

**GROUP**

**9**

**HERBICIDE**

# **ROUNDUP ORIGINAL**

## **Liquid Herbicide**

**AGRICULTURAL and INDUSTRIAL**

**CAUTION**



**IRRITANT**

**WATER SOLUBLE HERBICIDE FOR NON-SELECTIVE WEED CONTROL**

**REGISTRATION NO. 13644 PEST CONTROL PRODUCTS ACT.**

**GUARANTEE:** Glyphosate, 356 grams acid equivalent per litre present as isopropylamine salt.

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

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

**NET CONTENTS: 10, 115, 450, 750 L, Bulk**

**MONSANTO CANADA, INC.  
900 – One Research Road  
Winnipeg, Manitoba R3T 6E3**

## **PRECAUTIONS**

KEEP OUT OF REACH OF CHILDREN.

MAY CAUSE EYE IRRITATION.

HARMFUL IF SWALLOWED.

Avoid contact with eyes or prolonged contact with skin.

For good hygiene practice, wear a long-sleeved shirt, long pants and chemical resistant gloves during mixing, loading, cleanup or repair activities.

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

## **FIRST AID**

**IF IN EYES**, hold eye open and rinse slowly and gently with water for 15–20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice.

**IF ON SKIN OR CLOTHING**, take off contaminated clothing. Rinse skin immediately with plenty of water for 15–20 minutes. Call a poison control centre or doctor for treatment advice.

**IF SWALLOWED**, call a poison control centre or doctor immediately for treatment advice.

Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person.

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

## **TOXICOLOGICAL INFORMATION**

Treat symptomatically.

## **ENVIRONMENTAL HAZARDS**

Toxic to aquatic organisms and non-target plants. Avoid direct applications to any body of water. Do not contaminate water by disposal of waste or cleaning of equipment. Observe buffer zones specified under Directions for use.

## **PHYSICAL OR CHEMICAL HAZARDS**

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

## **EMERGENCY TELEPHONE NUMBERS**

**In case of an emergency involving this product**, Call Monsanto collect, day or night:

Accident/Spills/Medical Emergency.....(314) 694-4000  
 or.....1-800-332-3111  
 or CANUTEC.....(613) 996-6666

For additional information on this or other Monsanto agricultural products, call the Monsanto Canada Custom Care Line at: 1-800-667-4944

### **STORAGE**

Avoid contamination of seed, feed, and foodstuffs.  
 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 requirements.

#### **RETURNABLE CONTAINERS:**

Do not reuse container for any 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 manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean-up of spills.

### **NOTICE**

**NOTICE TO USER:** This pest control product is to be used only in accordance with the directions on the label. It is an offence under the *Pest Control Products Act* to use this product in a way that is inconsistent with the directions on the label. The user assumes the risk to persons or property that arises from any such use of this product.

Not for relabelling or repackaging.

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2006

## CONTENTS

Page (s)

### 1.0 PRODUCT DESCRIPTION

### 2.0 EMERGENCY NUMBERS

#### 2.1 Information

### 3.0 PRECAUTIONS

#### 3.1 First Aid

#### 3.2 Toxicological Information

#### 3.3 Environmental Hazards

#### 3.4 Physical and Chemical Hazards

#### 3.5 Storage

#### 3.6 Disposal

### 4.0 GENERAL INFORMATION

### 5.0 MIXING AND APPLICATION

#### 5.1 Precautions

#### 5.2 Equipment Information

#### 5.3 Buffer Zones

### 6.0 WEEDS CONTROLLED

#### 6.1 Annuals

#### 6.2 Perennials

#### 6.3 Woody Brush and Trees

### CROPLAND USES

### 7.0 ANNUAL WEED CONTROL

#### 7.1 Annual Weed Control with ROUNDUP ORIGINAL Liquid Herbicide

#### 7.2 Annual Weed Control with Tank Mixtures

#### 7.3 Surfactant Information

#### 7.4 Additional Important Information For Annual Weed Control

#### 7.5 Weed Control in Glyphosate Tolerant Canola i.e. varieties with the Roundup Ready™ Gene

##### 7.5.1 Tank Mixtures

#### 7.6 Weed Control in Glyphosate Tolerant Soybean i.e. varieties with the Roundup Ready™ Gene

##### 7.6.1 Tank Mixtures

#### 7.7 Weed control in Glyphosate Tolerant Corn i.e., varieties with the Roundup Ready™ Gene

### 8.0 PERENNIAL WEED CONTROL

#### 8.1 Perennial Weed Control With ROUNDUP ORIGINAL Liquid Herbicide

#### 8.2 Special Notes For Perennial Weed Control:

##### 8.2.1 Quackgrass

##### 8.2.2 Surfactant Information

- 8.2.3 Canada Thistle
- 8.2.4 Toadflax
- 8.2.5 Dandelion
- 8.2.6 Alfalfa Control with 2,4-D Tank Mix
- 8.2.7 All Perennial Weeds

## **9.0 CROPLAND SITUATIONS**

- 9.1 Prior to Planting - All Crops
  - 9.1.1 Prior to Planting – Tank Mixes - Soybeans
  - 9.1.2 Prior to Planting – Tank Mixes - Corn
- 9.2 Post harvest Stubble Treatment
- 9.3 Spot treatment
  - 9.3.1 Grazing Restrictions
- 9.4 Summerfallow Treatment
- 9.5 Minimum and Zero Tillage Applications
  - 9.5.1 Roundup Original Liquid Herbicide plus 2,4-D amine or ester
  - 9.5.2 Roundup Original Liquid Herbicide plus Pardner
  - 9.5.3 Roundup Original Liquid Herbicide plus Pursuit
  - 9.5.4 Roundup Original Liquid Herbicide plus MCPA
  - 9.5.5 Roundup Original Liquid Herbicide plus Buctril M
  - 9.5.6 Roundup Original Liquid Herbicide plus MCPA amine
  - 9.5.7 Roundup Original Liquid Herbicide plus Express Toss-N-Go Herbicide or Express Toss-N-Go Dry Flowable 75% Herbicide
- 9.6 Forage Legumes and Grasses
- 9.7 Pasture Renovation
- 9.8 Forage Seed Production
- 9.9 Preharvest Treatment
  - 9.9.1 Guidelines for Timing of Preharvest Applications
  - 9.9.2 Preharvest Aerial Application
- 9.10 Tree Plantings
- 9.11 Tree, Vine, Berry and Other Crops
- 9.12 Selective Equipment

## **10.0 NON-CROPLAND USES: INDUSTRIAL, RIGHTS OF WAY, RECREATIONAL, AND PUBLIC AREAS**

- 10.1 Weed Control In Non-Cropland Areas
- 10.2 Application Information for Non-Cropland Uses
  - 10.2.1 Ground Applications
  - 10.2.2 Aerial application (industrial rights-of-way only)
  - 10.2.3 Purple Loosestrife Control
- 10.3 Selective Application for All Non-Cropland Uses
- 10.4 Turf grass
- 10.5 Injection Applications
- 10.6 Cut Stump Application

## ROUNDUP ORIGINAL LIQUID HERBICIDE

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

#### **NON-CROPLAND USES INCLUDE:**

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

Not for relabelling or repackaging.

Roundup Ready is a registered trademark, Roundup Original, Monsanto and the Vine symbol are trademarks of Monsanto Technology LLC., Monsanto Canada Inc. - Licensee

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### 2.0 EMERGENCY NUMBERS

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### 2.1 INFORMATION

For additional information on this or other Monsanto agricultural products, call the Monsanto Canada Custom Care Line at: 1-800-667-4944



### 3.0 PRECAUTIONS

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### 3.2 TOXICOLOGICAL INFORMATION

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### 3.3 ENVIRONMENTAL HAZARDS

Toxic to aquatic organisms and non-target plants. Avoid direct applications to any body of water. Do not contaminate water by disposal of waste or cleaning of equipment. Observe buffer zones specified under Directions for use.

### 3.4 PHYSICAL OR CHEMICAL HAZARDS

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### 3.5 STORAGE

Avoid contamination of seed, feed, and foodstuffs.  
Soak up small amounts of spill with absorbent clays.

### 3.6 DISPOSAL

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### NOTICE

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## DIRECTIONS FOR USE

### 4.0 GENERAL INFORMATION

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

Observe buffer zones specified in Section 5.3

For tank mixtures, always follow the most restrictive label when applying.

Roundup Original Liquid Herbicide, 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 sections (7.0 and 8.0) of this booklet to provide adequate leaf surface to receive the spray. Unemerged plants arising from underground rhizomes or root stocks of perennials will not be affected by the spray and will continue to grow. For this reason best control of most perennial weeds is obtained when treatment is made at late growth stages approaching maturity.

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

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

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

Heavy rainfall immediately after application may wash the chemical off the foliage and a repeat treatment may be required. Do not apply if rainfall is forecast for the time of application.

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 runoff.

## **RESISTANCE-MANAGEMENT RECOMMENDATIONS**

For resistance management, Roundup Original Liquid Herbicide is a Group 9 herbicide. Any weed population may contain or develop plants naturally resistant to Roundup Original Liquid Herbicide 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 Roundup Original Liquid Herbicide or other Group 9 herbicides with different herbicide groups that control the same weeds in a field.
- Use tank mixtures with herbicides from a different group when such use is permitted.
- Herbicide use should be based on an IPM program that includes scouting, historical information related to herbicide use and crop rotation, and considers tillage (or other mechanical), cultural, biological and other chemical control practices.
- Monitor treated weed populations for resistance development.
- Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment and planting clean seed.
- Contact your local extension specialist or certified crop advisors for any additional pesticides resistance-management and/or integrated weed-management recommendations for specific crops and weed biotypes.
- For further information or to report suspected resistance, contact Monsanto Canada at 1-800-667-4944 or at [www.Monsanto.ca](http://www.Monsanto.ca).

## **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.**

AVOID DRIFT - EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURING DESIRABLE PLANTS AND CROPS. Do not allow spray mist to drift since even minute quantities of spray can cause severe damage or destruction to nearby crops, plants or other areas on which treatment is not intended, or may cause other unintended consequences. Do not apply when winds are gusty or in excess of 8 kilometres per hour or when other conditions, including lesser wind velocities, will allow drift to occur. When spraying, avoid combinations of pressure and nozzle type that will result in fine particles (mist) which are more likely to drift.

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

Clean sprayer and parts immediately after using this product by thoroughly flushing with water. Do not contaminate water sources by disposal of wastes or cleaning of equipment.

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

## 5.2 MIXING AND APPLICATION EQUIPMENT INFORMATION

### MIXING

For ground or industrial type sprayers, fill the spray tank with one-half the required amount of water. Add the proper amount of herbicide see "**Weed Control**" sections of this booklet (7, 8) and mix well before adding the remaining portion of water. Placing the filling hose below the surface of the liquid solution will prevent excessive foaming. Removing hose from tank immediately will avoid back siphoning into water source. Use of mechanical agitators may cause excessive foaming. Bypass lines should terminate at the bottom of the tank.

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

### APPLICATION EQUIPMENT

#### BOOM EQUIPMENT

**For control of perennial weeds and woody brush and trees listed on this booklet using conventional boom equipment--** Apply this product in 50 to 300 litres of clean water per hectare as a broadcast spray using no more than 275 kPa pressure. See "**Weed Control**" sections of this booklet (7,8) for rates to control specific weeds.

**For control of annual weeds listed on this booklet using conventional boom equipment--**Apply this product in 50 to 100 litres of clean water per hectare as a broadcast spray, except as otherwise stated on this label using no more than 275 kPa pressure. See "**Weed Control**" sections of this booklet (7,8) for rates to control specific weeds.

#### HAND HELD AND HIGH VOLUME EQUIPMENT

(use coarse sprays only)

**For control of weeds and woody brush and trees listed in the "Weed 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 1percent solution of this product in water (1 litre of this product in 100 litres of water) and apply to foliage of vegetation to be controlled. For best results, use a 2 percent solution (2 litres of this product in 100 litres of water) on harder to control perennials such as field bindweed, hemp dog-bane, 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 runoff. Hand gun 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 of this label (9.12).

### AERIAL EQUIPMENT

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

#### Directions for use

Apply only by fixed-wing or rotary aircraft equipment which has been functionally and operationally calibrated for the atmospheric conditions of the area and the application rates and conditions of this label. Ensure that the maximum boom width does not exceed 65% of the wing span. Nozzle type, size and orientation must be configured to deliver a droplet size VMD in the coarse (400-600 microns) or very coarse (600-1000) range.

Label rates, conditions and precautions are product specific. Read and understand the entire label before opening this product. Apply only at the rate recommended for aerial application on this label. Where no rate for aerial application appears for the specific use, this product cannot be applied by any type of aerial equipment.

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

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

#### Use Precautions

Apply only when meteorological conditions at the treatment site allow for complete and even target crop coverage. Apply only under conditions of good practice specific to aerial application as outlined in the *National Aerial Pesticide Application Manual*, developed by the

Federal/Provincial/Territorial Committee on Pest Management and Pesticides.

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

Do not angle nozzles forward into the airstream and do not increase spray volume by increasing nozzle pressure.

### **Operator Precautions**

Do not allow the pilot to mix chemicals to be loaded onto the aircraft. Loading of premixed chemicals with a closed system is permitted.

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

The field crew and the mixer/loaders must wear chemical resistant gloves, coveralls and goggles or face shield during mixing/loading, cleanup and repair. Follow the more stringent label precautions in cases where the operator precautions exceed generic label recommendations on the existing ground boom label.

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

### **Product Specific Precautions**

Read and understand the entire label before opening this product. If you have questions, call the Monsanto Canada Custom Care Line at 1-800-667-4944 or obtain technical advice from the distributor or your provincial agricultural representative.

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

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

## **5.3 BUFFER ZONES**

- i) **DO NOT** apply during periods of dead calm or when winds are gusty. **DO NOT** apply with spray droplets smaller than ASAE medium classification.
- ii) Aerial Application: **DO NOT** apply when wind speed is greater than 16 km/h (preharvest) or 8 km/h (rights-of-way) at flying height at the site of application. **DO NOT** apply with spray droplets smaller than the ASAE coarse classification.
- iii) Buffer Zones

The buffer zones specified in the table below are required between the point of direct application and the closest downwind edge of sensitive terrestrial habitats (such as



grasslands, forested areas, shelter belts, woodlots, hedgerows, pastures, rangelands and shrublands), and sensitive aquatic habitats (such as lakes, rivers, sloughs, ponds, coulees, prairie potholes, creeks, marshes, streams, reservoirs, and wetlands).

Method of Application	Buffer Zones (metres) required for protection of:		
	Aquatic Habitat		Terrestrial Habitat
Field sprayer*	15		15
Aerial (preharvest only)	25		55
Aerial** (rights-of-way only)	One Application Per Season	Two Applications Per Season (i.e. buffer zone below is for 2 <sup>nd</sup> application)	-
Aircraft:			
Fixed Wing:	50	85	-
Helicopter:	20	35	-

\*For field sprayers, buffer zones can be reduced by 70% when using shrouds or 30% when using cones.

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

\*\*Coarse ASAE (VMD=385.2 µm); Release height from aircraft ≤ 10 m.

## 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 the "**Annual Weed Control**" and "**Perennial Weed Control**" sections of this label (7.1, 8.1, respectively). The following is a partial list of weeds controlled:

### 6.1 ANNUAL WEEDS

#### Annual Grasses

##### Barnyard Grass

*Echinochloa crusgalli*

##### Blue Grass (annual)

*Poa annua*

##### Crab Grass (large)

*Digitaria sanguinalis*

##### Crab Grass (smooth)

*Digitaria ischaemum*

##### Downy Brome Grass



*Bromus tectorum*

**Fall Panicum**

*Panicum dichotomiflorum*

**Giant Foxtail**

*Setaria faberii*

**Green Foxtail**

*Setaria viridis*

**Persian Darnel**

*Lolium persicum*

**Volunteer Barley**

*Hordeum spp.*

**Volunteer Corn**

*Zea Mays*

**Volunteer Wheat**

*Triticum spp.*

**Wild Oats**

*Avena fatua*

**Wild Proso Millet**

*Panicum miliaceum*

**Yellow Foxtail**

*Setaria glauca*

**Other**

**Dodder**

*Cuscuta spp.*

**Annual Broadleaf Weeds**

**Chickweed**

*Stellaria media*

**Cleavers**

*Galium aparine*

**Cocklebur**

*Xanthium strumarium*

**Corn Spurry**

*Spergula arvensis*

**Cow Cockle**

*Saponaria vaccaria*

**Eastern Black Nightshade**

*Solanum ptycanthum*

**Fleabane (Canada)**

*Erigeron canadensis*

**Flixweed**

*Descurainia sophia*

**Green Smartweed**

*Polygonum scabrum*

**Hempnettle**

*Galeopsis tetrahit*

**Kochia**

*Kochia scoparia*

**Lady's-Thumb**

*Polygonum persicaria*

**Lamb's-Quarters (common)**

*Chenopodium album*

**Narrow-leaved Hawk's Beard**

*Crepis tectorum*

**Narrow-leaved Vetch**

*Vicia angustifolia*

**Night-flowering Catchfly**

*Silene noctiflora*

**Pennsylvania Smartweed**

*Polygonum pennsylvanicum*

**Prickly Lettuce**

*Lactuca scariola*

**Ragweed (common)**

*Ambrosia artemisiifolia*

**Redroot Pigweed**

*Amaranthus retroflexus*

**Round-leaved Mallow**

*Malva pusilla*

**Russian Thistle**

*Salsola pestifer*

**Shepherd's Purse**

*Capsella bursa-pastoris*

**Smooth Pigweed**

*Amaranthus hybridus*

**Sowthistle (annual)**

*Sonchus oleraceus*

**Stinkweed**

*Thlaspi arvense*

**Storksbill**

*Erodium cicutarium*

**Velvetleaf**

*Abutilon theophrasti*

**Volunteer Canola (rapeseed)**

*Brassica spp*

**Volunteer Flax**

*Linaria spp*

**Wild Buckwheat**

*Polygonum convolvulus*

**Wild Mustard**

*Sinapis arvensis*

**Wild Tomato**

*Solanum triflorum*

**6.2**

**PERENNIAL WEEDS**

**Perennial Grasses / Sedges**

**Blue Grass (Canada)**

*Poa compressa*

**Blue Grass (Kentucky)**

*Poa pratensis*

**Brome Grass (smooth)**

*Bromus inermis*

**Cattail (common)**

*Typha latifolia*

**Foxtail Barley**

*Hordeum jubatum*

**Quackgrass**

*Agropyron repens*

**Wire-Stemmed Muhly**

*Muhlenbergia frondosa*

**Yellow Nutsedge**

*Cyperus esculentus*

**Perennial Broadleaved Weeds**

**Alfalfa**

*Medicago spp.*

**Cottontop**

*Eriophorum chamissonis*

**Curled Dock**

*Rumex crispus*

**Dandelion**

*Taraxacum officinale*

**Field Bindweed**

*Convolvulus arvensis*

**Hemp Dogbane**

*Apocynum cannabinum*

**Hoary Cress**

*Cardaria draba*

**Knotweed (Japanese)**

*Polygonum cuspidatum*

**Milkweed (common)**

*Asclepias syriaca*

**Poison Ivy**

*Rhus radicans*

**Purple Loosestrife**

*Lythrum salicaria*

**Sow Thistle (perennial)**

*Sonchus arvensis*

**Thistle (Canada)**

*Cirsium arvense*

**Toad Flax**

*Linaria vulgaris*

**Wormwood (Absinth)**

*Artemisia absinthium*

**6.3 Woody Brush and Trees**

**Alder**

*Alnus spp.*

**Birch**

*Betula spp.*

**Broadleaved meadowsweet**

*Spiraea latifolia*

**Rhododendron (Canadian)**

*Rhododendron  
canadense*

**Cedar**

*Thuja spp.*

**Cherry**

*Prunus spp.*

**Douglas Fir**

*Pseudotsuga spp.*

**Hemlock**

*Tsuga spp.*

**Maple**

*Acer spp.*

**Mountain-fly**

**honeysuckle**

*Lonicera villosa*

**Pine**

*Pinus spp.*

**Poplar**

*Populus spp.*

**Raspberry / Salmonberry**

*Rubus spp.*

**Sheep laurel**

*Kalmia angustifolia*

**Snowberry (Western)**

*Symphoricarpos  
occidentalis*

**Sweet fern**

*Comptonia peregrina*

**Willow**

*Salix spp.*

**Withrod**

*Viburnum cassinoides*

## CROPLAND USES

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

**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 ROUNDUP ORIGINAL LIQUID HERBICIDE

<b>RATE (L/ha)</b>	<b>GROWTH STAGE</b>	<b>WEEDS CONTROLLED</b>	<b>COMMENTS (Apply in 50 - 100 L/ha water)</b>
0.75	weeds up to 8 cm in height	wild oats, green foxtail, volunteer barley, volunteer wheat  non-glyphosate tolerant volunteer canola (rapeseed), wild mustard, lady's-thumb, stinkweed	. For wild oats apply at 1 - 3 leaf stage  . Add 350 mL of a surfactant registered for use such as Agral®90, Ag Surf®, or Companion™.  . For heavy wild oat infestations use 1.0 L/ha rate.
1.0	weeds 8 cm to 15 cm in height	all annual grasses listed above  all annual broad leaved 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.
1.25-1.9	weeds up to 15 cm in height	all annual grasses listed above plus downy brome, giant foxtail, and persian darnel  all annual broadleaved weeds listed above plus cleavers, lamb's quarters,	. No surfactant required  . For tankmix weed control options see section 7.2  *DO NOT use these rates on plants greater than 8 cm in height

<b>RATE (L/ha)</b>	<b>GROWTH STAGE</b>	<b>WEEDS CONTROLLED</b>	<b>COMMENTS (Apply in 50 - 100 L/ha water)</b>
		redroot pigweed, hempnettle, flixweed, russian thistle, volunteer flax, common ragweed*, canada fleabane*, wild buckwheat**, narrow-leaved hawk's beard***,	** for 3 - 4 leaf stage use 1.9 L/ha rate  ***For weeds 8 cm to 15 cm in height use 1.9 L/ha rate
2.25	weeds up to 15 cm in height	all annual grasses listed above plus crab grass and annual blue grass.  all annual broadleaved weeds listed above plus kochia, prickly lettuce, shepherd's purse, annual sow thistle, and narrow-leaved vetch	. For additional annual broadleaved weed control options, refer to tank mix table (section 7.2).
3.5	weeds over 15 cm in height	all annual grasses and broadleaved weeds listed above	. For additional annual broadleaved weed control options refer to tank mix table (section 7.2).

Agral® is a registered trademark of Syngenta Crop Protection Canada Inc.

Ag Surf® is a registered trademark of Interprovincial Co-operatives Ltd.

Companion© is a trademark of Dow AgroSciences LLC.

**NOTE:** For spot treatment, 0.75 - 3.5 L/ha is approximately equivalent to 8 - 35 mL/100 m<sup>2</sup>, respectively.

## 7.2 ANNUAL WEED CONTROL WITH ROUNDUP ORIGINAL LIQUID HERBICIDE TANK MIXTURES

### FOR SUMMERFALLOW & MINIMUM TILLAGE SYSTEMS

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

TANK MIXTURES	RATE (L/ha)	WEEDS CONTROLLED ♦	COMMENTS (Apply in 50-100 L/ha water)
Banvel® Herbicide	0.29	quarters, lady's-thumb, stinkweed, kochia, Russian thistle, cow cockle, redroot pigweed**, wild buckwheat**	<p>* Roundup Original Liquid Herbicide applied at 1.0 L/ha rate only.</p> <p>** Suppression only. See other tank mixtures for control options.</p> <p>Add 350 mL/ha of surfactant – see list in section 7.3.</p>
Roundup Original Liquid Herbicide  +  Pardner®	0.75 – 1.0  +  1.25	Volunteer cereals, green foxtail, volunteer canola (rapeseed), wild mustard, lady's-thumb, stinkweed, wild buckwheat*  Redroot pigweed**, kochia**, wild oats**	<p>This tank mix is registered <b>only for use in summerfallow, and prior to wheat, oats and barley in minimum tillage systems.</b> 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 Roundup Original Liquid Herbicide at 1.0 L/ha rate only for wild buckwheat control.</p> <p>** 1.0 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>
Roundup Original Liquid Herbicide  +  2,4-D <sup>A</sup>	1.25 – 1.9  +  0.6 – 0.9 <sup>4</sup> or 1.2 – 1.5 <sup>5</sup>	Volunteer cereals, wild oats, green foxtail, downy brome, giant foxtail, and Persian darnel.  Volunteer canola, (rapeseed) (non-Roundup Ready), wild mustard, flixweed, redroot pigweed, lady's-thumb, stinkweed, kochia, lamb's-quarters, hempnettle, Russian	<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>* DO NOT use these rates on plants greater than 8 cm in height.</p> <p>** For 3-4 leaf stage use 1.9 L/ha rate.</p>

TANK MIXTURES	RATE (L/ha)	WEEDS CONTROLLED ♦	COMMENTS (Apply in 50-100 L/ha water)
		<p>thistle, volunteer flax, common ragweed*, Canada fleabane, wild buckwheat**, narrow-leaved hawk's beard***</p> <p>Volunteer Roundup Ready canola (1-4 leaf stage)<sup>4</sup>, bluebur<sup>4</sup>, burdock<sup>4</sup>, cocklebur<sup>4</sup>, common plantain<sup>4</sup>, daisy fleabane<sup>4</sup>, false flax<sup>4</sup>, false ragweed<sup>4</sup>, goat's beard<sup>4</sup>, mustards<sup>4</sup> (except dog and tansy), prickly lettuce<sup>4</sup>, ragweeds<sup>4</sup>, Russian pigweed<sup>4</sup>, shepherd's purse<sup>4</sup>, stinging nettle<sup>4</sup>, sweet clover<sup>4</sup>, thyme-leaved spurge<sup>4</sup>, wild radish<sup>4</sup>, wild sunflower<sup>4</sup></p> <p>Volunteer Roundup Ready canola (4-6 leaf stage)<sup>5</sup>, annual sow thistle<sup>5</sup>, common chickweed<sup>5</sup>, common purslane<sup>5</sup>, dog and tansy mustard<sup>5</sup>, oak-leaved goosefoot<sup>5</sup>, common groundsel<sup>5</sup>, hairy galinsoga<sup>5</sup>, hawkweed<sup>5</sup>, heal-all<sup>5</sup>, knotweed<sup>5</sup>, peppergrass<sup>5</sup>, pineapple weed<sup>5</sup>, prostrate pigweed<sup>5</sup>, purslane<sup>5</sup>, sheep sorrel<sup>5</sup>, green smartweed<sup>5</sup>, tumble pigweed<sup>5</sup>, velvetleaf<sup>5</sup>, volunteer canola (rapeseed)<sup>5</sup></p>	<p>*** For weeds 8 cm to 15 cm in height use 1.9 L/ha rate.</p> <p><sup>4</sup> 2,4-D at 0.6 – 0.9 L/ha (280 – 420 g ai/ha).</p> <p><sup>5</sup> 2,4-D at 1.2 – 1.5 L/ha (560 – 700 g ai/ha).</p> <p>Use this tank mix prior to seeding or after seeding but before crop emergence in <b>wheat, winter wheat, barley and rye.</b></p> <p>No surfactant required.</p>
Roundup Original Liquid Herbicide	0.75 – 1.0  +	<p>Volunteer cereals, wild oats* and green foxtail*</p> <p>Volunteer canola (rapeseed), wild mustard,</p>	This tank mix is registered for <b>summerfallow use only</b> . Weeds should be less than 15 cm tall and actively growing for best results.

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



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

TANK MIXTURES	RATE (L/ha)	WEEDS CONTROLLED ♦	COMMENTS (Apply in 50-100 L/ha water)
		stinkweed, wild mustard, wormseed mustard, lamb's-quarters, common ragweed, common groundsel  Perennials (top growth) <sup>2</sup> : Canada thistle, perennial sow thistle	<b>streambank wheatgrass and reed canary grass).</b>  No surfactant required.
Roundup Original Liquid Herbicide + MCPA amine (500 g/L formulation; if another formulation is used, adjust rate accordingly)	1.25 – 1.9  + 0.5 – 0.7	Volunteer cereals, wild oats, green foxtail, downy brome, giant foxtail, and 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**, narrow-leaved hawk's beard***  Volunteer Roundup Ready canola (1-4 leaf stage) <sup>3</sup> , bluebur <sup>4</sup> , burdock <sup>4</sup> (before 4 leaf stage), false flax <sup>4</sup> , flixweed <sup>4</sup> , lamb's-quarters <sup>4</sup> , mustards <sup>4</sup> (except dog and tansy), prickly lettuce <sup>4</sup> , ragweeds <sup>4</sup> , redroot pigweed <sup>4</sup> , Russian pigweed <sup>4</sup> , shepherd's purse <sup>4</sup> , stinkweed <sup>4</sup> (field pennycress), vetch <sup>4</sup> , wild radish <sup>4</sup> , wild sunflower <sup>4</sup>	<ul style="list-style-type: none"> <li>• Weeds should be less than 15 cm tall and actively growing for best results.</li> <li>• Use higher rate if weeds are beyond 8 cm in height.</li> </ul> * DO NOT use these rates on plants greater than 8 cm in height. ** For 3-4 leaf stage use 1.9 L/ha rate. *** For weeds 8 cm to 15 cm in height use 1.9 L/ha rate. <sup>3</sup> MCPA amine at 0.5 – 0.7 L/ha (250 – 350 g ai/ha) prior to lentils and chickpeas. <sup>4</sup> MCPA amine at 0.7 L/ha (350 g ai/ha) only. <ul style="list-style-type: none"> <li>• Use this tank mix prior to seeding in <b>lentil and chickpea. Under drought conditions, deep seeding and/or brief rain showers after seeding may cause injury to emerging seedlings in sprayer overlaps.</b></li> <li>• No surfactant required.</li> </ul>
Roundup		Volunteer cereals, Canada	Use this tank mix in

<b>TANK MIXTURES</b>	<b>RATE (L/ha)</b>	<b>WEEDS CONTROLLED ♦</b>	<b>COMMENTS (Apply in 50-100 L/ha water)</b>
Original Liquid Herbicide	1.26 – 1.93	thistle (suppression), cow cockle, wild buckwheat, Canada fleabane	summerfallow or prior to seeding <b>wheat and barley.</b>
+	+	common ragweed	Refer to Express Toss-N-Go label for the appropriate weed growth stage.
Express Toss-N-Go Herbicide	10 g/ha (7.5 g ai/ha)	narrow-leaved hawk's beard, dandelion, downy brome, flixweed, giant foxtail, green foxtail, hempnettle, kochia, lady's thumb, lamb's quarters, persian darnel, redroot pigweed, Russian thistle, stinkweed, volunteer canola, volunteer flax, wild mustard, wild oats	Add 350 mL/ha of surfactant – see list in section 7.3.
Or Express Toss-N-Go Dry Flowable 75% Herbicide			

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

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

<sup>C</sup> 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.

Express is a registered trademark of E.I.duPont Canada Company.

Toss-N-Go is a registered trademark of DuPont Canada Inc.

### 7.3 SURFACTANT INFORMATION

#### NOTE:

**Addition of Surfactant** - All Roundup Original Liquid Herbicide tank mixtures for annual weed control require the addition of a surfactant registered for use such as Agral 90, Ag Surf, or Companion. Surfactant should be added at a rate of 350 mL per hectare, in 50-100 L of clean water.

### 7.4 ADDITIONAL IMPORTANT INFORMATION FOR ANNUAL WEED CONTROL

Roundup Original Liquid Herbicide, applied by itself, will not control volunteers from crops containing the Roundup Ready Gene.

Allow at least 1 day after treatment before tillage

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

For additional information and precautions, refer to the "**General Information**" and "**Mixing and**

**Application**" sections of this label (4.0 and 5.0, respectively).

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

**WARNING: APPLY ROUNDUP ORIGINAL LIQUID HERBICIDE ON GLYPHOSATE TOLERANT CANOLA VARIETIES ONLY I.E VARIETIES WITH THE ROUNDUP READY GENE.**

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

For additional information and precautions refer to the “**General Information**” and “**Mixing and Application**” sections of the Roundup Original Liquid Herbicide label (4.0 and 5.0, respectively).

Apply Roundup Original Liquid Herbicide in glyphosate tolerant canola only as directed in the following weed control table.

Some short-term, visual yellowing may occur when Roundup Original Liquid Herbicide is applied at the late application 4 to 6 leaf stage of the crop. This effect is temporary and will not influence crop growth, maturity or yield.

DO NOT APPLY BY AIR

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

#### WEED CONTROL IN CANOLA WITH THE ROUNDUP READY GENE

<b>Rate (L/ha)</b>	<b>Growth Stage of Crop</b>	<b>Weeds Controlled</b>	<b>Comments (Apply in 50 - 100 L/ha water)</b>
0.825 - 1.875	0 to 6 leaf	<u>Annual Grasses</u> wild oats, green foxtail, volunteer barley, volunteer wheat, barnyard grass  <u>Annual Broadleaves</u> stinkweed, redroot pigweed, wild mustard, Russian thistle, lambs-quarters, non-glyphosate tolerant volunteer canola (rapeseed), hempnettle, ladys thumb, kochia, chickweed, corn spurry, wild tomato, cleavers*, wild buckwheat*, shepherds	Repeat applications may be required if a second flush of weeds germinates prior to canopy closure.  Ensure the crop has not advanced beyond the recommended growth stage.  * <b>Use the 1.25 L/ha rate for  control of these weeds at all crop  growth stages.</b> The lower rate can be used for control of shepherd’s purse, cow cockle and night- flowering catchfly at the 1-3 leaf

Rate (L/ha)	Growth Stage of Crop	Weeds Controlled	Comments (Apply in 50 - 100 L/ha water)
		<p>purse*, cow cockle*, night-flowering catchfly*, smartweed*, storksbill*, flixweed*, narrow-leaved hawksbeard*, 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>stage of the crop or for control of smartweed at the 4-6 leaf stage.</p> <p>**A single application at the 1.25 L/ha rate is required</p> <p>***Sequential applications at the 1.25 L/ha rate are required.</p> <p>**** Sequential applications at the 1.25 L/ha rate are required or a single application of 1.875 L/ha.</p> <p>For sequential applications, ensure the crop has not advanced beyond the recommended growth stage.</p> <p>Maximum 2.5 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 glyphosate tolerant canola (i.e., varieties with the Roundup Ready Gene), apply a tank mixture of 0.28 L/ha of Lontrel 360 with 1.25 L/ha of Roundup Original Liquid Herbicide, in 100 litres of water per hectare. Apply when canola is in the 2-6 leaf stage. Refer to the Lontrel 360 and to the Roundup Original Liquid Herbicide label for list of other weeds controlled, timing of application, water volumes and use precautions.

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

**WARNING: APPLY ROUNDUP ORIGINAL LIQUID HERBICIDE ON GLYPHOSATE TOLERANT SOYBEAN VARIETIES ONLY; I.E. VARIETIES WITH THE ROUNDUP READY GENE.**

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

DO NOT APPLY BY AIR

RATE (L/ha)	GROWTH STAGE OF CROP	WEEDS CONTROLLED♦	COMMENTS (Use 100 – 200 L/ha water volumes)
2.5	First trifoliolate leaf stage through flowering	<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-glyphosate tolerant canola (rapeseed), hemp-nettle, kochia, chickweed, corn spurry, wild tomato, cleavers, shepherd's purse, cow cockle, night flowering catchfly, stork's bill, flixweed, narrow leaved hawk's-beard</p> <p>common milkweed<sup>1,2</sup>, yellow nutsedge<sup>1,2</sup>, field bindweed<sup>2</sup>, perennial sow thistle<sup>3</sup>, Canada thistle<sup>3</sup>. wire-stemmed muhly.<sup>3</sup></p>	<p><sup>1</sup> A single application of 2.5 L/ha will provide suppression only.</p> <p><sup>2</sup> For control of common milkweed, yellow nutsedge, round-leaved mallow and field bindweed, a second sequential application may be at least 2 weeks after the first application.</p> <ul style="list-style-type: none"> <li>• A second 2.5 L/ha application will improve control in heavy infestations.</li> <li>• A second 2.5 L/ha application may be used for late weed flushes emerging after the initial treatment.</li> <li>• Any second application made must be applied no later than the flowering stage of the soybean.</li> <li>• Common milkweed should be 15-60 cm in height and actively growing.</li> <li>• Yellow nutsedge should be 5-15 cm in height and actively growing.</li> <li>• Perennial sow thistle and Canada thistle should be from the rosette stage to 50 cm in height and actively growing.</li> <li>• Wire-stemmed muhly should be 10-20 cm in height and actively growing.</li> <li>• Plants not fully emerged at the time of application will escape</li> </ul>

RATE (L/ha)	GROWTH STAGE OF CROP	WEEDS CONTROLLED♦	COMMENTS (Use 100 – 200 L/ha water volumes)
			treatment.
5.0	First trifoliolate leaf stage through to flowering	All weeds listed above plus horse-nettle <sup>3</sup>	<ul style="list-style-type: none"> <li>• Only one application per season at 5.0 L/ha.</li> <li>• Common milkweed should be 15-60 cm in height and actively growing.</li> <li>• Yellow nutsedge should be 5-15 cm in height and actively growing.</li> <li>• Plants not fully emerged at the time of application will escape treatment.</li> </ul> <p><sup>3</sup> For season-long control of horse-nettle (<i>Solanum carolinense</i>) at the 2- to 12-leaf stage, apply 5.0 L/ha. Alternatively, sequential applications of 2.5 L/ha followed by 2.5 L/ha may be applied. Applications should be at least 2 weeks apart for best results.</p>

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

### 7.6.1 TANK MIXTURES

#### Roundup Original Liquid Herbicide 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 Roundup Original Liquid Herbicide at a rate of 2.5 litres per hectare. Use 0.16 to 0.21 litres per hectare of Pursuit and apply up to and including the 3<sup>rd</sup> trifoliolate leaf stage of the Roundup Ready soybeans in 100-200 litres per hectare of clean water. The higher rate is recommended for heavier infestations. This tank mix is recommended primarily for soybean systems with row spacings of 50 centimetres (20 inches) or more where a single application timing is desired.



Mixing: Add and mix Pursuit as per instructions on the Pursuit label and then add Roundup Original Liquid Herbicide as per instructions on this label.

A PHI of 100 days is required for the tank mix of Roundup Original Liquid Herbicide and Pursuit herbicide on glyphosate tolerant soybeans.

Only one application per season of Roundup Original Liquid Herbicide at 2.5 litres per hectare tank mixed with Pursuit herbicide at 0.16 to 0.21 litres per hectare is permitted.

Refer to the Pursuit herbicide label for further safety precautions and handling instructions.

◆ 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.

### **Roundup Original Liquid Herbicide plus Assure II Herbicide**

<b>RATE (L/ha)</b>	<b>GROWTH STAGE OF THE CROP</b>	<b>WEEDS CONTROLLED</b>	<b>COMMENTS</b>
2.5-5.0 L/ha Roundup Original Liquid Herbicide + 0.25 - 0.38 L/ha Assure II Herbicide	First trifoliolate leaf stage through flowering.	Volunteer Roundup Ready Corn.  Apply at the 2-6 leaf stage of the weed.	See additional information following this table.

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

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

For control of volunteer Roundup Ready Corn, Assure II Herbicide may be tank mixed with Roundup Original Liquid Herbicide. Use 2.5-5.0 litres per hectare Roundup Original Liquid Herbicide 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 100-300 litres per hectare of clean water.

Mixing: Add and mix Assure II as per instructions on the Assure II label and then add Roundup



Original Liquid Herbicide as per instructions on this label.

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

A PHI (preharvest interval) of 80 days is required for a tank mix of Roundup Original Liquid Herbicide and Assure II Herbicide on Roundup Ready (glyphosate tolerant) soybeans.

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

### **Roundup Original Liquid Herbicide and Classic 25 DF Herbicide\***

For season-long control of dandelion, annual sow thistle, and yellow nutsedge, apply Classic 25 DF Herbicide at 36 grams per hectare plus either Roundup Original Liquid Herbicide at 2.5 litres per hectare\*. Add a non-ionic surfactant such as Agral 90, Citowett Plus, or Ag-Surf at 0.2% v/v.

Apply when soybeans are in the 1-3 trifoliate stage; dandelions and annual sow thistle less than 15 cm tall and across; and up to the 8 leaf stage for yellow nutsedge. **USE THIS TANK MIXTURE ONLY ON SOYBEANS WITH THE ROUNDUP READY® TRAIT.**

Consult the Classic 25 DF Herbicide label for tank mixing instructions and use precautions including instructions on replanting to other crops.

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

Pursuit is a registered trademark of BASF Agrochemical Products B.V. Netherlands.  
Assure and Classic are registered trademarks of E.I. duPont Canada Company.

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

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

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

DO NOT APPLY BY AIR

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

RATE (L/ha)	GROWTH STAGE OF CROP	WEEDS CONTROLLED♦	COMMENTS (use 100-200 L/ha water volumes)
2.5	Up to and including 8 leaf stage	<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, wild mustard, Russian thistle, non-glyphosate tolerant canola (rapeseed), hemp-nettle, kochia, chickweed, corn spurry, wild tomato, cleavers, shepherd's purse, cow cockle, night-flowering catchfly, stork's-bill, flixweed, narrow-leaved hawk's-beard</p> <p>common milkweed<sup>1,2</sup>, yellow nutsedge<sup>1,2</sup>, round-leaved mallow<sup>2</sup>, field bindweed<sup>2</sup>, perennial sow thistle<sup>3</sup>, Canada thistle<sup>3</sup>, wire-stemmed muhly<sup>3</sup></p>	<p><sup>1</sup>A single application of 2.5 L/ha will provide suppression only.</p> <p><sup>2</sup>For control of common milkweed, yellow nutsedge, round-leaved mallow and field bindweed, a second sequential application may be at least 2 weeks after the first application.</p> <ul style="list-style-type: none"> <li>• A second 2.5 L/ha application will improve control in heavy infestations.</li> <li>• A second 2.5 L/ha application may be used for late weed flushes emerging after the initial treatment.</li> <li>• Any second application must be applied no later than the 8 leaf stage of the corn.</li> <li>• Common milkweed should be 15-60 cm in height and actively growing.</li> <li>• Yellow nutsedge should be 5-15 cm in height and actively growing.</li> <li>• Perennial sow thistle and Canada thistle should be from the rosette stage to 50 cm in height and actively growing.</li> <li>• Wire-stemmed muhly should be 10-20 cm in height and actively growing.</li> <li>• Plants not fully emerged at the</li> </ul>

<b>RATE (L/ha)</b>	<b>GROWTH STAGE OF CROP</b>	<b>WEEDS CONTROLLED♦</b>	<b>COMMENTS (use 100-200 L/ha water volumes)</b>
			time of application will escape treatment.
5.0	Up to and including 6 leaf stage	All weeds listed above	<ul style="list-style-type: none"> <li>• Only one application per season at 5.0 L/ha.</li> <li>• Common milkweed should be 15-60 cm in height and actively growing.</li> <li>• Yellow nutsedge should be 5-15 cm in height and actively growing.</li> </ul> Plants not fully emerged at the time of application will escape treatment.
2.5 + 0.75-1.0 kg ai/ha atrazine*	Up to and including 5 <sup>th</sup> leaf stage	Residual control of lamb's-quarters, redroot pigweed, common ragweed	Tank mix should be used when only a single application timing is desired. Use the higher rate of atrazine for heavier weed infestations.
2.5 + 2.5-3.7 L/ha Marksman	Up to and including 5 <sup>th</sup> leaf stage	Residual control of lamb's-quarters, redroot pigweed, common ragweed, velvetleaf	Tank mix should be used when only a single application timing is desired. Use the higher rate of Marksman for heavier weed infestations.

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

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

Marksman is a registered trademark of BASF AG.

Clean Crop Atrazine 480 is a trademark of United Agri Products.

Aatrex and Aatrex Nine-O are registered trademarks of Syngenta group company.

## **8.0 PERENNIAL WEED CONTROL**

**ALWAYS READ PRECAUTIONARY STATEMENTS, GENERAL INFORMATION and**

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

**DO NOT APPLY BY AIR**

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

**8.1 PERENNIAL WEED CONTROL WITH ROUNDUP ORIGINAL LIQUID HERBICIDE**

WEED	APPLICATION			COMMENTS
	GROWTH STAGE	RATE (L/ha)	WATER VOLUME (L/ha)	
<b>Quackgrass</b> (control, light to moderate infestations)	3 to 4 green leaves or more	2.5	50 - 300	<ul style="list-style-type: none"> <li>. Apply in clean water using flat fan nozzles.</li> <li>. Allow 3 or more days after treatment before tillage.</li> <li>. Refer to "<b>Quackgrass</b>" notes in section 8.2.1 for more information.</li> <li>. For higher water volumes (i.e. 150 - 300 L/ha) an approved surfactant must be added at 0.5 litres per 100 litres of clean water (0.5% v/v). Refer to list in section 8.2.2. See also below.</li> </ul>
<b>Quackgrass</b> (long term control, heavy infestations, high water volumes)	3 to 4 green leaves or more	2.5 - 7.0	50 - 300	<ul style="list-style-type: none"> <li>. Allow 3 or more days after treatment before tillage.</li> <li>. Rates higher than 2.5 L/ha will provide more consistent, longer term control, especially with heavier infestations and/or higher water</li> </ul>

WEED	APPLICATION			COMMENTS
	GROWTH STAGE	RATE (L/ha)	WATER VOLUME (L/ha)	
				volumes (ie 150-300 L/ha) . Refer to " <b>Quackgrass</b> " notes in section 8.2.1 for more information.
<b>Canada Thistle</b>	rosette stage (summer-fallow)	2.5	50 - 100	. Apply in clean water using flat fan nozzles. . Allow 10 or more days after treatment before tillage. . Refer to " <b>Canada Thistle</b> " notes in section 8.2.3 for more information.
<b>Canada Thistle</b>	bud stage or beyond	4.75 - 7	100 - 300	. Allow 5 or more days after treatment before tillage.
<b>Field Bindweed</b>	full bloom or beyond	7 - 12	100 - 300	. Allow 7 or more days after treatment before tillage
<b>Common Milkweed*</b>	bud to full bloom (preharvest)	2.5	50 - 100	. See " <b>Preharvest Treatment</b> "(section 9.9.0) for more information.
	bud to full bloom	12	100 - 300	. Allow 7 or more days after treatment before tillage. . Reduced control may occur after full bloom. . Milkweed may not all be in the correct stage, therefore, repeat treatments may

WEED	APPLICATION			COMMENTS
	GROWTH STAGE	RATE (L/ha)	WATER VOLUME (L/ha)	
				be required.
<b>Toadflax</b>	Vegetative Stage (summerfallow)  Bud to Full Bloom (preharvest)	2.5	50-100	. Apply in clean water using flat fan nozzles . Allow 7 or more days after treatment before tillage in summerfallow . For more information, see “ <b>Toad Flax control</b> ” (section 8.2.4), or “ <b>Preharvest treatment</b> ” (section 9.9)
<b>Alfalfa</b>	Early bud to full bloom stage. Fall applications only	3.7 - 5.0	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
<b>Dandelion</b>	< 15 cm  > 15 cm	2.5  3.7 - 5.0	50 - 100  50 - 300	. Allow 3 or more days after treatment before tillage for all rates.  . Use the higher rate when infestations are heavy.

WEED	APPLICATION			COMMENTS
	GROWTH STAGE	RATE (L/ha)	WATER VOLUME (L/ha)	
	Rosette to full bloom (preharvest)	2.5	50 - 100	<p>. Refer to <b>Dandelion</b> notes in Section 8.2.5 for more information.</p> <p>. Allow 7 or more days after treatment before tillage. For more information, see “Preharvest treatment” (section 9.9)</p>
<b>Foxtail barley</b>	Seedling to heading	2.5-5.0	50 -100	<p>-Allow a minimum of 1 day after treatment before tillage or seeding.</p> <p>-Use higher rates for larger, more established plants, heavy infestations or if plants are stressed</p>
<b>Other Perennials</b> (see listing section 6.2).	early heading or early bud stage	7 - 12	100 - 300	<p>. Allow 7 or more days after application before tillage.</p>

**\*NOTE:** For spot treatment, mix 120 mL of product in 5L clean water per 100 m<sup>2</sup>. (2.5 - 12 L/ha is approximately equivalent to 25 - 120 mL/100 m<sup>2</sup>, respectively).

## 8.2 SPECIAL NOTES FOR PERENNIAL WEED CONTROL

### 8.2.1 QUACKGRASS

For **season-long control on fall tilled ground:** Apply 2.5L/ha of this product in spring prior to seeding. Apply in 50 to 100 L/ha of clean water as described in the preceding table. Delay application until the majority of quackgrass plants have 4-5 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 cm.

**NOTE:**

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

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

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

**8.2.2 Surfactants:**

The following is a list of approved surfactants for use with Roundup Original Liquid Herbicide for control of quackgrass:

Agral 90	Ag Surf	Frigate®
Companion		

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

Frigate® is a registered trademark of Syngenta group company.

**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 1.
2. Allow the thistles to regrow for a minimum of 5 weeks until they are a minimum of 15cm 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.

**Roundup Original Liquid Herbicide plus Banvel Tank Mixtures**

For control of Canada thistle (and perennial sow thistle) in summerfallow or in post-harvest stubble, apply 1.7 L/ha Roundup Original Liquid Herbicide plus 1.25 L/ha Banvel in 100-200 L/ha of clean water. In addition, add 350 mL/ha of a non-ionic surfactant registered for use with this product, such as Agral 90, Ag Surf, or Companion.



For best results in summerfallow, cultivate in the spring and apply when the majority of thistles are 15 cm to 25 cm tall and before the bud stage. Cultivate 3 weeks after application.

In post harvest 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 10-21.
2. Allow toadflax to regrow for a minimum of 4-5 weeks until they are minimum of 15 cm tall and at a lush green vegetative stage.

Note: Toadflax can be treated after a mild frost provided the leaves are still green and actively growing at the time of application. Do not apply after the first damaging frost.

### **8.2.5 DANDELION**

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

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

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

For fall control of established stands of alfalfa, apply 2.5 - 5.0 L/ha Roundup Original Liquid Herbicide and 1.2 - 2.4 L/ha of any 500 g/L 2,4-D amine or low volatile ester formulation in 100-200 L water/ha. (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 L/ha) and 2.5 - 5.0 L/ha Roundup

Original Liquid Herbicide. Only cereal crops not underseeded to legumes may be planted following spring applications of this tank mix, and a 14 day interval between application and planting is required.

Use the higher Roundup Original Liquid Herbicide 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 Roundup Original Liquid Herbicide**"(section 8.1).

**Nozzle Type:** For best results with conventional boom equipment apply this product with 50 to 300 L/ha 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 5-7 days for best results (see Weed Control Tables, section 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 PRECAUTIONARY STATEMENTS, GENERAL INFORMATION and MIXING and APPLICATION SECTIONS (3.0, 4.0 and 5.0) PRIOR TO SPECIFIC APPLICATION INFORMATION IN ANY LABEL SECTION.**

**DO NOT APPLY BY AIR EXCEPT FOR PREHARVEST AERIAL APPLICATION (SECTION 9.9.2)**

This product can be applied as a broadcast spray or spot treatment prior to planting all crops,

post harvest to annual crops, preharvest in wheat, barley, oats, canola (rapeseed), flax (including low linolenic acid varieties), lentils, peas, soybeans, dry beans and forages, and in summerfallow. It may also be applied as a broadcast spray in glyphosate tolerant corn, soybean or canola i.e. varieties with the Roundup Ready gene (see Sections 7.5, 7.6, 7.7). It may also be applied as a directed spray in orchards, vineyards, blueberries and strawberry, and using selective equipment in soy and dry beans, orchards, vineyards, cranberries and strawberry (refer to specific sections below for more information). **For specific instructions on weed control in the following cropping situations, always refer to the 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 pre-emergent weed control and newly germinating weeds may be a problem in the crop. **APPLY BEFORE SEEDING OR TRANSPLANTING.**

### **9.1.1 PRIOR TO PLANTING – TANK MIXES\* - SOYBEANS**

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

#### **Roundup Original Liquid Herbicide plus Pursuit Herbicide**

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

#### **Roundup Original Liquid Herbicide plus metribuzin (Sencor 75 DF Herbicide, Sencor 500F Flowable Herbicide, Sencor 480F Flowable Herbicide, Sencor Soybean Flowable Herbicide, or Lexone DF Herbicide)**

For burndown and residual control of selected annual weeds taller than 4 cm in soybeans, apply Roundup Original Liquid Herbicide in tank mix with Sencor 75 DF Herbicide, Sencor 500F Flowable Herbicide, Sencor 480F Flowable Herbicide, Sencor 480 Soybean Flowable Herbicide

or Lexone DF Herbicide as a preplant surface or pre-emergence application before crop emergence.

### **Roundup Original Liquid Herbicide plus Dual Magnum Herbicide or Dual II Magnum Herbicide**

For burndown and residual control of selected annual weeds in soybeans.

Apply Roundup Original Liquid Herbicide 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 Roundup Original Liquid Herbicide. Use higher rates of Roundup Original Liquid Herbicide if perennial weeds are present.

### **Roundup Original Liquid Herbicide plus Dual Magnum Herbicide or Dual II Magnum Herbicide plus metribuzin (Sencor 75DF Herbicide, Sencor 500F Flowable Herbicide, Sencor 480F Flowable Herbicide, Sencor Soybean Flowable Herbicide or Lexone DF Herbicide)**

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 Roundup Original Liquid Herbicide.

### **Roundup Original Liquid Herbicide plus Broadstrike Dual Magnum Soybean Herbicide**

Broadstrike Dual Magnum Soybean Herbicide at 1.56 L/ha may be tank mixed with Roundup Original Herbicide at 2.5 L/ha for control of existing annual weeds and certain perennial weeds including quack grass. This tank mix may be applied preplant surface or pre-emergence in minimum till or no-till conditions. When mixing, add the Broadstrike Dual Magnum Soybean Herbicide component first.

### **Roundup Original Liquid Herbicide plus Frontier Herbicide**

For burndown and residual control of selected annual weeds apply Roundup Original Liquid Herbicide plus Frontier Herbicide preplant surface or pre-emergence.

### **Roundup Original Liquid Herbicide plus linuron**

For burndown and residual control of selected annual weeds apply Roundup Original Liquid Herbicide plus linuron after seeding but before crop emergence.

### **Roundup Original 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 Roundup Original Liquid Herbicide. Apply Axiom DF Herbicide in a minimum of 200 L/ha of total volume.

Preemergence:

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

#### **Roundup Original Liquid Herbicide plus Dual Magnum Herbicide or Dual II Magnum Herbicide**

For burndown and residual control of selected annual weeds in corn. Apply Roundup Original Liquid Herbicide 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 Roundup Original Liquid Herbicide. Use higher rates of Roundup Original Liquid Herbicide if perennial weeds are present.

#### **Roundup Original Liquid Herbicide plus Dual Magnum Herbicide or Dual II Magnum Herbicide plus Aatrex Nine-O Herbicide or Aatrex Liquid 480 Herbicide**

For burndown and residual control of selected annual weeds in corn. Apply Roundup Original Liquid Herbicide in tank mix with Dual Magnum Herbicide or Dual II Magnum Herbicide at 1.25 – 1.75 L/ha plus Aatrex Nine-0 Herbicide at 1.1 - 1.7 kg/ ha or 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 Roundup Original Liquid Herbicide. Use higher rates of Roundup Original Liquid Herbicide if perennial weeds are present.

#### **Roundup Original Liquid Herbicide plus Primextra II Magnum Herbicide**

For burndown and residual control of selected annual weeds in corn apply Roundup Original Liquid Herbicide plus Primextra II Magnum preplant surface or pre-emergence application before crop emergence. This tank mixture requires the use of a surfactant, either Agral 90 or Ag-Surf. See mixing instructions for more information.

Perennial weeds such as quack grass may not be controlled with lower rates of Roundup Original Liquid Herbicide. Use higher rates of Roundup Original Liquid Herbicide if perennial weeds are present.

### **Roundup Original Liquid Herbicide plus Fieldstar Herbicide**

For burndown and residual control of selected annual weeds apply Roundup Original Liquid Herbicide plus Fieldstar Herbicide as a preplant surface or pre-emergence application before crop emergence.

### **Roundup Original Liquid Herbicide plus Frontier Herbicide**

For burndown and residual control of selected annual weeds apply Roundup Original Liquid Herbicide plus Frontier Herbicide as a preplant surface or pre-emergence application before crop emergence.

### **Roundup Original Liquid Herbicide plus Prowl herbicide**

For burndown and residual control of selected annual weeds apply Roundup Original Liquid Herbicide plus Prowl herbicide after seeding but before crop emergence.

### **Roundup Original Liquid Herbicide plus linuron herbicide**

For burndown and residual control of selected annual weeds apply Roundup Original Liquid Herbicide plus linuron herbicide after seeding but before crop emergence.

### **Roundup Original Liquid Herbicide plus Converge Pro Herbicide or Converge 75 WDG Herbicide**

#### **Surface Preplant:**

When weed growth is present at the time of application, Roundup Original Liquid Herbicide can be added to the Converge Pro Herbicide or Converge 75 WGD Herbicide + atrazine treatment for burndown control of these weeds. Do not incorporate.

#### **Preemergence:**

CONVERGE 75 WDG Herbicide can be applied to the soil surface up to 14 days prior to planting. CONVERGE 75 WDG Herbicide must be tankmixed with atrazine when applied as a surface preplant application. Converge Pro Herbicide or Converge 75 WGD Herbicide can also be applied after planting to just prior to crop emergence. Atrazine and/or Roundup Original Liquid Herbicide can be tank mixed with pre-emergent applications of Converge Pro Herbicide or Converge 75 WGD Herbicide .

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

### **Roundup Original 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 Roundup Original Liquid Herbicide. Apply Axiom DF Herbicide in a minimum of 200 L/ha of total volume.

#### **Preemergence:**

Roundup Original Liquid Herbicide 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 tankmix in a minimum of 200 L/ha of total volume.

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Lexone is a registered trademark of E.I. duPont Canada Company.

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

Broadstrike and Fieldstar are trademarks of Dow Agrosiences LLC.

Frontier is a registered trademark of BASF Corporation.

## **9.2 POST HARVEST 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 (20-25 cm tall for quackgrass and Canada thistle) before application and ensure they have a high proportion of green coloration. 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 (7.1, 8.1) or use a 1 percent solution for annual weeds and quackgrass and a 2 percent solution for other perennial weeds (a 1percent solution equals 1 litre Roundup Original Liquid Herbicide in 100 litres of spray solution). One or two per cent 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 the "**Application Equipment**" section (5.2).

**9.3.1** 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 ROUNDUP ORIGINAL TO TRANSLOCATE INTO ALL PLANT PARTS BEFORE GRAZING OR HARVESTING TREATED AREAS IN FORAGES.**

#### **9.4 SUMMERFALLOW TREATMENT**

This product, or labelled 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 Roundup Original Liquid Herbicide 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 Roundup Original Liquid Herbicide Tank Mixtures**" table for information (section 7.2).

**9.5.2 Roundup Original Liquid Herbicide 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 Roundup Original Liquid Herbicide Tank Mixtures**" table for information (section 7.2).

**9.5.3 Roundup Original Liquid Herbicide plus Pursuit®** can be applied prior to, or after, seeding, but before crop emergence in soybeans. Roundup Original Liquid Herbicide will control emerged weeds listed on this label when applied as directed (refer to "**Annual and Perennial Weed Control**" sections, 7.0 and 8.0). Pursuit will control weeds germinating from seed. Add the recommended rates of both products in 100 litres of water/ha, 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 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 Corporation.

**9.5.4 Roundup Original Liquid Herbicide plus MCPA** can be applied prior to seeding in wheat, rye, barley, oats, corn (field and sweet; MCPA amine only), flax and field peas (MCPA amine only). Refer to “Annual Weed Control with Roundup Original Liquid Herbicide Tank Mixtures” table for information (section 7.2).

**9.5.5 Roundup Original Liquid Herbicide 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 Roundup Original Liquid Herbicide Tank Mixtures” table for information (section 7.2).

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

**9.5.7 Roundup Original Liquid Herbicide plus Express Toss-N-Go Herbicide Or Express Toss-N-Go® Dry Flowable 75% Herbicide** in pre-seed situations, wheat and barley may be seeded after a minimum of 24 hours after application. Refer to “Annual Weed Control with Renegade Liquid Herbicide Tank Mixtures” table for information (section 7.2).

**ALWAYS REFER TO THE EXPRESS® TOSS-N-GO HERBICIDE OR EXPRESS TOSS-N-GO DRY FLOWABLE 75% HERBICIDE LABEL FOR FURTHER INFORMATION ON APPLICATION DIRECTIONS, TANK MIXING, AND USE PRECAUTIONS.**

#### **9.6 FORAGE 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 cm 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 cm in height but before emergence of seed head. The crop in the treated areas will be killed. Take care to avoid drift outside target area for the same reason.

## 9.9 PRE-HARVEST 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, Roundup Original Liquid Herbicide can be applied prior to harvest of wheat, barley (including malting barley), oats, canola (rapeseed) (including glyphosate tolerant varieties), flax (including low linolenic acid varieties), lentils, peas, dry beans, soybeans (including glyphosate tolerant varieties) and forages. DO NOT apply to crops if grown for seed production.

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

Roundup Original Liquid Herbicide should be applied pre-harvest at 2.5 L/ha in 50 to 100 L/ha of clean water, by ground application only. Apply only when the crop has 30 percent or less grain moisture content. This stage typically occurs 7 to 14 days before harvest. For forage crops, apply this product at 2.5 - 5.0 L/ha 3-7 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 7-14 days (or 3-7 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.

Overspray or drift to important wildlife habitats such as bodies of water, wetlands (e.g. sloughs), shelterbelts, woodlots and other cover on the edges of fields frequented by wildlife, should be avoided. Leave a 15 meter buffer zone between the last spray swath and the edge of any of these habitats.

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

DO NOT APPLY BY AIR

### 9.9.1 GUIDELINES FOR TIMING OF PREHARVEST APPLICATIONS

<b>CROP(S)</b>	<b>PERCENT GRAIN MOISTURE</b>	<b>VISUAL SYMPTOMS</b>
WHEAT/BARLEY/OATS	Less than 30	Hard dough stage; a thumbnail impression remains on seed.
CANOLA (including glyphosate tolerant varieties)	Less than 30	Pods are green to yellow; most seeds are yellow to brown.
FLAX (including low linolenic acid varieties)	Less than 30	Majority (75%-80%) of bolls are brown.
PEAS	Less than 30	Majority (75%-80%) of pods are brown.
LENTILS	Less than 30	Lowermost pods (bottom 15%) are brown and seeds rattle.
DRY BEANS	Less than 30	Stems are green to brown in colour; pods are mature (yellow to brown in colour); 80%-90% leaf drop (original leaves).
SOYBEANS (including glyphosate tolerant varieties)	Less than 30	Stems are green to brown in colour; pod tissue is dry and brown in appearance; 80%-90% leaf drop.
FORAGES	Not applicable	Normal stage for forage harvesting.

### 9.9.2 PREHARVEST AERIAL APPLICATION

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

## RESTRICTED USE

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

**NOTICE TO USER:** This pest control product is to be used only in accordance with the directions on the label. It is an offence under the *Pest Control Products Act* to use this product in a way that is inconsistent with the directions on the label. The user assumes the risk to persons or property that arises from any such use of this product.

**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 (patternation) 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 ROUNDUP herbicide aerial application training course provided by Monsanto Canada Inc.
4. Aerial application services applying this product must employ on staff at least one pilot applicator with at least 250 hours of actual aerial application time and a minimum of 100 hours within the last 24 month period. All pilots who do not meet the minimum experience standard must work under the *direct daily supervision* of a qualified pilot.

## DIRECTIONS FOR USE

Roundup Original Liquid Herbicide 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. Roundup Original Liquid Herbicide can be applied prior to harvest of wheat, barley (including malting barley), oats, canola (rapeseed), flax (including low linolenic acid varieties), lentils, peas, dry beans and

soybeans. **DO NOT apply to 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.

Roundup Original Liquid Herbicide should be applied at 2.5 L/ha in 20 – 50 L/ha of clean water with aerial application equipment. Apply only when the crop has 30% or less grain moisture content. This stage typically occurs 7 to 14 days before harvest. Consult the table “**Guidelines for Timing of Preharvest Applications**” (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 - *Caragan spp.*  
 Cherry - *Prunus spp.*  
 Elm - *Ulmus spp.*  
 Lilac - *Syringa spp.*  
 Maple - *Acer spp.*  
 Mountain Ash - *Sorbus spp.*  
 Poplar - *Populus spp.*  
 Russian Olive - *Elaeagnus spp.*

#### Coniferous

Fir - *Abies spp.*  
 Juniper - *Junipus spp.*  
 Pine - *Pinus spp.*  
 Spruce - *Picea spp.*  
 Yew - *Taxus spp.*

Willow - *Salix spp.*

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

### 9.11 TREE, VINE, BERRY AND OTHER CROPS

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

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

**EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF HERBICIDE SOLUTION, SPRAY, DRIFT, OR MIST WITH FOLIAGE OR GREEN BARK OF TRUNK, BRANCHES, SUCKERS, FRUIT, CANES OF BLUEBERRY BUSHES, OR OTHER PARTS OF TREES OR VINES. CONTACT OF THIS PRODUCT WITH OTHER THAN MATURED BROWN BARK CAN RESULT IN SERIOUS CROP DAMAGE.**

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

#### WEED CONTROL IN TREE, VINE, BERRY AND OTHER CROPS

Crop	Rate (L/ha)	Pre-Harvest Interval (days)	Max. Appl. per Yr.	Weeds Controlled	Comments (Refer to sections 7.1 and 8.1 for specific rates for weed control)
Apples Apricot Cherry (Sweet/ sour) Peaches	2.25-12	30	3	Annual and perennial weeds	

<b>Crop</b>	<b>Rate (L/ha)</b>	<b>Pre-Harvest Interval (days)</b>	<b>Max. Appl. per Yr.</b>	<b>Weeds Controlled</b>	<b>Comments (Refer to sections 7.1 and 8.1 for specific rates for weed control)</b>
Pears Plums					
Apples Grapes	<b>Tank Mix</b> 2.25-12 + Simazine 2.0- 4.5 kg ai/ha	-	1	Annual and perennial weeds	<ul style="list-style-type: none"> <li>- Will provide season-long pre-emergent control</li> <li>- Do not apply to coarse, sandy or gravelly soil</li> <li>- Use according to the more restrictive label direction for each product in the mix</li> <li>- DO NOT apply to orchards or vineyards that have been established less than 1 or 3 years, respectively</li> <li>- Simazine rate is equivalent to 2.25-5.0 kg/ha Princep® Nine-T®, or 4.0-9.0 kg/ha Simadex®</li> </ul>
Grapes	2.25-12	14	3	Annual and perennial weeds	<ul style="list-style-type: none"> <li>- Remove all sucker growth from the spray zone before spraying, except for the Concord variety of grape</li> <li>- Suckering should be conducted within 2 weeks prior to application</li> <li>- Do not apply to vines which have been established less than 3 years</li> </ul>
Highbush (cultivated) blueberry	2.8-5.6	30	1	Quackgrass	Use as a directed spray, with no more than 275 kPa pressure.



Lowbush blueberry	1-2% 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)	2.25-3.5	14	-	Annual weeds	- Use as a directed spray, with no more than 275 kPa pressure
Walnut Chestnut Japanese heartnut	2.25-12	-	2	Annual and perennial weeds	- Apply late spring and fall, post-harvest but prior to a killing frost - Apply in 200-300 L water as a directed spray, using no more than 275 kPa pressure  - Apply alternatively as a 2% wiper solution (see Wiper Applications, section 9.12)
Cranberry	20% Solution (1L Roundup Original + 4L water)	30	1	Annual and perennial weeds	- Apply using wick or wiper applicators (section 9.12)
Strawberry	1-2% solution (spot application) 33% solution (wiper application)	30	1	Emerged perennial weeds	- Apply when weeds are at a susceptible growth stage (see sections 8.1, 2) - See section 9.3 for instructions on spot treatments - See section 9.12 for instructions on wiper applications
Sugar beets	1-2% solution (spot application)	Treated crop MUST NOT be harvested	1	Dodder species	- Apply when dodder is vigorously growing but before flowering. - See section 9.3 for instructions on spot treatments
Asparagus	1.25 - 2.5	7	1	Fall seeded rye grass	- apply in spring before emergence of crop shoots



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Simadex is a registered trademark of Bayer.

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

The DIRECTIONS FOR USE for this product for the use(s) described on this label were developed by persons other than Monsanto Canada and accepted for registration by Health Canada under the User Requested Minor Use Label Expansion program. Monsanto Canada itself makes no representation or warranty with respect to performance (efficacy) or crop tolerance (phytotoxicity) claims for this product when used on the crop(s) listed on this label.

Accordingly, the Buyer and User assume all risks related to performance and crop tolerance arising, and agree to hold Monsanto Canada harmless from any claims based on efficacy and/or phytotoxicity in connection with the use(s) described on this label.

DIRECTIONS FOR USE

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

**NORTH AMERICAN GINSENG**

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

**Existing/Established Gardens:** Apply this product in the spring before the crop has emerged from the soil. Apply when weeds are at the growth stages described in the product label. A maximum of two 2.5 litres per hectare applications in 50 to 100 litres water per hectare may be made in a season. **DO NOT USE A FALL APPLICATION IN ESTABLISHED/EXISTING GARDENS.**

**9.12 SELECTIVE EQUIPMENT**

**WIPER APPLICATORS**

This product may be applied with a wiper applicator, after dilution and thorough mixing with water, to listed weeds in soy and dry beans, grapes, orchards, cranberries, lowbush blueberries and 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, 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 cm 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 cm 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 in this label (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 km/h. Weed control may be affected by speed of application equipment. As weed density increases, reduce equipment ground speed to insure good coverage of weeds.**
- **Be aware that on sloping ground the herbicide solution may migrate, causing dripping on the lower end and drying on the upper end of the wiper applicator.**
- **Variation in equipment design may affect weed control. With wiper applicators, the wiping material and its orientation must allow delivery of sufficient quantities of the recommended herbicide solution directly to the weed.**

- **Care must be taken with all types of wipers to insure that the absorbent material does not become over-saturated, causing the herbicide to drip onto desirable vegetation.**
- **With all equipment, drain and clean wiper parts immediately after using this product, by thoroughly flushing with water.**

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

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

## 10.0 NON-CROPLAND USES

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

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

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 ROUNDUP ORIGINAL LIQUID HERBICIDE

WEEDS	GROUND APPLICATION**			COMMENTS
	BOOM APPLICATION		Hand Held High Volume Application	
	Rate * (L / ha)	Water Vol.* (L /ha)	% Solution	
Annual grasses and broadleaves				

WEEDS	GROUND APPLICATION**			COMMENTS
	BOOM APPLICATION		Hand Held High Volume Application	
	Rate * (L / ha)	Water Vol.* (L /ha)	% Solution	
	2.25 - 3.5	50 - 100	1	Actively growing weeds
<b>Perennial Weeds</b>				
Quackgrass	2.5	50 - 300	1	Actively growing weeds
	4.75 - 7.0	50 - 300	2	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)	4.75 - 7.0	100 - 300	2	Higher rate for long term control and for heavy infestations
Purple loosestrife	6.0	300-600	1 - 2 (or 33% for wiper application)	See section 10.2.3 for instructions on purple loosestrife applications
Other Perennials	7.0 - 12	100 -300	2	Summer through fall is optimum
<b>Brush and Trees</b>				
Birch, Cherry, Poplar, Western Snowberry, Willow	3.0 - 6.0	100 - 300	1 - 2	Summer through early fall (see section 10.2)
Maple, Raspberry/ Salmonberry, Alder	6.0	100 - 300	2	Late Summer through fall Fall is optimum
<b>Turf Renovation</b> Annual and	2.5 - 12.0	100 - 300	1 - 2	Use higher end of the rate range for perennials

WEEDS	GROUND APPLICATION**			COMMENTS
	BOOM APPLICATION		Hand Held High Volume Application	
	Rate * (L / ha)	Water Vol.* (L /ha)	% Solution	
Perennial Weeds				
<b>Roadside Vegetation</b> (1-2 m wide along shoulders) Annual Weeds (refer to Tank-Mix sections on product labels for specific weeds controlled)	1) 0.75-1.0 + 1.25-2.5L DyClear®480  or 2) 0.75-1.0 + 0.30 L DyClear®480 + 1.2L 2,4-D amine 500	25-150	-	Refer to annual weed control table in this label (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.
<b>Residual Control</b> 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 post-emergent activity on certain annual weeds)	2.5 - 12 + a) 2.5-5.6 kg Simazine 80W  or  + b) 4.0-9.0 L Simadex® 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 the "Annual and Perennial Weed Control" sections of this booklet (7.1 and 8.1 respectively).

\*\* Aerial application may be used for brush and tree control in Industrial rights-of-way only. See aerial application (section 10.2.2).

DyCleer® 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 30-45 days for symptoms to develop on target species. Late season application may be made to species that have some autumn colours provided no major leaf drop has occurred. Control will be observed the following spring.

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

This product does not provide residual weed control. For subsequent weed control, follow a label approved herbicide program. Read and carefully observe the 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 3 to 6 litres of this product per hectare. Use ground boom or boomless, or mist blower equipment, or apply as a 1 to 2 percent solution using hand-held high volume equipment. Apply as directed in the recommended volume of clean water to foliage of actively growing vegetation. Use the 6 L/ha 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 runoff. Do not allow spray drift to contact desirable vegetation as severe injury or destruction may occur. If weeds have been mowed or tilled, do not treat until regrowth has reached the recommended stages.

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

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

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

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

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

### 10.2.3 PURPLE LOOSESTRIFE CONTROL

- DO NOT TREAT PLANTS OVER OPEN WATER. Roundup Original Liquid Herbicide is not registered for direct application to bodies of water.
- Treat when plants are actively growing at or beyond the bloom stage. If using 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 the "**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 "**Annual Weed Control**" (section 7.1) and "**Perennial Weed Control**" (section 8.1). Where existing vegetation is growing under mowed turfgrass management, apply this product after omitting at least one regular mowing to allow sufficient growth for good interception of the spray and proper translocation into underground plant parts. Tillage or renovation techniques such as vertical mowing, coring or slicing should be delayed for 7 days after application to allow proper translocation into underground plant parts.

For maximum control of existing vegetation, delay establishment to determine if regrowth from escaped underground plant parts occurs. When repeat treatments are necessary, sufficient regrowth

must be attained prior to application. Desirable turfgrasses may be established following the above procedures.

### 10.5 INJECTION APPLICATIONS - FOR ALL NON-CROPLAND USES

Woody vegetation may be controlled by injection application of this product. Apply using suitable equipment, which must penetrate into living tissue, at a rate of at least 0.5 mL (either undiluted or 1:1 with water) per 5cm 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 cm may not be acceptable at this rate.

Total control may not be evident for 1-2 years following treatment.  
A partial list of species controlled includes:

**ALDER**

*Alnus spp.*

**HEMLOCK**

*Tsuga spp.*

**BIRCH**

*Betula spp.*

**MAPLE\***

*Acer spp.*

**CEDAR**

*Thuja spp.*

**PINE**

*Pinus spp.*

**CHERRY**

*Prunus spp.*

**POPLAR**

*Populus spp.*

**DOUGLAS FIR**

*Pseudotsuga spp.*

**WILLOW**

*Salix spp.*

\* This treatment may only provide suppression of Big-Leaf Maple. Late fall applications will provide optimum suppression of Big-Leaf Maple

### 10.6 CUT STUMP APPLICATION

Woody vegetation may be controlled by the application of this product to freshly cut stumps to prevent regrowth. Because the treatment uses a concentrated solution, application must be made using low-pressure equipment e.g. squirt bottle or similar device. This product must be applied immediately to the surface of the freshly cut stump i.e. within 5 minutes for optimum control at the prescribed rates. Only the cambial tissues of the cut surface should be treated. Apply the herbicide solution at a rate equivalent to at least 0.5 mL product for every 5cm 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 1-2



years after treatment.

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

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