

CATCHFIRE 540 GLYPHOSATE

Herbicide Solution

COMMERCIAL + RESTRICTED USE



POISON

CAUTION - EYE AND SKIN IRRITANT

REGISTRATION NO. 35466 PEST CONTROL PRODUCTS ACT

ACTIVE INGREDIENT: Glyphosate, 540 grams per litre, present as potassium salt.

Water Soluble Herbicide for non-selective weed control

READ THE LABEL AND ATTACHED BROCHURE BEFORE USING.

NET CONTENTS: 500 - 1000 L

Vincere Agri Solutions Ltd.
5910 50 Ave. SE
Calgary, Alberta T2B 3C1
Canada
1-888-466-0056

PRECAUTIONS

KEEP OUT OF REACH OF CHILDREN.

HARMFUL IF SWALLOWED.

HARMFUL IF INHALED.

MAY IRRITATE EYES AND SKIN.

Avoid contact with eyes, skin or clothing.

Avoid inhaling spray mist.

Wear a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes during mixing, loading, application, clean-up and repair. Gloves are not required during application within a closed cab and/or cockpit. In addition, wear protective eyewear (goggles or face shield) during mixing and loading, clean-up and repair.

Do not allow the pilot to mix chemicals to be loaded onto the aircraft. The pilot is allowed to load premixed chemicals with a closed system.

It is desirable that the pilot have communication capabilities at each treatment site at the time of application.

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.

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

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

DO NOT apply using handheld mist blower/airblast or handheld fogging equipment.

When tank mixes are permitted, read and observe all label directions, including rates and restrictions for each product used in the tank-mix. Follow the more stringent label precautionary measures for mixing, loading and applying stated on both product labels.

FIRST AID

If swallowed: Call a poison control centre or doctor immediately for treatment advice. Have a 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. Additional guidance can be found on the Runoff Mitigation portion of the Canada.ca website.

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.

In case of an emergency involving this product, call:

CANUTEC..... (613) 996-6666

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

For additional information on this or other Vincere Agri Solutions Ltd. agricultural products, call 1-888-466-0056.

STORAGE

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

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.

RETURNABLE CONTAINERS:

DO NOT reuse container for any other purpose. For disposal, this empty container may be returned to the point of purchase (distributor/dealer).

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.

CATCHFIRE 540 GLYPHOSATE

Herbicide Solution

COMMERCIAL + RESTRICTED USE



POISON

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REGISTRATION NO. 35466 PEST CONTROL PRODUCTS ACT

ACTIVE INGREDIENT: Glyphosate, 540 grams per litre, present as potassium salt.

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CATCHFIRE 540 GLYPHOSATE

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 Roundup Ready® canola and soybean; preharvest applications in wheat, barley, oats, canola (rapeseed), flax (including low linolenic acid varieties), peas, lentils, dry beans, soybeans, chickpeas, dried lupin, dried fava beans 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, Japanese heartnut; in grapes, cranberries, blueberries and strawberry; in asparagus; in North American ginseng; in tree plantings; and grasses for seed production.

NON-CROPLAND USES INCLUDE:

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

Not for relabelling or repackaging.

2.1 EMERGENCY NUMBERS

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2.2 INFORMATION

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3.1 PRECAUTIONS

KEEP OUT OF REACH OF CHILDREN.

HARMFUL IF SWALLOWED.

HARMFUL IF INHALED.

MAY IRRITATE EYES AND SKIN.

Avoid contact with eyes, skin or clothing. Avoid inhaling spray mist.

Wear a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes during mixing,

loading, application, clean-up and repair. Gloves are not required during application within a closed cab and/or cockpit. In addition, wear protective eyewear (goggles or face shield) during mixing and loading, clean-up and repair.

Do not allow the pilot to mix chemicals to be loaded onto the aircraft. The pilot is allowed to load premixed chemicals with a closed system.

It is desirable that the pilot have communication capabilities at each treatment site at the time of application.

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.

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

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

DO NOT apply using handheld mist blower/airblast or handheld fogging equipment.

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3.2 FIRST AID

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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.

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3.3 TOXICOLOGICAL INFORMATION

Treat symptomatically.

3.4 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. Additional guidance can be found on the Runoff Mitigation portion of the Canada.ca website.

3.5 PHYSICAL OR CHEMICAL HAZARDS

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3.6 STORAGE

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

3.7 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:

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- 2) Make the empty, rinsed container unsuitable for further use.

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RETURNABLE CONTAINERS:

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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

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.

4.0 GENERAL INFORMATION

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

Do not apply this product using aerial spray equipment except under conditions as specified within this booklet.

Observe spray buffer zones specified in Section 5.3.

CATCHFIRE 540 GLYPHOSATE, 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.

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 (noncultivated) 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 cautionary 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, pesticide, herbicide 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.

RESISTANCE-MANAGEMENT RECOMMENDATIONS

For resistance management, CATCHFIRE 540 GLYPHOSATE is a Group 9 herbicide. Any weed population may contain or develop plants naturally resistant to CATCHFIRE 540 GLYPHOSATE 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 CATCHFIRE 540 GLYPHOSATE 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 Vincere Agri Solutions Ltd. at 1-888-466-0056.

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.

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

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

MIXING WITH WATER

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.

TANK MIXING PROCEDURE

The following steps should be followed when adding tank mix partners, using a herbicide loading system or adding product directly into the tank:

1. Fill spray tank 3/4 full of water.
2. Start agitation and run for entire mixing and spraying operation.
3. Add required amount of the tank mix partner.
4. Flush herbicide loading tank and herbicide containers with water.
5. If using a herbicide loading system - ensure that the loading tank and lines to the pump are empty and flushed out with water before adding tank mix partner.
6. Add required amount of CATCHFIRE 540 GLYPHOSATE.
7. Flush herbicide loading tank and herbicide containers with water.
8. If using a herbicide loading system - ensure that the loading tank and lines to the pump are flushed with water and empty before starting spray operation.

Always start and end the mixing and spraying operation with a clean system.

APPLICATION EQUIPMENT

BOOM EQUIPMENT

For control of perennial weeds and woody brush and trees listed in this booklet using conventional boom equipment – apply this product in 50 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 in 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 “Weeds Controlled” 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 0.67 percent solution of this product in water (0.67 litres of this product in 100 litres of water) and apply to foliage of vegetation to be controlled. For best results, use a 1.34 percent solution (1.34 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).

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.

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.

AERIAL EQUIPMENT

Do not use human flaggers.

Aerial application can only be used for weed control in preharvest situations. Refer to sections 5.3, and 9.9.2 for more information.

Directions for use

Apply only by aircraft equipment which has been functionally and operationally calibrated for the atmospheric conditions of the area and the application rates and conditions of this label.

Label rates, conditions and precautions are product specific. Read and understand the entire label before opening this product. Apply only at the rate(s) 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 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.

Ensure uniform application. To avoid streaked, uneven or overlapped application, use appropriate marking devices, or equivalent electronic positioning systems (GPS). The use of spotter planes 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 IS 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.

Product Specific Precautions

Read and understand the entire label before opening this product. If you have questions, call the manufacturer at Vincere Agri Solutions Ltd. at 1-888-466-0056 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 specified rate in a minimum spray volume of 30-100 litres per hectare.

5.3 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 and for forestry uses, 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) 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, Canola – Roundup Ready hybrid for seed production	2	1	1
Filberts or hazelnut	4	1	1
Corn (glyphosate non-tolerant varieties including grain, silage and ornamental types), strawberry, blueberry highbush and lowbush, walnut, chestnut, Japanese heartnut, Turf grass (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, lupin (dried), fava bean (dried), asparagus, 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
Agricultural crop system and airblast application method (including mist blower)				
Pasture		1	20	30
Agricultural and non-crop systems				
Turfgrass (Prior to establishment or renovation)		2	25	35
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	20	30*
Agricultural crop system and aerial application method	Wing type			
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

* 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.

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 7.0 and 8.0). The following is a partial list of weeds controlled:

6.1 ANNUAL WEEDS

ANNUAL GRASSES

Barnyard Grass <i>Echinochloa crusgalli</i>	Persian Darnel <i>Lolium persicum</i>
Blue Grass (annual) <i>Poa annua</i>	Volunteer Barley <i>Hordeum spp.</i>
Crab Grass (large) <i>Digitaria sanguinalis</i>	Volunteer Corn <i>Zea mays</i>
Crab Grass (smooth) <i>Digitaria ischaemum</i>	Volunteer Wheat <i>Triticum spp.</i>
Downy Brome-grass <i>Bromus tectorum</i>	Wild Oats <i>Avena fatua</i>
Fall Panicum <i>Panicum dichotomiflorum</i>	Wild Proso Millet <i>Panicum miliaceum</i>
Giant Foxtail <i>Setaria faberii</i>	Yellow Foxtail <i>Setaria glauca</i>
Green Foxtail <i>Setaria viridis</i>	OTHER Dodder <i>Cuscuta spp.</i>

ANNUAL BROADLEAF WEEDS

Chickweed <i>Stellaria media</i>	Pennsylvania Smartweed <i>Polygonum pensylvanicum</i>
Cleavers <i>Galium aparine</i>	Prickly Lettuce <i>Lactuca scariola</i>
Cocklebur <i>Xanthium strumarium</i>	Ragweed (common) <i>Ambrosia artemisiifolia</i>
Corn Spurry <i>Spergula arvensis</i>	Redroot Pigweed <i>Amaranthus retroflexus</i>

Cow Cockle <i>Saponaria vaccaria</i>	Round-Leaved Mallow <i>Malva pusilla</i>
Eastern Black Nightshade <i>Solanum ptycanthum</i>	Russian Thistle <i>Salsola pestifer</i>
Fleabane (Canada) <i>Erigeron canadensis</i>	Shepherd's Purse <i>Capsella bursa-pastoris</i>
Flixweed <i>Descurainia sophia</i>	Smooth Pigweed <i>Amaranthus hybridus</i>
Green Smartweed <i>Polygonum scabrum</i>	Sowthistle (annual) <i>Sonchus oleraceus</i>
Hempnettle <i>Galeopsis tetrahit</i>	Stinkweed <i>Thlaspi arvense</i>
Kochia <i>Kochia scoparia</i>	Storksbill <i>Erodium cicutarium</i>
Lady's-Thumb <i>Polygonum persicaria</i>	Velvetleaf <i>Abutilon theophrasti</i>
Lamb's-quarters (common) <i>Chenopodium album</i>	Volunteer Canola (rapeseed) <i>Brassica spp.</i>
Narrow-leaved Hawk's Beard <i>Crepis tectorum</i>	Volunteer Flax <i>Linum spp.</i>
Narrow-leaved Vetch <i>Vicia angustifolia</i>	Wild Buckwheat <i>Polygonum convolvulus</i>
Night-flowering Catchfly <i>Silene noctiflora</i>	Wild Mustard <i>Sinapis arvensis</i>
	Wild Tomato <i>Solanum triflorum</i>

6.2 PERENNIAL WEEDS PERENNIAL GRASSES/SEDGES

Blue Grass (Canada) <i>Poa compressa</i>	Foxtail Barley <i>Hordeum jubatum</i>
Blue Grass (Kentucky) <i>Poa pratensis</i>	Quackgrass <i>Elytrigia repens</i>
Brome Grass (smooth) <i>Bromus inermis</i>	Wire-Stemmed Muhly <i>Muhlenbergia frondosa</i>
Cattail (common) <i>Typha latifolia</i>	Yellow Nutsedge <i>Cyperus esculentus</i>
Cottongrass <i>Eriophorum chamissonis</i>	

PERENNIAL BROADLEAVED WEEDS

Alfalfa <i>Medicago spp.</i>	Milkweed (common) <i>Asclepias syriaca</i>
Curled Dock <i>Rumex crispus</i>	Poison Ivy <i>Rhus radicans</i>
Dandelion <i>Taraxacum officinale</i>	Purple Loosestrife <i>Lythrum salicaria</i>
Field Bindweed <i>Convolvulus arvensis</i>	Sow Thistle (perennial) <i>Sonchus arvensis</i>
Hemp Dogbane <i>Apocynum cannabinum</i>	Thistle (Canada) <i>Cirsium arvense</i>
Hoary Cress <i>Cardaria draba</i>	Toad Flax <i>Linaria vulgaris</i>
Knotweed (Japanese) <i>Polygonum cuspidatum</i>	Wormwood (Absinth) <i>Artemisia absinthium</i>

6.3 WOODY BRUSH AND TREES

Alder <i>Alnus spp.</i>	Pine <i>Pinus spp.</i>
Birch <i>Betula spp</i>	Poplar <i>Populus spp.</i>
Broadleaved meadowsweet <i>Spiraea latifolia</i>	Raspberry/Salmonberry <i>Rubus spp.</i>
Cedar <i>Thuja spp.</i>	Rhododendron (Canadian) <i>Rhododendron canadense</i>
Cherry <i>Prunus spp.</i>	Sheep laurel <i>Kalmia angustifolia</i>
Douglas Fir <i>Pseudotsuga spp.</i>	Snowberry (Western) <i>Symphoricarpos occidentalis</i>
Hemlock <i>Tsuga spp.</i>	Sweet fern <i>Comptonia peregrina</i>
Maple <i>Acer spp.</i>	Willow <i>Salix spp.</i>
Mountain-fly honeysuckle <i>Lonicera villosa</i>	Withrod <i>Viburnum cassinoides</i>

CROPLAND USES

ALWAYS READ PRECAUTIONS, GENERAL INFORMATION & 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.

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 CATCHFIRE 540 GLYPHOSATE

RATE (L/ha)	GROWTH STAGE	WEEDS CONTROLLED	COMMENTS (Apply in 50-100 L/ha water)
0.5	Weeds up to 8 cm in height	Wild oats, green foxtail, volunteer barley, volunteer wheat Non-Roundup Ready volunteer canola (rapeseed), wild mustard, lady's-thumb, stinkweed	For wild oats apply at 1- to 3- leaf stage. Add 350 mL of a surfactant registered for use such as Agral 90. For heavy wild oat infestations use 0.67 L/ha rate.
0.67	Weeds 8 cm to 15 cm in height	All annual grasses listed above. All annual broadleaved weeds listed above plus flixweed*, and kochia*	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.

0.83 – 1.27	Weeds up to 15 cm in height	<p>All annual grasses listed above plus downy brome, giant foxtail, and Persian darnel.</p> <p>All annual broadleaved weeds listed above plus cleavers, lamb’s-quarters, redroot pigweed, hempnettle, flixweed, Russian thistle, volunteer flax, common ragweed*, Canada fleabane*, wild buckwheat**, and narrowleaved hawk’s beard***</p>	<p>No surfactant required.</p> <p>For tank mix weed control options see section 7.2.</p> <p>* DO NOT use these rates on plants greater than 8 cm in height.</p> <p>** For 3- to 4-leaf stage use 1.27 L/ha rate.</p> <p>*** For weeds 8 cm to 15 cm in height use 1.27 L/ha rate.</p>
1.5	Weeds up to 15 cm in height	<p>All annual grasses listed above plus crab grass and annual blue grass</p> <p>All annual broadleaved weeds listed above plus kochia, prickly lettuce, shepherd’s purse, annual sowthistle, and narrowleaved vetch</p>	For additional annual broadleaved weed control options, refer to tank mix table (section 7.2).
2.33	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).

NOTE: For spot treatment, 0.5 to 2.33 litres per hectare is approximately equivalent to 5 – 23 mL/100m², respectively.

Agral is a registered trademark of Syngenta Group Company.

7.2 ANNUAL WEED CONTROL WITH CATCHFIRE 540 GLYPHOSATE TANK MIXTURES

FOR SUMMERFALLOW & MINIMUM TILLAGE SYSTEMS

TANK MIXTURES	RATE (L/ha)	WEEDS CONTROLLED♦	COMMENTS (Apply in 50-100 L/ha water)
CATCHFIRE 540 GLYPHOSATE + Banvel® II Herbicide	0.5 – 0.67 + 0.29	Volunteer cereals, wild oats, green foxtail Non- Roundup Ready® volunteer canola (rapeseed), wild mustard, flixweed*, lamb's-quarters, lady's thumb, stinkweed, kochia, Russian thistle, cow cockle, redroot pigweed**, wild buckwheat**	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. * CATCHFIRE 540 GLYPHOSATE applied at 0.67L/ha rate only. ** Suppression only. See other tank mixtures for control options. Add 350 mL/ha of surfactant-see list in section 7.3.
CATCHFIRE 540 GLYPHOSATE + Banvel® II Herbicide	0.61 – 1.27 + 0.31	Volunteer cereals, wild oats, green foxtail, downy brome, Persian dandel Non- Roundup Ready® volunteer canola (rapeseed), wild mustard, flixweed, lamb's-quarters, lady's thumb, stinkweed, kochia, Russian thistle, cow cockle, redroot pigweed, wild buckwheat*, smartweed	Use this tank mix prior to seeding in wheat, barley, rye, oats, field corn only (do not apply to sweet corn) . Certain broadleaved crops such as lentils, peas, canola and flax can be injured by a pre-seeding application and so should not be planted to a field receiving this treatment. Annual grasses - apply any time between emergence and heading.

TANK MIXTURES	RATE (L/ha)	WEEDS CONTROLLED♦	COMMENTS (Apply in 50-100 L/ha water)
			<p>Weeds should be less than 15 cm tall and actively growing for best results.</p> <p>The higher rate should be applied when weeds are under poor growing conditions such as drought.</p> <p>*1- to 4- leaf stage.</p>
<p>CATCHFIRE 540 GLYPHOSATE</p> <p>+</p> <p>Pardner Herbicide</p>	<p>0.5 – 0.67</p> <p>+</p> <p>1.25</p>	<p>Volunteer cereals, green foxtail, volunteer canola (rapeseed), wild mustard, lady’s-thumb, stinkweed, wild buckwheat*</p> <p>Redroot pigweed**, kochia**, wild oats**</p>	<p>This tank mix is registered only for use in summerfallow, and prior to wheat, oats and barley in minimum tillage systems.</p> <p>Weeds should be less than 15 cm tall and actively growing for best results.</p> <p>Use higher rate if weeds are beyond 8 cm in height.</p> <p>* Use CATCHFIRE 540 GLYPHOSATE at 0.67 L/ha rate only for wild buckwheat control.</p> <p>** 0.67 L/ha rate, suppression only. See other tank mixtures for control options.</p> <p>Add 350 mL/ha of surfactant- see list in section 7.3</p>

TANK MIXTURES	RATE (L/ha)	WEEDS CONTROLLED♦	COMMENTS (Apply in 50-100 L/ha water)
CATCHFIRE 540 GLYPHOSATE	0.83 – 1.27	Volunteer cereals, wild oats, green foxtail, downy brome, giant foxtail, Persian darnel	Weeds should be less than 15 cm tall and actively growing for best results.
+ 2,4-D ^A	+ 0.6 – 0.9 ⁴ or 1.2 – 1.5 ⁵	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**, narrowleaved hawk's beard***, Volunteer Roundup Ready canola (1-4 leaf stage) ⁴ , bluebur ⁴ , burdock ⁴ , cocklebur ⁴ , common plantain ⁴ , daisy fleabane ⁴ , false flax ⁴ , false ragweed ⁴ , goat's beard ⁴ , mustards ⁴ (except dog and tansy), prickly lettuce ⁴ , ragweeds ⁴ , Russian pigweed ⁴ , shepherd's purse ⁴ , stinging nettle ⁴ , sweet clover ⁴ , thyme-leaved spurge ⁴ , wild radish ⁴ , wild sunflower ⁴	Use higher rate if weeds are beyond 8 cm in height. No surfactant required. * DO NOT use these rates on plants greater than 8 cm in height. ** For 3- to 4-leaf stage use 1.27 L/ha rate. *** For weeds 8 cm to 15 cm in height use 1.27 L/ha rate. ⁴ 2,4-D at 0.6 – 0.9 L/ha (280 – 420 g ai/ha). ⁵ 2,4-D at 1.2 – 1.5 L/ha (560 – 700 g ai/ha). Use a minimum of 80 L/ha water when using 2,4-D amine formulations at these rates. Use this tank mix prior to seeding or after seeding but before crop emergence in wheat, winter wheat, barley and rye.

TANK MIXTURES	RATE (L/ha)	WEEDS CONTROLLED♦	COMMENTS (Apply in 50-100 L/ha water)
		Volunteer Roundup Ready canola (4-6 leaf stage) ⁵ , annual sowthistle ⁵ , common chickweed ⁵ , common purslane ⁵ , dog and tansy mustard ⁵ , oak-leaved goosefoot ⁵ , common groundsel ⁵ , hairy galinsoga ⁵ , hawkweed ⁵ , heal-all ⁵ , knotweed ⁵ , peppergrass ⁵ , pineapple weed ⁵ , prostrate pigweed ⁵ , purslane ⁵ , sheep sorrel ⁵ , smartweed ⁵ , tumble pigweed ⁵ , velvetleaf ⁵ , volunteer canola (rapeseed) ⁵	
CATCHFIRE 540 GLYPHOSATE + 2,4-D ^B	0.5 – 0.67 + 1.2	Volunteer cereals, wild oats*, green foxtail* Volunteer canola (rapeseed), wild mustard, flixweed, redroot pigweed, lady's thumb, stinkweed, kochia Lamb's-quarters**, Russian thistle**	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. * Use CATCHFIRE 540 GLYPHOSATE at 0.67 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

TANK MIXTURES	RATE (L/ha)	WEEDS CONTROLLED♦	COMMENTS (Apply in 50-100 L/ha water)
CATCHFIRE 540 GLYPHOSATE + MCPA ^C 500 g/L formulation; if another formulation is used, adjust rate accordingly.	0.83 – 1.27 + 0.5 – 0.7 ¹ OR 0.5 – 1.0 ²	Volunteer cereals, wild oats, green foxtail, downy brome, giant foxtail, Persian darnel 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**, narrowleaved 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 pennycress) ³ , vetch ³ , wild radish ³ , wild sunflower ³	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. No surfactant required. * DO NOT use these rates on plants greater than 8 cm in height. ** For 3- to 4-leaf stage use 1.27 L/ha rate. *** For weeds 8 cm to 15 cm in height use 1.27 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) ^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) ^C , flax and field peas ^C .

TANK MIXTURES	RATE (L/ha)	WEEDS CONTROLLED♦	COMMENTS (Apply in 50-100 L/ha water)
CATCHFIRE 540 GLYPHOSATE	0.83 – 1.27	Volunteer cereals, wild oats, green foxtail, downy brome, giant foxtail, Persian darnel.	Weeds should be less than 15 cm tall and actively growing for best results.
+	+	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**, narrowleaved hawk's beard***	Use higher rate if weeds are beyond 8 cm in height.
Buctril M Herbicide	0.5 – 1.0 ¹	Volunteer Roundup Ready Canola (1-4 leaf stage) ^{1,2}	No surfactant required.
		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	* DO NOT use these rates on plants greater than 8 cm in height. ** For 3- to 4-leaf stage use 1.27 L/ha rate. *** For weeds 8 cm to 15 cm in height use 1.27 L/ha rate.
		Seedlings up to the 6leaf stage ² : wild tomato Seedlings up to the 8 leaf stage ² : wild buckwheat, tartary	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 (560g ai/ha only). ³ Spray before plants are 5cm high. ⁴ Spring annuals only. ⁵ Spray before plants are 8cm 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, timothy, orchard grass, creeping red fescue, meadow fescue,

		buckwheat, common buckwheat, stinkweed, wild mustard, wormseed mustard, lamb's quarters, common ragweed, common groundsel Perennials (top growth) ² : Canada thistle, perennial sowthistle	meadow foxtail, seedling tall fescue, seedling meadow brome grass, seedling streambank wheatgrass and reed canary grass.
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TANK MIXTURES	RATE (L/ha)	WEEDS CONTROLLED♦	COMMENTS (Apply in 50-100 L/ha water)
CATCHFIRE 540 GLYPHOSATE + MCPA amine (500 g/L formulation; if another formulation is used, adjust rate accordingly).	0.83 – 1.27 + 0.5 – 0.7	Volunteer cereals, wild oats, green foxtail, downy brome, giant foxtail, Persian darnel. 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**, narrowleaved hawk's beard*** Volunteer Roundup Ready canola (1-4 leaf stage) ³ , bluebur ⁴ , burdock ⁴ (before 4-leaf stage), false flax ⁴ , flixweed ⁴ , lamb's quarters ⁴ , mustards ⁴ (except dog and tansy), prickly lettuce ⁴ , ragweeds ⁴ , redroot pigweed ⁴ , Russian pigweed ⁴ , shepherd's purse ⁴ , stinkweed ⁴ (field pennycress), vetch ⁴ , wild radish ⁴ , wild sunflower ⁴	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. No surfactant required. * DO NOT use these rates on plants greater than 8 cm in height. ** For 3- to 4-leaf stage use 1.27 L/ha rate. *** For weeds 8 cm to 15 cm in height use 1.27 L/ha rate. ³ MCPA amine at 0.5 – 0.7 L/ha (250 – 350 g ai/ha) prior to lentils and chickpeas. ⁴ MCPA amine at 0.7 L/ha (350 g ai/ha) only. Use this tank mix prior to seeding in lentil and chickpea. Under drought conditions, deep seeding and/or brief rain showers after seeding may cause injury to emerging seedlings in sprayer overlaps. No surfactant required.

◆ For foxtail barley, refer to “**Perennial Weed Control**” table (section 8.0).

^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.

Banvel II is a registered trademark of BASF Corporation.

Pardner and Buctril are registered trademarks of Bayer.

7.3 SURFACTANT INFORMATION

NOTE:

Addition of Surfactant – CATCHFIRE 540 GLYPHOSATE tank mixtures for annual weed control may require the addition of a surfactant registered for use such as Agral 90. 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

CATCHFIRE 540 GLYPHOSATE applied alone will not control volunteers from crops containing the Roundup Ready varieties.

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 ROUNDUP READY® CANOLA VARIETIES

WARNING: APPLY CATCHFIRE 540 GLYPHOSATE ON ROUNDUP

READY®

CANOLA VARIETIES ONLY

NOTE: ALWAYS USE PEDIGREED (I.E., CERTIFIED) ROUNDUP READY® CANOLA SEED. CANOLA WHICH IS NOT DESIGNATED AS ROUNDUP READY® 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 CATCHFIRE 540 GLYPHOSATE in Roundup Ready® canola

varieties only as directed in the following weed control table.

- Some short-term, visual yellowing may occur when CATCHFIRE 540 GLYPHOSATE 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 Roundup Ready® canola varieties.

WEED CONTROL IN ROUNDUP READY CANOLA VARIETIES

RATE (L/ha)	GROWTH STAGE OF CROP	WEEDS CONTROLLED	COMMENTS (Apply in 50 –100 L/ha water)
0.55 – 1.27	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’squarters, non-Roundup Ready 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*, stork’s-bill*, 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>	<p>Repeat applications may be required if a second flush of weeds germinates prior to canopy closure.</p> <p>Ensure the crop has not advanced beyond the recommended growth stage.</p> <p>* Use 0.83 L/ha 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 nightflowering catchfly at the 1– to 3 leaf stage of the crop or for control of smartweed at the 4– to 6-leaf stage.</p> <p>** A single application of 0.83 L/ha rate is required.</p> <p>*** Sequential applications of 0.83 L/ha rate are required.</p> <p>**** Sequential applications of 0.83 L/ha or a single application of 1.27 L/ha are required.</p> <p>For sequential applications, ensure the crop has not advanced beyond the recommended growth stage.</p> <p>Maximum 1.66 L/ha is allowed for the postemergence use.</p>

7.5.1 TANK MIXTURES

For season long control of top growth of Canada thistle and control of wild buckwheat in Roundup Ready® canola varieties, apply a tank mixture of 0.28 L/ha of Lontrel 360 Herbicide with 0.83 L/ha of CATCHFIRE 540 GLYPHOSATE, in 100 litres of water per hectare. Apply when canola is in the 2- to 6-leaf stage. When applied as a tank-mix combination, read and observe all label directions, including rates, personal protective equipment, restrictions and precautions for each product used in the tank-mix. Always use in accordance with the most restrictive label restrictions and precautions.

Lontrel is a registered trademark of Dow AgroSciences LLC.

7.5.2 ROUNDUP READY® HYBRID CANOLA SEED PRODUCTION

For Use only in Roundup Ready® Hybrid Canola Seed Production Systems

Apply using ground boom spray equipment.

CATCHFIRE 540 GLYPHOSATE may be applied for the control of non- Roundup Ready® canola pollen parental line(s) in hybrid canola seed production fields containing both Roundup Ready® line(s) and non- Roundup Ready® line(s).

When pollination is complete or near completion, non- Roundup Ready® canola pollen parental line(s) may be controlled with an application of 0.83 to 1.67 litres per hectare of CATCHFIRE 540 GLYPHOSATE applied in 50 to 200 litres per hectare water.

Sequential applications (**maximum 2 applications**) may be used for the control of pollen parental line(s) but the total maximum rate applied must not exceed 1.67 litres per hectare. Allow at least 5 days between sequential applications.

7.6 WEED CONTROL IN ROUNDUP READY SOYBEAN VARIETIES

WARNING: APPLY CATCHFIRE 540 GLYPHOSATE ON ROUNDUP READY SOYBEAN VARIETIES ONLY.

NOTE: ALWAYS USE PEDIGREED (I.E., CERTIFIED) SOYBEAN SEED DESIGNATED AS ROUNDUP READY. SOYBEANS WHICH ARE NOT DESIGNATED AS ROUNDUP READY 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)
1.67	First trifoliolate leaf stage through flowering	<p>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- Roundup Ready® canola (rapeseed), hempnettle, 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 thistle, Canada thistle. wire-stemmed muhly.</p> <p>Bur cucumber (<i>Sicyos angulatus</i>)³</p> <p>Volunteer adzuki beans (<i>Vigna angularis</i>)⁴</p> <p>Biennial Wormwood (<i>Artemisia biennis</i>)⁵</p>	<p>¹ A single application of 1.67 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 applied at least 2 weeks after the first application.</p> <p>A second 1.67 L/ha application may be used for late weed flushes emerging after the initial treatment.</p> <p>Any second application made must be applied no later than the flowering stage of the soybean.</p> <p>Common milkweed should be 15-60 cm in height and actively growing.</p> <p>Yellow nutsedge should be 5 - 15 cm in height and actively growing.</p> <p>Perennial sow thistle and Canada thistle should be from the rosette stage to 50 cm in height and actively growing.</p> <p>Wire-stemmed muhly should be 10-20 cm in height and actively growing.</p> <p>Plants not fully emerged at the time of application will escape treatment.</p> <p>³Sequential applications of 1.67 L/ha followed by 1.67 L/ha at the 1-18 leaf stage.</p>

			<p>Applications should be at least 2 weeks apart for best results.</p> <p>⁴For control of volunteer adzuki beans (unifoliate to the 4th trifoliate leaf stage) apply 1.67 L/ha. A second 1.67 L/ha application may be used for late flushes emerging after the initial treatment. Adzuki beans should be at unifoliate to fourth trifoliate leaf stage and actively growing</p> <p>⁵Only one application per season at 1.67L/ha. Biennial wormwood should be at 2-8 leaf stage and actively growing.</p>
RATE (L/ha)	GROWTH STAGE OF CROP	WEEDS CONTROLLED*	COMMENTS (Use 100 – 200 L/ha water volumes)
3.33	First trifoliate leaf stage through flowering	All weeds listed above plus horse-nettle ⁶ and tall waterhemp ^{6,7}	<ul style="list-style-type: none"> • Only one application per season at 3.33 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>⁶ For season-long control of horse-nettle (<i>Solanum carolinense</i>) (2- to 12-leaf stage) or, for control of tall waterhemp (<i>Amaranthus tuberculatos</i>) (up to and including the 18-leaf stage) apply 3.33 L/ha. Alternatively, sequential applications of 1.67 L/ha followed by 1.67 L/ha may be applied. Applications should</p>

			<p>be at least 2 weeks apart for best results.</p> <p>⁷For the control of tall waterhemp use the higher rate if weeds are beyond the 6-leaf stage.</p>
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*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

CATCHFIRE 540 GLYPHOSATE 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 CATCHFIRE 540 GLYPHOSATE at a rate of 1.67 litres per hectare. Use 0.16 to 0.21 litres per hectare of Pursuit and apply up to and including the 3rd trifoliolate leaf stage of the Roundup Ready soybeans varieties in 100-200 litres per hectare of clean water. The higher rate is recommended for heavier infestations. This tank mix is recommended primarily for soybean systems with row spacings of 50 centimetres (20 inches) or more where a single application timing is desired.

Mixing: Add and mix Pursuit as per instructions on the Pursuit label and then add CATCHFIRE 540 GLYPHOSATE as per instructions on this label.

A PHI of 100 days is required for the tank mix of CATCHFIRE 540 GLYPHOSATE and Pursuit herbicide on Roundup Ready soybeans.

Only one application per season of CATCHFIRE 540 GLYPHOSATE at 1.67 litres per hectare tank mixed with Pursuit herbicide at 0.16 to 0.21 litres per hectare is permitted.

When tank-mixes are permitted, read and observe all label directions, including rates and restrictions for each product used in the tank-mix. Follow the more stringent label precautionary measures for mixing, loading and applying stated on both product labels.

CATCHFIRE 540 GLYPHOSATE Plus FirstRate™ Herbicide Water Dispersible Granule (For Use in Eastern Canada Only)

For added residual control of common ragweed, velvetleaf, cocklebur, jimsonweed and giant ragweed, FirstRate Herbicide Water Dispersible Granule may be tank mixed with CATCHFIRE 540 GLYPHOSATE at a rate of 0.83 - 1.67 liters per hectare. Use 20.8 grams per hectare of FirstRate Herbicide Water Dispersible Granule.

Do not harvest soybean plants for forage or hay. Do not harvest soybeans for 65 days after application.

Only one application per season of CATCHFIRE 540 GLYPHOSATE tank mixed with FirstRate Herbicide Water Dispersible Granule is permitted.

When tank-mixes are permitted, read and observe all label directions, including rates and restrictions for each product used in the tank-mix. Follow the more stringent label precautionary measures for mixing, loading and applying stated on both product labels.

CATCHFIRE 540 GLYPHOSATE Plus Sencor® 75 DF Herbicide for Control of Spreading Atriplex (Eastern Canada only)

For the control of spreading atriplex, apply a preplant application of Sencor 75 DF Herbicide at 0.75 - 1.11 kg product per hectare on medium textured soils or 1.11 – 1.5 kg product per hectare on fine textured soils plus CATCHFIRE 540 GLYPHOSATE at 1.67 litres per hectare. Do not apply on coarse textured soils. Apply when spreading atriplex is up to the 10-leaf stage of growth. Only one application per year is permitted.

Refer to the Sencor 75 DF Herbicide label for further use directions, safety precautions and handling instructions. Consult Table entitled "Sencor 75 DF Alone: Preemergence Application" for specific rates based on soil types and organic matter.

Volunteer Roundup Ready Corn Control

For control of volunteer Roundup Ready corn, Assure II herbicide may be tank mixed with CATCHFIRE 540 GLYPHOSATE. Use 1.67 to 3.33 litres per hectare CATCHFIRE 540 GLYPHOSATE and 0.25 - 0.38 litre per hectare of Assure II herbicide.

The higher rate of Assure II 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 to 300 litres per hectare of clean water.

CATCHFIRE 540 GLYPHOSATE Plus Assure® II Herbicide

RATE	GROWTH STAGE OF CROP	WEEDS CONTROLLED**	COMMENTS
1.67 – 3.33 L/ha CATCHFIRE 540 GLYPHOSATE + 0.25 - 0.38 L/ha Assure II Herbicide	First trifoliolate leaf stage through flowering.	Volunteer Roundup Ready corn. Apply at the 2- to 6leaf stage of the weed.	See additional information following this table.

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

** 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 centimetres in height will be inconsistent, although some weeds may be controlled.

Mixing: Add and mix Assure II herbicide as per instructions on the Assure II herbicide label and then add CATCHFIRE 540 GLYPHOSATE as per instructions on this label.

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

A PHI (preharvest interval) of 80 days is required for the tank-mix of CATCHFIRE 540 GLYPHOSATE and AssureII herbicide on Roundup Ready soybeans.

When tank-mixes are permitted, read and observe all label directions, including rates and restrictions for each product used in the tank-mix. Follow the more stringent label precautionary measures for mixing, loading and applying stated on both product labels.

FirstRate is a trademark of Dow AgroSciences LLC.

Pursuit is a registered trademark of BASF.

Sencor is a registered trademark of Bayer.

Assure is a registered trademark of E.I. du Pont de Nemours and Company.

8.0 PERENNIAL WEED CONTROL

ALWAYS READ PRECAUTIONS, GENERAL INFORMATION & 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 CATCHFIRE 540 GLYPHOSATE

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	1.67	50 - 300	<p>Apply in clean water using flat fan nozzles.</p> <p>Allow 3 or more days after treatment before tillage.</p> <p>Refer to “Quackgrass” notes in section 8.2.1 for more information.</p> <p>For higher 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).</p> <p>Refer to list in section 8.2.2. See also below.</p>

WEED	APPLICATION			COMMENTS
	GROWTH STAGE	RATE (L/ha)	WATER VOLUME (L/ha)	
Quackgrass (long term control, heavy infestations, high water volumes)	3 to 4 green leaves or more	1.67 - 4.67	50 - 300	<p>Allow 3 or more days after treatment before tillage.</p> <p>Rates higher than 1.67 L/ha will provide more consistent, longer term control, especially with heavier infestations and/or higher water volumes (i.e., 150 – 300 L/ha).</p> <p>Refer to “Quackgrass” notes in section 8.2.1 for more information.</p>
Canada Thistle	Rosette stage (summerfallow)	1.67	50 - 100	<p>Apply in clean water using flat fan nozzles.</p> <p>Allow 10 or more days after treatment before tillage.</p> <p>Refer to “Canada Thistle” notes in section 8.2.3 for more information.</p>
Canada Thistle	Bud stage or beyond	3.17 – 4.67	100 - 300	Allow 5 or more days after treatment before tillage.
Field Bindweed	Full bloom or beyond	4.67 - 8.0	100 - 300	Allow 7 or more days after treatment before tillage.
Common Milkweed*	Bud to full bloom (preharvest)	1.67	50 – 100	See “ Preharvest Treatment ” (section 9.9) for more information.
	Bud to full bloom	8.0	100 - 300	<p>Allow 7 or more days after treatment before tillage.</p> <p>Reduced control may occur after full bloom.</p> <p>Common milkweed may not all be in the correct stage, therefore, repeat treatments may be required.</p>

WEED	APPLICATION			COMMENTS
	GROWTH STAGE	RATE (L/ha)	WATER VOLUME (L/ha)	
Toadflax	Vegetative stage (summerfallow) Bud to full bloom (preharvest)	1.67	50-100	Apply in clean water using flat fan nozzle. Allow 7 or more days after treatment before tillage in summerfallow. For more information, see “ Toadflax Control ” (section 8.2.4), or “ Preharvest Treatment ” (Section 9.9).
Alfalfa	Early bud to full bloom stage Fall applications only	2.47 – 3.33	50 - 300	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.
Dandelion	< 15 cm > 15 cm Rosette to full bloom (preharvest)	1.67 2.47 – 3.33 1.67	50 – 100 50 – 300 50 - 100	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).
Foxtail Barley	Seeding to heading	1.67 – 3.33	50 - 100	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.

WEED	APPLICATION			COMMENTS
	GROWTH STAGE	RATE (L/ha)	WATER VOLUME (L/ha)	
Other Perennials (see listing section 6.2)	Early heading or early bud stage	4.67 - 8	100 - 300	Allow 7 or more days after treatment before tillage.

***NOTE:** For spot treatment, mix 80 millilitres of product in 5 litres of clean water per 100 m² (1.67 – 8 litres per hectare is approximately equivalent to 17 – 80 mL/100m², respectively).

8.2 SPECIAL NOTES FOR PERENNIAL WEED CONTROL

8.2.1 QUACKGRASS

For **season-long control on fall tilled ground:** Apply 1.67 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 SURFACTANT INFORMATION

The following is a list of approved surfactants for use with CATCHFIRE 540 GLYPHOSATE for control of quackgrass:

Agral 90

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.

CATCHFIRE 540 GLYPHOSATE PLUS BANVEL II HERBICIDE TANK MIXTURES

For control of Canada thistle (and perennial sow thistle) in summerfallow or in postharvest stubble, apply 1.13 litres per hectare CATCHFIRE 540 GLYPHOSATE plus 1.25 litres per hectare Banvel II 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.

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 to July 21st.

2. Allow toadflax to regrow for a minimum of 4 to 5 weeks until they are 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 1.67 to 3.33 litres per hectare CATCHFIRE 540 GLYPHOSATE 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 1.67 to 3.33 litres per hectare CATCHFIRE 540 GLYPHOSATE. 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 CATCHFIRE 540 GLYPHOSATE 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 CATCHFIRE 540 GLYPHOSATE**” (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 & MIXING AND APPLICATION SECTIONS (3.1, 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).

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 Roundup Ready® canola or soybean varieties (sections 7.5 and 7.6). It may be applied as a directed spray in orchards, vineyards, blueberries and strawberries, and using selective equipment in soy and dry beans, orchards, vineyards, cranberries and strawberries (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 – WHEN APPLIED AS A TANK-MIX COMBINATION, READ AND OBSERVE ALL LABEL DIRECTIONS, INCLUDING RATES, PERSONAL PROTECTIVE EQUIPMENT, RESTRICTIONS AND PRECAUTIONS FOR EACH PRODUCT USED IN THE TANK-MIX. ALWAYS USE IN ACCORDANCE WITH THE MOST RESTRICTIVE LABEL RESTRICTIONS AND PRECAUTIONS.**

WHERE TANK MIX PARTNER LABELS REFER TO ONLY 360 G/L GLYPHOSATE PRODUCTS, ENSURE THAT THE LABEL RATE IS ADJUSTED TO COMPENSATE FOR THIS MORE CONCENTRATED PRODUCT.

CATCHFIRE 540 GLYPHOSATE Plus Pursuit Herbicide

CATCHFIRE 540 GLYPHOSATE plus Pursuit Herbicide can be applied prior to or after seeding, but before crop emergence. CATCHFIRE 540 GLYPHOSATE will control emerged weeds listed on this label when applied as directed (refer to Annual and Perennial Weed control sections on the CATCHFIRE 540 GLYPHOSATE 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.

CATCHFIRE 540 GLYPHOSATE Plus metribuzin (Sencor 75 DF Herbicide, Sencor 480F Flowable Herbicide, or Lexone DF Herbicide Dispersible Granules)

For burndown and residual control of selected annual weeds taller than 4 cm in soybeans, apply CATCHFIRE 540 GLYPHOSATE in tank mix with Sencor 75 DF Herbicide, Sencor 480F Flowable Herbicide, or Lexone DF Herbicide Dispersible Granules as a preplant surface or pre-emergence application before crop emergence.

CATCHFIRE 540 GLYPHOSATE Plus Dual Magnum Herbicide or Dual II Magnum Herbicide

For burndown and residual control of selected annual weeds in soybeans. Apply CATCHFIRE 540 GLYPHOSATE 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 CATCHFIRE 540 GLYPHOSATE. Use higher rates of CATCHFIRE 540 GLYPHOSATE if perennial weeds are present.

CATCHFIRE 540 GLYPHOSATE Plus Dual Magnum Herbicide or Dual II Magnum Herbicide plus metribuzin (Sencor 75 DF Herbicide, Sencor 480F Flowable Herbicide, 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 CATCHFIRE 540 GLYPHOSATE.

CATCHFIRE 540 GLYPHOSATE Plus Axiom DF 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 treatment in tank mixture with CATCHFIRE 540 GLYPHOSATE. Apply Axiom DF Herbicide in a minimum of 200 L/ha of total volume.

Preemergence:

CATCHFIRE 540 GLYPHOSATE plus Axiom DF 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 – WHEN APPLIED AS A TANK-MIX COMBINATION, READ AND OBSERVE ALL LABEL DIRECTIONS, INCLUDING RATES, PERSONAL PROTECTIVE EQUIPMENT, RESTRICTIONS AND PRECAUTIONS FOR EACH PRODUCT USED IN THE TANK-MIX. ALWAYS USE IN ACCORDANCE WITH THE MOST RESTRICTIVE LABEL RESTRICTIONS AND PRECAUTIONS.**

WHERE TANK MIX PARTNER LABELS REFER TO ONLY 360 G/L GLYPHOSATE PRODUCTS, ENSURE THAT THE LABEL RATE IS ADJUSTED TO COMPENSATE FOR THIS MORE CONCENTRATED PRODUCT.

CATCHFIRE 540 GLYPHOSATE Plus Dual Magnum Herbicide or Dual II Magnum Herbicide

For burndown and residual control of selected annual weeds in corn. Apply CATCHFIRE 540 GLYPHOSATE in tank mix with Dual Magnum or Dual II Magnum 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 CATCHFIRE 540 GLYPHOSATE. Use higher rates of CATCHFIRE 540 GLYPHOSATE if perennial weeds are present.

CATCHFIRE 540 GLYPHOSATE 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 CATCHFIRE 540 GLYPHOSATE 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 CATCHFIRE 540 GLYPHOSATE. Use higher rates of CATCHFIRE 540 GLYPHOSATE if perennial weeds are present.

CATCHFIRE 540 GLYPHOSATE Plus Converge Pro Herbicide or Converge 75 WDG 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 tank mixed with atrazine when applied as a surface preplant application. When weed growth is present at the time of application, CATCHFIRE 540 GLYPHOSATE can be added to the Converge Pro Herbicide or Converge 75 WDG Herbicide + atrazine treatment for burndown control of these weeds. Do not incorporate.

Preemergence:

Converge Pro Herbicide or Converge 75 WDG Herbicide can also be applied after planting to just prior to crop emergence. Atrazine and/or CATCHFIRE 540 GLYPHOSATE can be tank mixed with pre-emergent applications of Converge Pro Herbicide or Converge 75 WDG Herbicide.

Apply Converge Pro Herbicide at 165-220 mL per hectare, or Converge 75 WDG Herbicide at 105-140 g per hectare, tank mixed with CATCHFIRE 540 GLYPHOSATE at 1.67 L per hectare for burn down control of emerged weeds in all tillage management systems and improved control of established dandelion in zero-tillage management systems. A three-way tank mix of Converge Pro Herbicide or Converge 75 WDG Herbicide + atrazine + CATCHFIRE 540 GLYPHOSATE can be used to provide residual control of the weeds listed in the Converge Pro Herbicide or Converge 75 WDG Herbicide + atrazine section.

CATCHFIRE 540 GLYPHOSATE Liquid Herbicide Plus Axiom DF 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 treatment in tank mixture with CATCHFIRE 540 GLYPHOSATE. Apply Axiom DF Herbicide in a minimum of 200 L/ha of total volume.

Preemergence:

CATCHFIRE 540 GLYPHOSATE plus Axiom DF 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.

Sencor and Axiom are registered trademarks of Bayer.

Lexone is a registered trademark of E.I. du Pont de Nemours and Company.

Dual Magnum is a registered trademark of a 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 0.67 percent solution for annual weeds and quackgrass and a 1.34 percent solution for other perennial weeds (a 0.67 percent solution equals 0.67 litres of CATCHFIRE 540 GLYPHOSATE in 100 litres of spray solution).

0.67 and 1.34 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 CATCHFIRE 540 GLYPHOSATE 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 CATCHFIRE 540 GLYPHOSATE 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 CATCHFIRE 540 GLYPHOSATE Tank Mixtures**” table for information (section 7.2).

9.5.2 CATCHFIRE 540 GLYPHOSATE plus bromoxynil (Pardner) can be applied prior to seeding or after seeding, but before crop emergence in wheat, barley and oats. Refer to “**Annual Weed Control with CATCHFIRE 540 GLYPHOSATE Tank Mixtures**” table for information (section 7.2).

9.5.3 CATCHFIRE 540 GLYPHOSATE plus Pursuit Herbicide can be applied prior to, or after seeding, but before crop emergence in soybeans. CATCHFIRE 540 GLYPHOSATE will control emerged weeds listed on this label when applied as directed (refer to “**Annual and Perennial Weed Control**” section 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 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 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 Agrochemical Products B.V. Netherlands.

9.5.4 CATCHFIRE 540 GLYPHOSATE 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 CATCHFIRE 540 GLYPHOSATE Tank Mixtures**” table for information (section 7.2).

9.5.5 CATCHFIRE 540 GLYPHOSATE 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 CATCHFIRE 540 GLYPHOSATE Tank Mixtures**” table for information (section 7.2).

9.5.6 CATCHFIRE 540 GLYPHOSATE plus MCPA amine can be applied prior to seeding in lentil and chickpea. Refer to “**Annual Weed Control with CATCHFIRE 540 GLYPHOSATE Tank Mixtures**” table for information (section 7.2).

9.5.7 CATCHFIRE 540 GLYPHOSATE plus Banvel II Herbicide can be applied prior to seeding in wheat, barley, rye, oats and field corn only (do not apply prior to seeding sweet corn). Refer to “**Annual Weed Control with CATCHFIRE 540 GLYPHOSATE 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 TREATMENT

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, CATCHFIRE 540 GLYPHOSATE can be applied prior to harvest of wheat, barley (including malting barley), oats, canola (rapeseed) (including Roundup Ready® varieties), flax (including low linolenic acid varieties), lentils, peas, dry beans, soybeans (including Roundup Ready® 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. Preharvest treatment to Roundup Ready® varieties of canola and soybean provides weed control only.

CATCHFIRE 540 GLYPHOSATE should be applied preharvest at 1.67 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 1.67 to 3.33 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 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 Roundup Ready® 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 Roundup Ready 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.

NOTE TO USER: READ THE FOLLOWING BEFORE USING THIS PRODUCT FOR SPECIAL USE APPLICATIONS: (PREHARVEST TREATMENT OF CHICKPEA, DRIED LUPIN AND DRIED FAVA BEAN).

The DIRECTIONS FOR USE for the uses described in this section of the label were developed by persons other than Vincere Agri Solutions Ltd. under the User Requested Minor Use Label Expansion program. For these uses, Vincere Agri Solutions Ltd. 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

Preharvest Treatment of Chickpea, Dried Lupin and Dried Fava Bean

For control of quackgrass, Canada thistle, common milkweed, toadflax and dandelion; and season-long control of perennial sow thistle and harvest management, CATCHFIRE 540 GLYPHOSATE can be applied prior to harvest of chickpea, dried lupin and dried fava bean. DO NOT apply to crops if grown for seed production.

CATCHFIRE 540 GLYPHOSATE should be applied preharvest at 1.67 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 further information see guidelines above. The Pre-harvest interval is 7 days.

CROP(S)	PERCENT GRAIN MOISTURE	VISUAL SYMPTOMS
Chickpea	Less than 30	Stems are green to brown in colour; pods are mature (yellow to brown in colour); 80%-90% leaf drop (original leaves)
Dried Lupin		
Dried Fava Bean		

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

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 PRAIRIE PROVINCES ONLY (INCLUDING INTERIOR OF BRITISH COLUMBIA (INCLUDING THE PEACERIVER REGION))

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

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

1. Aircraft used in the application of this product must have been configured and calibrated to acceptable standards at a recognized calibration (patterning) clinic within 20 months of the date of application. The spray system must not have been subjected to major changes (new nozzles, booms or configurations) since the calibration, and must meet critical drift management standards e.g. maximum boom width 65% of wing span; nozzle type, size and orientation to minimize drift and deliver droplet size VMD in the coarse (400 – 600 microns) or very coarse (600 – 1000 microns) range.
2. Aircraft used in the application of this product must carry a minimum of \$25,000 drift insurance in addition to any provincial requirements for general comprehensive insurance coverage.
3. Applicators using this product must have successfully completed a CATCHFIRE 540 GLYPHOSATE herbicide aerial application training course.
4. Aerial application services applying this product must employ on staff at least one pilot applicator with at least 250 hours of actual aerial application time and a minimum of 100 hours within the last 24-month period. All pilots who do not meet the minimum experience standard must work under the ***direct daily supervision*** of a qualified pilot.

Refer to general directions and precautions concerning aerial application, section 5.2, and 5.3, spray buffer zones.

DIRECTIONS FOR USE

CATCHFIRE 540 GLYPHOSATE 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. CATCHFIRE 540 GLYPHOSATE 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 use on forages. 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.

CATCHFIRE 540 GLYPHOSATE should be applied at 1.67 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.

Mountain Ash

Sorbus spp.

Poplar

Populus spp.

Russian Olive

Elaeagnus spp.

Willow

Salix spp.

CONIFEROUS

Fir

Abies spp.

Juniper

Juniperus spp.

Pine

Pinus spp.

Spruce

Picea spp.

Yew

Taxus 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 preemergent weed control. For subsequent weed control, follow a program using residual herbicides or use repeated applications of this product. Do not apply more than 23 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)	PRE-HARVEST 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	1.5 - 8	30	3	Annual and perennial weeds	

Apples, Grapes	Tank Mix 1.5 – 8 + Simadex Simazine Flowable 2.0 – 4.5 kg ai/ha	-	1	Annual and perennial weeds	<p>Will provide season-long preemergent control.</p> <p>Do not apply to coarse, sandy or gravelly soil.</p> <p>When applied as a tank-mix combination, read and observe all label directions, including rates, personal protective equipment, restrictions and precautions for each product used in the tank-mix. Always use in accordance with the most restrictive label restrictions and precautions.</p> <p>DO NOT apply to orchards or vineyards that have been established less than 1 or 3 years, respectively.</p> <p>Simazine rate is equivalent to 2.25 – 5.0 kg/ha Princep® Nine-T®, or 4.0 – 9.0 kg/ha Simadex®</p>
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CROP	RATE (L/ha)	PRE- HARVEST INTERVAL (days)	MAX. APPL. PER YEAR	WEEDS CONTROLLED	COMMENTS (Refer to sections 7.1 and 8.1 for specific rates for weed control)
Grapes	1.5 - 8	14	3	Annual and perennial weeds.	Remove all sucker growth from the spray zone before spraying, except for the Concord variety of grape. Suckering should be conducted within 2 weeks prior to application. Do not apply to vines which have been established less than 3 years.
Highbush (cultivated) blueberry	1.87 – 3.73	30	1	Quackgrass	Use as a directed spray, with no more than 275 kPa pressure.
Lowbush blueberry	0.67 – 1.34% solution (spot application)	Apply in non-bearing year only	1	Woody brush (section 6.3)	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)	1.5 – 2.33	14	-	Annual Weeds	Use as a directed spray, with no more than 275 kPa pressure.

CROP	RATE (L/ha)	PRE- HARVEST INTERVAL (days)	MAX. APPL. PER YEAR	WEEDS CONTROLLED	COMMENTS (Refer to sections 7.1 and 8.1 for specific rates for weed control)
Walnut, Chestnut, Japanese Heartnut	1.5 - 8	-	2	Annual and perennial weeds	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 1.34% wiper solution (see “ Wiper Applications ” section 9.12).
Cranberry	13.4% solution (0.62L CATCHFIRE 540 GLYPHOSATE + 4L water)	30	1	Annual and perennial weeds	Apply using wick or wiper applicators (section 9.12).
Strawberry	0.67 – 1.34% solution (spot application) 22% solution (wiper application)	30	1	Emerged perennial weeds	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.
Asparagus	0.83 – 1.67	7	1	Fall seeded ryegrass	Apply in spring before emergence of crop shoots.

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Simadex is a registered trademark of Aventis CropScience UK Limited.

SHORT ROTATION INTENSIVE CULTURE (SRIC) POPLAR

(Populus spp)

DO NOT apply by air.

This product may be used to control listed annual or perennial weeds prior to planting, or as a post directed spray in established crops of short rotation intensive culture (SRIC) Poplar species (*Populus spp.*)

EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF HERBICIDE SOLUTION, SPRAY, DRIFT, OR MIST WITH FOLIAGE OR GREEN BARK OF TRUNK, BRANCHES, OR OTHER PARTS OF TREES. 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.

CATCHFIRE 540 GLYPHOSATE may be applied prior to planting or as a post directed spray in established short rotation intensive culture crops. Apply CATCHFIRE 540 GLYPHOSATE up to 8 L/ha in 50 – 100 liters or 150 –300 L/h for quackgrass control by ground application only. Applications can be made 1-3 times per year during establishment however, not to exceed the limit of 8 L/ha per year. Shielded sprayers must be utilized when applying post directed spray solutions. Allow a 6-8 week interval between spray applications. Apply to actively growing weeds.

NOTE TO USER: READ THE FOLLOWING BEFORE USING THIS PRODUCT FOR SPECIAL USE APPLICATIONS: (NORTH AMERICAN GINSENG).

The DIRECTIONS FOR USE for the uses described this section on the label were developed by persons other than Vincere Agri Solutions Ltd. under the User Requested Minor Use Label Expansion program. For these uses, Vincere Agri Solutions Ltd. 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 1.67 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 above the soil. Apply when weeds are at the growth stages described in the product label. A maximum of two 1.67 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 GARDEN**

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 strawberries. 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 discoloration, 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 ensure 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 0.33 to 0.67 litres of this product in 10 litres water to prepare a 3 to 7 percent solution. Roller speed should be maintained at 50 to 150 RPM.

For Wick or other Wiper Applicators – Mix 0.57 litres of this product in 2 litres of water to prepare a 22 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.

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 CATCHFIRE 540
GLYPHOSATE**

WEEDS	GROUND APPLICATION*			COMMENTS
	BOOM APPLICATION		HAND HELD HIGH VOLUME APPLICATION % SOLUTION	
	RATE* (L/ha)	WATER VOL.* (L/ha)		
Annual grasses and broadleaves	1.5–2.33	50-100	0.67	Actively growing weeds.
Perennial Weeds				Actively growing weeds.
Quackgrass	1.67 3.17-4.67	50-300 50-300	0.67 1.34	Add 0.5% v/v of a recommended surfactant when using water volumes greater than 150 L (see section 8.2.2).
Canada Thistle (bud stage)	3.17-4.67	100-300	1.34	
Purple Loosestrife	4	300-600	0.67-1.34 (or 22% for wiper application)	
Other Perennials	4.67-8	100-300	1.34	See section 10.2.2 for instructions on purple loosestrife applications. Summer through fall is optimum.
Brush and Trees				
Birch, Cherry, Poplar, Western Snowberry, Willow	2-4	100-300	0.67-1.34	Summer through early fall (see section 10.2).
Maple, Raspberry/ Salmonberry, Alder	4	100-300	1.34	Late summer through fall. Fall is optimum.

WEEDS	GROUND APPLICATION*			COMMENTS
	BOOM APPLICATION		HAND HELD HIGH VOLUME APPLICATION % SOLUTION	
	RATE* (L/ha)	WATER VOL.* (L/ha)		
Turf Renovation Annual and perennial weeds	1.67-8	100-300	0.67-1.34	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) 0.5 – 0.67 + 1.25 – 2.5 L Vanquish or 2) 0.5 – 0.67 + 0.30 L Vanquish + 1.2 L 2,4-D amine 500	25-150	-	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 will provide season long control of most germinating broadleaf weeds and grasses. It may also provide postemergent activity on certain annual weeds).	1.67 – 8 + 4.0 -9.0 L Simadex Simazine Flowable	200-400	-	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. 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).

Vanquish is a registered trademark of Syngenta Group Company.
Simadex is a registered trademark of Bayer.

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 colors 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 cautionary 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 2 to 4 litres of this product per hectare. Use ground boom or boomless, or mist blower equipment, or apply as a 0.67 to 1.34 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 4 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 PURPLE LOOSESTRIFE CONTROL

- DO NOT TREAT PLANTS OVER OPEN WATER. CATCHFIRE 540 GLYPHOSATE 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 APPLICATION 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 TURF GRASS

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, respectively). 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 0.33 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 0.33 milliliters product for every 5 centimeters 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.