged perennial weeds	<ul style="list-style-type: none"> • Apply when weeds are at a susceptible growth stage (see sections 8.1 and 8.2). • See section 9.3 for instructions on spot treatments. • See section 9.12 for instructions on wiper applications.
Sugar Beets	1 – 2%	Treated crop	1	Dodder species	<ul style="list-style-type: none"> • Apply when dodder is

CROP	RATE (L/ha)	PREHARVEST INTERVAL (days)	MAX. APPL. PER YEAR	WEEDS CONTROLLED	COMMENTS (Refer to sections 7.1 and 8.1 for specific rates for weed control)
	solution (spot application)	MUST NOT be harvested			vigorously growing but before flowering. • See section 9.3 for instructions on spot treatments.
Asparagus	1.25 – 2.5	7	1	Fall seeded rye grass	• Apply in spring before emergence of crop shoots.

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The DIRECTIONS FOR USE for the uses described in this section of the label were developed by persons other than AGX Pioneer Enterprise Limited under the User Requested Minor Use Label Expansion program. For these uses, AGX Pioneer Enterprise Limited has not fully assessed performance (efficacy) and/or crop tolerance (phytotoxicity) under all environmental conditions or for all crop varieties when used in accordance with the label. The user should test the product on a small area first, under local conditions and using standard practices, to confirm the product is suitable for widespread application.

DIRECTIONS FOR USE

ALWAYS REFER TO THE PRODUCT LABEL FOR FURTHER INFORMATION ON WEEDS CONTROLLED, APPLICATION DIRECTIONS, AND USE PRECAUTIONS.

NORTH AMERICAN GINSENG

New Gardens (British Columbia only): Apply this product in the fall after seeding but before freeze-up in new gardens only to control volunteer cereals. Apply when weeds are at the growth stages listed on the product label. Use a single application of 2.5 litres per hectare in 50 to 100 litres water per hectare. **DO NOT USE A FALL APPLICATION IN ESTABLISHED/EXISTING GARDENS.**

Existing/Established Gardens: Apply this product in the spring before the crop has emerged from the soil. Apply when weeds are at the growth stages described in the

product label. A maximum of two 2.5 litres per hectare applications in 50 to 100 litres water per hectare may be made in a season. **DO NOT USE A FALL APPLICATION IN ESTABLISHED/EXISTING GARDENS.**

9.12 SELECTIVE EQUIPMENT

WIPER APPLICATORS

This product may be applied with a wiper applicator, after dilution and thorough mixing with water, to listed weeds in soy and dry beans, grapes, orchards, cranberries, lowbush blueberries and strawberry. Applications must be made before initial pod set in soy and dry beans. (It may also be used in any industrial, tree planting and non-crop site specified on this label. See sections 9.10 and 10.1).

A wiper applicator applies the herbicide solution onto weeds by rubbing the weed with an absorbent material containing the herbicide solution. Wiper applicators include either roller or wick devices which physically wipe appropriate concentrations or amounts of this product directly onto the weed. Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting desirable vegetation. Performance may be improved by reducing speed in areas of heavy weed infestations to insure adequate wiper saturation. Best results may be obtained if 2 applications are made in opposite directions.

AVOID CONTACT WITH DESIRABLE VEGETATION. Contact of the herbicide solution with desirable vegetation may result in damage or destruction. Applicators used above desired vegetation should be adjusted so that wiper contact point is at least 5 centimetres above the desirable vegetation. Droplets or foam of the herbicide solution settling on desirable vegetation may result in discolouration, stunting or destruction.

Applications should be made when the weeds are a minimum of 15 centimetres above the desirable vegetation. Best results may be obtained when more of the weed is exposed to the herbicide solution. Weeds not contacted by the herbicide solution will not be affected. This may occur in dense clumps, severe infestations, or when the height of the weeds varies so that not all weeds are contacted. In these instances, repeat treatments may be necessary. See the “**Weed Control**” tables (sections 7.1 and 8.1) for recommended stage of growth for specific weeds.

NOTES

- **Maintain equipment in good operating condition. Avoid leakage or dripping onto desirable vegetation.**
- **Adjust height of applicator to insure proper contact with weeds.**
- **Keep wiping surfaces clean.**

- **Maintain recommended roller RPM on roller applicators while in use.**
- **Keep wiper material at proper degree of saturation with herbicide solution.**
- **DO NOT use wiper equipment when weeds are wet.**
- **DO NOT operate equipment at ground speeds below 4 and greater than 10 kilometres per hour. Weed control may be affected by speed of application equipment. As weed density increases, reduce equipment ground speed to insure 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 herbicide solution directly to the weed.**
- **Care must be taken with all types of wipers to insure that the absorbent material does not become over-saturated, causing the herbicide to drip onto desirable vegetation.**
- **With all equipment, drain and clean wiper parts immediately after using this product, by thoroughly flushing with water.**

For Roller Applicators – Mix 0.5 to 1.0 litres of this product in 10 litres water to prepare a 5 to 10 percent solution. Roller speed should be maintained at 50 to 150 RPM.

For Wick or other Wiper Applicators – Mix 1 litre of this product in 2 litres of water to prepare a 33 percent solution.

10.0 NON-CROPLAND USES

INDUSTRIAL, RIGHTS-OF-WAY, RECREATIONAL, AND PUBLIC AREAS.

ALWAYS READ PRECAUTIONS, GENERAL INFORMATION AND MIXING AND APPLICATION SECTIONS (3.0, 4.0 AND 5.0) PRIOR TO SPECIFIC APPLICATION INFORMATION IN ANY LABEL SECTION.

DO NOT APPLY BY AIR EXCEPT FOR RIGHTS-OF-WAY (SECTION 10.2.2).

This product can be used to control annual and perennial weeds and woody brush and trees listed on this label in non-crop areas such as railroad, pipeline, highway, power and telephone rights-of-way, petroleum tank farms and pumping installations; roadsides; storage areas; lumberyards; fence rows; industrial plant sites; parking areas; school yards, parks, golf courses, other public areas; airports and similar industrial or non-crop areas.

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

When applied as recommended under the conditions described, this product will control weeds in non-cropland areas as listed in the following table.

10.1 WEED CONTROL IN NON-CROPLAND AREAS WITH VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION

WEEDS	GROUND APPLICATION**			COMMENTS
	BOOM APPLICATION		HAND HELD HIGH VOLUME APPLICATION % SOLUTION	
	RATE* (L/ha)	WATER VOL.* (L/ha)		
Annual grasses and broadleaves	2.25–3.5	50-100	1	<ul style="list-style-type: none"> Actively growing weeds.
Perennial Weeds				<ul style="list-style-type: none"> Actively growing weeds. Add 0.5% v/v of a recommended surfactant when using water volumes greater than 150 L (see section 8.2.2). Higher rate for long term control and for heavy infestations. See section 10.2.3 for instructions on purple loosestrife applications. Summer through fall is optimum.
Quackgrass	2.5 4.75-7.0	50-300 50-300	1 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	
Brush and Trees Birch, Cherry, Poplar, Western	3.0-6.0	100-300	1-2	<ul style="list-style-type: none"> Summer through early

WEEDS	GROUND APPLICATION**			COMMENTS
	BOOM APPLICATION		HAND HELD HIGH VOLUME APPLICATION % SOLUTION	
	RATE* (L/ha)	WATER VOL.* (L/ha)		
Snowberry, Willow Maple, Raspberry/ Salmonberry, Alder	6.0	100-300	2	fall (see section 10.2). <ul style="list-style-type: none"> • Late summer through fall. • Fall is optimum.
Turf Renovation Annual and perennial weeds	2.5-12.0	100-300	1-2	<ul style="list-style-type: none"> • Use higher end of the rate range for perennials.
Roadside Vegetation (1-2m wide along shoulders) Annual weeds (refer to tank mix sections on product labels for specific weeds controlled)	1) 0.75 - 1.0 + 1.25 – 2.5 L Vanquish Herbicide or 2) 0.75 – 1.0 + 0.30 L Vanquish Herbicide + 1.2 L 2,4-D amine 500	25-150	-	<ul style="list-style-type: none"> • Refer to “Annual Weed Control” table (section 7.1) for appropriate product rate for specific weeds. • For 2,4-D amine formulations with a different guarantee, adjust the rate accordingly. • No application to standing water.
Residual Control Annual and perennial weeds (the simazine component of this tank mixture)	2.5 – 12 + 4.0 -9.0 L	200-400	-	<ul style="list-style-type: none"> • DO NOT apply to coarse, sandy or gravelly soil. One application per year. • Use according to the most restrictive label directions for each product in the mixture.

WEEDS	GROUND APPLICATION**			COMMENTS
	BOOM APPLICATION		HAND HELD HIGH VOLUME APPLICATION % SOLUTION	
	RATE* (L/ha)	WATER VOL.* (L/ha)		
will provide season long control of most germinating broadleaf weeds and grasses. It may also provide postemergent activity on certain annual weeds).	Simadex Simazine Flowable			<ul style="list-style-type: none"> • For other simazine formulations registered for industrial/ non-cropland areas, use equivalent rates; i.e., 2.0 – 4.5 kg simazine/ha.

* For more information on rates, water volumes and application, refer to “**Annual and Perennial Weed Control**” (sections 7.1 and 8.1, respectively).

** Aerial application may be used for brush and tree control in industrial rights-of-way only. See “**Aerial Applications**” (section 10.2.2).

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10.2 APPLICATION INFORMATION FOR NON-CROPLAND USES

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 to 45 days for symptoms to develop on 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 TURF GRASSES, TREES, SHRUBS, OR OTHER DESIRABLE VEGETATION SINCE SEVERE DAMAGE OR DESTRUCTION MAY RESULT.

This product does not provide residual weed control. For subsequent weed control, follow a label approved herbicide program. Read and carefully observe the precautionary statements and all other information appearing on the labels of all herbicides used.

10.2.1 GROUND APPLICATIONS:

For all non-cropland uses

For woody brush and trees, apply 3 to 6 litres of this product per hectare. Use ground boom or boomless, or mist blower equipment, or apply as a 1 to 2 percent solution using hand held, high volume equipment. Apply as directed in the recommended volume of clean water to foliage of actively growing vegetation. Use the 6 litres per hectare rate for Maple, Alder and Willow* species, as well as for hard to control perennial weed species. (*suppression only).

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. If weeds have been mowed or tilled, DO NOT treat until regrowth has reached the recommended stages.

10.2.2 AERIAL APPLICATIONS: For industrial rights-of-way only

Refer to general guidelines for aerial application in Sections 5.2 and 5.3 as well as specific application instructions in this section.

Application of this product must meet and/or conform to the following:

Volume: Apply the recommended rate in a minimum spray volume 30-100 litres per hectare.

For woody brush and trees, apply 3 to 6 litres of this product per hectare. Use the 6 litres per hectare rate for Maple, Alder and Willow* species, as well as for hard to control perennial weed species. Use the recommended rates of this herbicide in 30 to 100 litres of water per hectare. As density of vegetation increases, spray volume should be increased within the recommended range to ensure complete coverage. (*suppression only).

10.2.3 PURPLE LOOSESTRIFE CONTROL

- DO NOT TREAT PLANTS OVER OPEN WATER. VANGUARD GLYPHOSATE 41% LIQUID HERBICIDE SOLUTION is not registered for direct application to bodies of water.
- Treat when plants are actively growing at or beyond the bloom stage. If using hand held equipment, spray-to-wet.
- For wiper applications see section 9.12.

- 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.

10.3 SELECTIVE EQUIPMENT FOR ALL NON-CROPLAND USES

Selective equipment such as WIPER and ROLLER applicators can be used to control emerged weeds in non-crop areas and tree plantings. See “**Selective Equipment**” (section 9.12) for more information.

10.4 TURFGRASS

When applied as directed, under conditions described, this product controls most existing vegetation. Apply this product at rates specified in “**Weed Control in Non-Cropland Areas**” (section 10.1).

DO NOT DISTURB SOIL OR UNDERGROUND PLANT PARTS BEFORE TREATMENT.

Where existing vegetation is growing in a field or unmowed situation, apply this product to actively growing weeds at the stages of growth given in “**Weed Control**” (sections 7.1 and 8.1). Where existing vegetation is growing under mowed turfgrass management, apply this product after omitting at least one regular mowing to allow sufficient growth for good interception of the spray and proper 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 underground plant parts.

For maximum control of existing vegetation, delay establishment to determine if regrowth from escaped underground plant parts occurs. When repeat treatments are necessary, sufficient regrowth must be attained prior to application. Desirable turfgrass may be established following the above procedures.

10.5 INJECTION APPLICATIONS -- FOR ALL NON-CROPLAND USES

Woody vegetation may be controlled by injection application of this product. Apply using suitable equipment, which must penetrate into living tissue, at a rate of at least 0.5 millilitres (either undiluted or 1:1 with water) per 5 centimetres tree diameter at breast height (DBH). The cuts should be spaced evenly around the tree and below all major branches. Application may be made at any time of year, except when cold temperatures prevent adequate penetration of injection equipment, or in the spring during periods of heavy sap flow. Control of tree species with tree diameters greater than 20 centimetres may not be acceptable at this rate.

Total control may not be evident for 1 to 2 years following treatment.

A partial list of species controlled includes:

Alder

Alnus spp.

Birch

Betula spp.

Cedar

Thuja spp.

Cherry

Prunus spp.

Douglas Fir

Pseudotsuga spp.

Hemlock

Tsuga spp.

Maple*

Acer spp.

Pine

Pinus spp.

Poplar

Populus spp.

Willow

Salix spp.

* This treatment may only provide suppression of Bigleaf Maple. Late fall applications will provide optimum suppression of Bigleaf Maple.

10.6 CUT STUMP APPLICATION

Woody vegetation may be controlled by the application of this product to freshly cut stumps to prevent regrowth. Because the treatment uses a concentrated solution, application must be made using low-pressure equipment e.g., squirt bottle or similar device. This product must be applied immediately to the surface of the freshly cut stump i.e., within 5 minutes for optimum control at the prescribed rates. Only the cambial tissues of the cut surface should be treated. Apply the herbicide solution at a rate equivalent to at least 0.5 millilitres product for every 5 centimetres DBH. DO NOT cover the remaining area nor any exposed roots, as this product does not penetrate bark well.

This treatment may be used at any time of year, except during periods of heavy sap flow or when low temperatures prevent solution application due to freezing. A water soluble colourant may be added to the solution as a means of indicating which surfaces have been treated. Total control may not be evident until 1 to 2 years after treatment.

See “**Injection Applications**” (section 10.5) of this label for a partial list of species controlled.