

2014-07-24  
2013-6868

**GROUP 9 HERBICIDE**

## **TOUCHDOWN TOTAL<sup>®</sup> Herbicide**

AGRICULTURAL

SOLUTION

For Control of Annual and Perennial Grasses and Broadleaf Weeds

**GUARANTEE:**

Glyphosate (present as potassium salt)..... 500 g/L

**KEEP OUT OF REACH OF CHILDREN  
READ THE LABEL AND BOOKLET BEFORE USING**

**CAUTION: EYE AND SKIN IRRITANT**

REGISTRATION NO.: **28072**  
PEST CONTROL PRODUCTS ACT

NET CONTENTS: **1 L - Bulk**

**Syngenta Canada Inc.**  
140 Research Lane, Research Park  
Guelph, ON N1G 4Z3  
Telephone: 1-877-964-3682

## 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.

## FIRST AID

**IF POISONING IS SUSPECTED, call 1-800-327-8633 (FASTMED),** or contact a physician or poison control centre **IMMEDIATELY**. Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

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

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

**If on skin or clothing,** take off contaminated clothing. Rinse skin **IMMEDIATELY** with plenty of water for 15–20 minutes. Call a poison control centre or doctor for treatment advice.

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

## TOXICOLOGICAL INFORMATION

There is no specific antidote if this product is ingested. Treat symptomatically if ingested or in contact with eyes or skin.

## PRECAUTIONS

KEEP OUT OF REACH OF CHILDREN.

DO NOT ingest. DO NOT get on skin, clothing or in eyes. Contact with eyes may be painful.

**1. When handling the concentrate:**

- \* Wear a long sleeved shirt and long pants, chemical resistant gloves and eye protection.
- \* Wash splashes from skin and eyes immediately with plenty of water.

**2. When spraying:**

- \* Wear a long sleeved shirt and long pants.
- \* Avoid working in spray mist.
- \* Avoid all drift or contact with other vegetation. See ENVIRONMENTAL HAZARDS.

**3. After spraying:**

- \* Wash hands and shower thoroughly.

**4. As with all agrochemical products:**

- \* When using, do not eat, drink or smoke.
- \* Wash hands and exposed skin with soap and water thoroughly before eating, drinking or smoking.
- \* Wash out container thoroughly, empty washings into spray tank and dispose of safely. See DECONTAMINATION AND DISPOSAL section.
- \* Keep away from food, drink and animal feeding stuffs.
- \* Do not contaminate ponds, waterways or ditches with chemical. See ENVIRONMENTAL HAZARDS.
- \* Store in original container, tightly closed, in a safe place.

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

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

**ENVIRONMENTAL HAZARDS**

HARMFUL to aquatic organisms. Avoid direct application to any body of water populated with fish or used for domestic purposes. Do not use in areas where adverse impact on domestic water or aquatic species is likely. Do not contaminate water by disposal of waste or cleaning of equipment. Avoid all drift to or contact with other vegetation for which treatment is not intended as damage or destruction may occur. Do not apply using aerial spray equipment except where indicated under "RESTRICTED USE".

**PHYSICAL AND CHEMICAL HAZARDS**

Spray solutions of TOUCHDOWN TOTAL<sup>®</sup> Herbicide should be mixed, stored and applied only in stainless steel, aluminium, fibreglass, plastic and plastic-lined steel containers.

**DO NOT MIX, STORE OR APPLY TOUCHDOWN TOTAL HERBICIDE OR SPRAY SOLUTIONS OF TOUCHDOWN TOTAL HERBICIDE IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS.** TOUCHDOWN TOTAL Herbicide or spray solutions of TOUCHDOWN TOTAL Herbicide react with such containers and tanks to produce hydrogen gas, which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

**STORAGE**

- Always store in original container with top closed.
- Avoid contamination of seed, feed and foodstuffs.
- Product is not affected by freezing.

## **SPILL CLEANUP**

Observe safety and protective measures as noted under PRECAUTIONS.

Liquid spills on floor or other impervious surfaces should be contained or diked, and should be absorbed with attapulgite, bentonite or other absorbent clays (kitty litter, etc.). Collect contaminated absorbent, place in a **plastic-lined metal drum** and dispose of in accordance with instructions provided under DISPOSAL. Thoroughly scrub floor or other impervious surfaces with a strong industrial type detergent solution and rinse with water.

Liquid spills that soak into the ground should be dug-up, placed in **plastic-lined metal drums** and disposed of in accordance with instructions provided under DISPOSAL.

Leaking containers should be separated from non-leakers and either the container or its contents transferred to a **plastic-lined metal drum** or other non-leaking container and disposed of by use according to label directions or in accordance with instructions provided under DISPOSAL. Any recovered spilled liquid should be similarly collected and disposed of according to the DECONTAMINATION AND DISPOSAL section.

## **DECONTAMINATION AND DISPOSAL**

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

### **CONTAINER DISPOSAL OR REFILLING:**

#### **FOR DISPOSAL OF PLASTIC JUGS:**

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

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

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#### **FOR 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.

***IN CASE OF EMERGENCY INVOLVING A MAJOR SPILL, FIRE OR POISONING,  
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**STORAGE**

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CALL 1-800-327-8633 (FASTMED)***



## PRODUCT INFORMATION

Do not apply this product using aerial equipment except where indicated under “RESTRICTED USE”.

TOUCHDOWN TOTAL Herbicide is a water-soluble herbicide for **non-selective** weed control:

In cropping systems - before planting of all crops, pre-harvest application in wheat, barley, oats, canola (including glyphosate tolerant canola), peas, lentils, flax (including low linolenic acid varieties), soybeans (including glyphosate tolerant soybeans), dry beans, forages and post harvest stubble treatment;

Post emergent application in glyphosate tolerant canola, corn and soybean crops;

In pasture renovation;

In forage, legume and grass establishment;

In minimum and zero tillage systems;

In tree, vine and berry crops; apple, cherry, peach, apricot, pear, plum, grapes, blueberries, nuts, strawberries, cranberries and sugar beets;

In new ginseng gardens (B.C. only) and established ginseng beds.

TOUCHDOWN TOTAL Herbicide is to be applied as a foliage spray for the control of most herbaceous plants. It may be applied through most standard industrial or field type sprayers after dilution and thorough mixing with water in accordance with the booklet instructions.

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

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

## DIRECTIONS FOR USE

### GENERAL USE PRECAUTIONS

Use clean (non-turbid) water for spraying TOUCHDOWN TOTAL Herbicide. Muddy water will reduce the effectiveness of TOUCHDOWN TOTAL Herbicide. Poor control may also occur when treating weeds heavily covered with dust.

**Avoid contact with desirable vegetation by direct application or spray drift as destruction may result.**

Avoid drift or overspray to non-target vegetation and wildlife habitats.

**Do not use in greenhouses.**

Mix only the amount of solution to be used during a one-day period, as reduced activity may result from use of leftover solution.

Drain and clean application equipment immediately after using this product.

Do not contaminate water sources by disposal of waste or cleaning of equipment.

This product is highly toxic to aquatic and terrestrial plants. Overspray or drift to sensitive habitats should be avoided. A buffer zone of 15 metres is required between the downwind point of direct application and the closest edge of sensitive terrestrial habitats including forested areas, shelterbelts, woodlots, hedgerows, pastures, rangelands and shrublands. A buffer zone of 15 metres is required between the downwind point of direct application and the closest edge of sensitive aquatic habitats including sloughs, coulees, ponds, Prairie potholes, lakes, rivers, streams, reservoirs and wetlands and wildlife habitat at the edge of these bodies of water. Do not contaminate these habitats when cleaning and rinsing spray equipment or containers.

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

## **GENERAL USE INFORMATION**

### **Weeds Controlled**

This product controls many annual and perennial grasses and broadleaf weeds 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. The following is a partial list of weeds controlled:

#### **ANNUAL WEEDS**

##### **Annual Grasses**

Barnyard Grass  
 Bluegrass (annual)  
 Crabgrass (large, smooth)  
 Downy Brome  
 Fall Panicum  
 Giant Foxtail  
 Green Foxtail  
 Persian Darnel  
 Rye, tame  
 Volunteer Barley  
 Volunteer Corn  
 Wild Oats  
 Woolly Cup Grass  
 Proso Millet  
 Volunteer Wheat  
 Yellow Foxtail

#### **PERENNIAL WEEDS**

##### **Perennial Grasses/Sedges**

Bluegrass (Canada)  
 Bluegrass (Kentucky)  
 Bromegrass (smooth)  
 Cattail (common)  
 Foxtail Barley  
 Orchard Grass  
 Quack Grass  
 Redtop  
 Wirestem muhly  
 Yellow Nutsedge

**Annual Broadleaf Weeds**

Chickweed, common  
 Cleavers  
 Cocklebur  
 Corn Spurry  
 Cow Cockle  
 Dodder  
 Fleabane (Canada)  
 Flixweed  
 Green Smartweed  
 Hairy Galinsoga  
 Hemp-nettle  
 Kochia  
 Lady's-Thumb  
 Lamb's-Quarters  
 Low Cudweed  
 Narrow-Leaved Hawk's-Beard  
 Narrow-Leaved Vetch  
 Nightshade, black  
 Night-Flowering Catchfly  
 Non-glyphosate tolerant volunteer canola  
 Pennsylvania Smartweed  
 Prickly Lettuce  
 Prostrate Knotweed  
 Ragweed (common)  
 Redroot Pigweed  
 Round-Leaved Mallow  
 Russian Thistle  
 Shepherd's-Purse  
 Smooth Pigweed  
 Sowthistle (annual)  
 Stinkweed  
 Stork's Bill  
 Velvetleaf  
 Volunteer Flax  
 Wild Buckwheat  
 Wild Mustard  
 Wild Tomato

**Perennial Broadleaved Weeds**

Alfalfa  
 Chickweed, mouse-eared  
 Clover, white  
 Colt's-Foot  
 Cottontop  
 Curled Dock  
 Dandelion, common  
 Field Bindweed  
 Goldenrod, Canada  
 Hemp Dogbane  
 Hoary Cress  
 Horsetail  
 Jerusalem Artichoke  
 Knotweed (Japanese)  
 Milkweed (common)  
 Plantain, broad-leaved  
 Poison Ivy  
 Purple Loosestrife  
 Sheep Sorrel  
 Smooth Bedstraw  
 Sowthistle (perennial)  
 Stitchwort, grass-leaved  
 Thistle (Canada)  
 Yellow Toadflax  
 Wild Carrot  
 Wild Grape  
 Wormwood (Absinth)

**AGRICULTURAL USES**

The following are use situations for TOUCHDOWN TOTAL Herbicide. Information on the equipment selected to apply TOUCHDOWN TOTAL Herbicide can be found in the APPLICATION EQUIPMENT section. Use rates can then be selected from the TOUCHDOWN TOTAL Herbicide USE RATES section.

The type of vegetation present and the use situation will dictate the choice of application equipment.

ALWAYS REFER TO THE PRODUCT LABEL(S) FOR THE TANK MIX PARTNER(S) FOR FURTHER INFORMATION ON WEEDS CONTROLLED, DIRECTIONS FOR USE, RESTRICTIONS, ROTATIONAL CROP INFORMATION AND PRECAUTIONARY LABEL

STATEMENTS. WHEN APPLIED AS A TANKMIX, THE HIGHEST INDICATED BUFFER ZONE FOR THE TANKMIX PARTNER MUST BE MAINTAINED AROUND NON-TARGET AREAS.

**PRIOR TO PLANTING (ALL CROPS):** This product may be applied prior to planting all crops for control of emerged weeds listed on this label. Apply **before** seeding or transplanting crops.

#### **FORAGE LEGUMES & GRASSES**

To control emerged vegetation prior to emergence of legumes and grasses. If legumes and grasses are to be under-seeded with a cover crop, TOUCHDOWN TOTAL Herbicide must be applied prior to planting any cover crop.

#### **PASTURE RENOVATION**

To control or suppress existing vegetation for zero-tillage seeding of legumes into established sod for renovation. Vegetation should be at least 20 cm in height with maximum number of seedlings and shoots emerged. Apply before or after seeding but before crop emerges.

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

Apply prior to or after seeding but before the crop emerges for control of emerged weeds.

**DO NOT APPLY AFTER CROP EMERGENCE.**

Since TOUCHDOWN TOTAL Herbicide alone does not provide residual weed control, application too far in advance of seeding will allow weeds to emerge between application and crop emergence.

#### **Minimum and Zero Tillage Tank Mixtures:**

ALWAYS REFER TO THE PRODUCT LABEL(S) FOR THE TANK MIX PARTNER(S) FOR FURTHER INFORMATION ON WEEDS CONTROLLED, DIRECTIONS FOR USE, RESTRICTIONS, ROTATIONAL CROP INFORMATION AND PRECAUTIONARY LABEL STATEMENTS. WHEN APPLIED AS A TANK MIX, THE HIGHEST INDICATED BUFFER ZONE FOR THE TANK MIX PARTNER MUST BE MAINTAINED AROUND NON-TARGET AREAS.

The following tank mixtures may be applied **prior to crop emergence** to provide burndown and residual control of selected annual weeds.

#### ***Cereals:***

Refer to the ANNUAL WEED CONTROL TANK MIXTURES FOR SUMMERFALLOW AND MINIMUM TILL table for more information.

#### **TOUCHDOWN Total Herbicide plus Dicamba (480 g/L)**

TOUCHDOWN Total Herbicide plus dicamba (480 g/L formulation) can be applied prior to seeding in wheat, barley, rye and oats.

#### **TOUCHDOWN TOTAL Herbicide plus Pardner®**

TOUCHDOWN TOTAL Herbicide plus bromoxynil (Pardner) can be applied prior to seeding or after seeding, but before crop emergence in wheat, barley and oats.

#### **TOUCHDOWN TOTAL Herbicide plus 2,4-D**

TOUCHDOWN TOTAL 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.

**TOUCHDOWN TOTAL Herbicide plus MCPA**

TOUCHDOWN TOTAL Herbicide plus MCPA can be applied prior to seeding in wheat, barley, rye, oats, corn (field and sweet: MCPA amine only), flax and field peas (MCPA amine only).

**TOUCHDOWN TOTAL Herbicide plus MCPA Amine**

TOUCHDOWN TOTAL Herbicide plus MCPA amine can be applied prior to seeding in lentils and chickpeas.

**TOUCHDOWN TOTAL Herbicide plus Buctril® M**

TOUCHDOWN TOTAL Herbicide plus Buctril M can be applied prior to seeding in wheat, barley, rye, oats, flax, corn, canary seed and seedling grasses (including bromegrass, crested wheatgrass, intermediate wheatgrass, 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).

**TOUCHDOWN TOTAL Herbicide plus Express® Toss-N-Go®**

TOUCHDOWN TOTAL Herbicide plus Express Toss-N-Go can be applied prior to seeding in spring wheat (including durum) and barley. This tank mix for use in the Prairie provinces and the Peace River region of British Columbia only.

***Soybeans:*****TOUCHDOWN TOTAL Herbicide plus Pursuit®**

TOUCHDOWN TOTAL Herbicide plus Pursuit can be applied prior to or after seeding, but before crop emergence. TOUCHDOWN TOTAL Herbicide will control emerged weeds listed on this label when applied as directed (refer to annual and perennial weed control sections in the TOUCHDOWN TOTAL Herbicide product label). Pursuit will control weeds germinating from seed.

**TOUCHDOWN TOTAL Herbicide plus Metribuzin (Sencor® 75DF, Sencor 500F, Sencor 480F, Sencor 480 Soybean or Lexone® DF)**

For burndown and residual control of selected annual weeds in soybeans, apply TOUCHDOWN TOTAL Herbicide in tank mix with Sencor 75DF, Sencor 500F, Sencor 480F, Sencor 480 Soybean or Lexone DF as a preplant surface or pre-emergence application before crop emergence.

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

**TOUCHDOWN TOTAL Herbicide plus DUAL™ MAGNUM® or DUAL II MAGNUM®**

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

Apply TOUCHDOWN TOTAL Herbicide in tank mix with DUAL MAGNUM or DUAL II MAGNUM at 1.15 – 1.75 L/ha as a preplant surface (up to 30 days before planting) or pre-emergence application before crop emergence.

**TOUCHDOWN TOTAL Herbicide plus DUAL MAGNUM or DUAL II MAGNUM plus Metribuzin (Sencor 75DF, Sencor 500F, Sencor 480F, Sencor 480 Soybean or Lexone DF)**

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 TOUCHDOWN TOTAL Herbicide. Use higher rates of TOUCHDOWN TOTAL Herbicide if perennial weeds are

present.

**TOUCHDOWN TOTAL Herbicide plus Broadstrike™ Dual™ Magnum™**

Broadstrike Dual Magnum at 1.56 L/ha may be tank mixed with TOUCHDOWN TOTAL Herbicide at 1.8 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 zero till conditions. When mixing, add the Broadstrike Dual Magnum component first.

**TOUCHDOWN TOTAL Herbicide plus Linuron**

For burndown and residual control of selected annual weeds, apply TOUCHDOWN TOTAL Herbicide plus Linuron after seeding but before crop emergence.

***Corn:***

**TOUCHDOWN TOTAL Herbicide plus DUAL MAGNUM or DUAL II MAGNUM**

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

Apply TOUCHDOWN TOTAL 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.

**TOUCHDOWN TOTAL Herbicide plus DUAL MAGNUM or DUAL II MAGNUM plus AATREX® LIQUID 480**

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

Apply TOUCHDOWN TOTAL Herbicide in tank mix with DUAL MAGNUM or DUAL II MAGNUM at 1.25 – 1.75 L/ha plus AATREX LIQUID 480 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.

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**TOUCHDOWN TOTAL Herbicide plus PRIMEXTRA® MAGNUM Agricultural**

For burndown and residual control of selected annual weeds, apply TOUCHDOWN TOTAL Herbicide plus PRIMEXTRA II MAGNUM AGRICULTURAL Herbicide preplant surface or pre-emergence before crop emergence on corn. This tank mixture requires the use of a surfactant, either AGRAL® 90 or Ag-Surf®. See mixing instructions for more information.

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**TOUCHDOWN TOTAL Herbicide plus Dicamba (480 g/L)**

For burndown and residual control of selected annual weeds apply TOUCHDOWN TOTAL Herbicide plus dicamba (480 g/L formulation) prior to seeding in field corn.

**TOUCHDOWN TOTAL Herbicide plus Fieldstar™ WDG**

For burndown and residual control of selected annual weeds, apply TOUCHDOWN TOTAL Herbicide plus Fieldstar WDG preplant surface or pre-emergence before crop emergence.

**TOUCHDOWN TOTAL Herbicide plus Frontier®**

For burndown and residual control of selected annual weeds, apply TOUCHDOWN TOTAL Herbicide plus Frontier preplant surface or pre-emergence before crop emergence.

**TOUCHDOWN TOTAL Herbicide plus Prowl®**

For burndown and residual control of selected annual weeds, apply TOUCHDOWN TOTAL Herbicide plus Prowl after seeding but before crop emergence.

**TOUCHDOWN TOTAL Herbicide plus Linuron**

For burndown and residual control of selected annual weeds, apply TOUCHDOWN TOTAL Herbicide plus Linuron after seeding but before crop emergence.

**WEED CONTROL IN GLYPHOSATE TOLERANT SOYBEANS**

**WARNING:** APPLY TOUCHDOWN TOTAL HERBICIDE ON GLYPHOSATE TOLERANT SOYBEAN VARIETIES ONLY

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

Make pre-harvest applications at least 14 days before harvest with no more than 1.8 L/ha.

DO NOT APPLY BY AIRCRAFT.

<b>GLYPHOSATE TOLERANT SOYBEAN USE DIRECTIONS</b>			
<b>Rate (L/ha)</b>	<b>Growth Stage of Soybean Crop</b>	<b>Weeds Controlled*</b>	<b>Comments (use 100 – 200 L/ha water volumes)</b>
1.8	First trifoliate leaf stage through to flowering	<p><b><u>Annual Grasses:</u></b> Foxtail (green, yellow, giant), barnyard grass, crabgrass (smooth, large), fall panicum, proso millet, woolly cup grass</p> <p><b><u>Annual Broadleaves:</u></b> 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</p> <p><b><u>Perennials:</u></b> Quack grass, common milkweed*, yellow nutsedge*</p>	<p>A second 1.8 L/ha application may be used for late weed flushes emerging after the initial treatment. This second application must be made no later than the flowering stage of the soybean.</p> <p>* Suppression only</p>
1.8 – 3.6	First trifoliate leaf stage through to flowering	All weeds listed above, plus perennial sowthistle, Canada thistle, wirestem muhly	<p>A single application at the higher rate or a second (sequential) application of 1.8 L/ha will improve control in heavy weed infestations.</p> <p>If sequential applications of 1.8 L/ha are used, they should be at least 2 weeks apart for best results on perennial weeds.</p> <p>This second application must be made no later than the flowering stage of the soybean.</p> <p>Perennial sowthistle should be in the rosette stage to 50 cm in height and actively growing.</p> <p>Wirestem muhly should be 10-20 cm in height and actively growing.</p> <p>Plants not fully emerged at the time of application will escape treatment.</p>



<b>GLYPHOSATE TOLERANT SOYBEAN USE DIRECTIONS</b>			
<b>Rate (L/ha)</b>	<b>Growth Stage of Soybean Crop</b>	<b>Weeds Controlled*</b>	<b>Comments (use 100 – 200 L/ha water volumes)</b>
3.6	First trifoliolate leaf stage through to flowering	All weeds listed above, plus common milkweed**, yellow nutsedge**, and field bindweed**	Only one application per season at 3.6 L/ha. ** Will also be controlled by sequential applications of 1.8 L/ha. Applications should be at least two weeks apart for optimum control. This second application must be made no later than the flowering stage of the soybean. Common milkweed should be 15 – 60 cm in height and actively growing; yellow nutsedge should be 5 – 15 cm in height and actively growing. Plants not fully emerged at the time of treatment will not be controlled.

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

### **TANKMIXTURES IN GLYPHOSATE TOLERANT SOYBEANS:**

#### **TOUCHDOWN TOTAL Herbicide plus Pursuit**

TOUCHDOWN TOTAL Herbicide can be tank mixed with Pursuit herbicide for added residual control of late germinating eastern black nightshade, lamb's quarters, redroot pigweed, velvetleaf, fall panicum and proso millet.

Apply Pursuit Herbicide at 0.16 to 0.21 litres per hectare and TOUCHDOWN TOTAL Herbicide at a rate of 1.8 litres per hectare up to and including the 3rd trifoliolate leaf stage of the glyphosate tolerant 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 TOUCHDOWN TOTAL Herbicide as per instructions on this label.

A PHI of 100 days is required for the tank mix of TOUCHDOWN TOTAL Herbicide and Pursuit Herbicide on glyphosate tolerant soybeans. Only one application per season of TOUCHDOWN TOTAL Herbicide at 1.8 litres per hectare tank mixed with Pursuit Herbicide at 0.16 to 0.21 litres per hectare is permitted.

For more information on weeds controlled and rates, follow the label directions for TOUCHDOWN TOTAL Herbicide and Pursuit.

### **WEED CONTROL IN GLYPHOSATE TOLERANT CORN**

**WARNING:** APPLY TOUCHDOWN TOTAL HERBICIDE ON GLYPHOSATE TOLERANT CORN VARIETIES ONLY

**NOTE:** ALWAYS USE PEDIGREED (I.E. CERTIFIED) GLYPHOSATE TOLERANT CORN SEED. CORN WHICH ARE NOT DESIGNATED AS GLYPHOSATE TOLERANT WILL BE DAMAGED OR DESTROYED BY THIS TREATMENT.  
DO NOT APPLY BY AIRCRAFT.

GLYPHOSATE TOLERANT CORN USE DIRECTIONS			
Rate (L/ha)	Growth Stage of Corn Crop	Weeds Controlled <sup>1</sup>	Comments (use 100 – 200 L/ha water volumes)
1.8	Up to and including 8 leaf stage	<p><b><u>Annual Grasses:</u></b> Wild oats, foxtail (green, yellow, giant), barnyard grass, crabgrass (smooth, large), fall panicum, wild proso millet, volunteer barley, volunteer wheat, woolly cup grass</p> <p><b><u>Annual Broadleaves:</u></b> 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, stinkweed, Russian thistle, non-glyphosate tolerant canola, 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><b><u>Perennials:</u></b> Quack grass, common milkweed*, yellow nutsedge*, perennial sowthistle, Canada thistle, wirestem muhly</p>	<p>A second 1.8 L/ha application may be used for late flushes emerging after the initial treatment.</p> <p>This second application must be made no later than the 8 leaf stage of corn.</p> <p>Common milkweed should be 15 – 60 cm in height and actively growing; yellow nutsedge should be 5 – 15 cm in height and actively growing.</p> <p>*Suppression only</p>

GLYPHOSATE TOLERANT CORN USE DIRECTIONS			
Rate (L/ha)	Growth Stage of Corn Crop	Weeds Controlled <sup>1</sup>	Comments (use 100 – 200 L/ha water volumes)
1.8 – 3.6	Up to and including 6 leaf stage	All weeds listed above, plus perennial sowthistle, Canada thistle, wirestem muhly	<p>A single application at the higher rate or a second (sequential) application of 1.8 L/ha will improve control in heavy weed infestations.</p> <p>If sequential applications of 1.8 L/ha are used they should be at least 2 weeks apart for best results on perennial weeds.</p> <p>This second application of 1.8 L/ha must be made no later than the 8 leaf stage of corn.</p> <p>Perennial sowthistle and Canada thistle should be in the rosette stage to 50 cm in height and actively growing.</p> <p>Wirestem muhly should be 10-20 cm in height and actively growing.</p> <p>Plants not fully emerged at the time of application will escape treatment.</p>
3.6	Up to and including 6 leaf stage	All weeds listed above, plus common milkweed**, yellow nutsedge**, field bindweed**, round-leaf mallow**	<p>Only one application per season at 3.6 L/ha.</p> <p>Common milkweed should be 15 – 60 cm in height and actively growing; yellow nutsedge should be 5 – 15 cm in height and actively growing.</p> <p>Plants not fully emerged at the time of treatment will not be controlled.</p> <p>**Will also be controlled by sequential applications of 1.8 L/ha. Applications should be at least two weeks apart for optimum control. This second application must be made no later than the 8 leaf stage of corn.</p>

<sup>1</sup> Weeds will be more easily controlled and early competition avoided with applications made when weeds are small. Control of weeds greater than 25 cm in height will be inconsistent, although some weeds may be controlled.

#### TANK MIXTURES IN GLYPHOSATE TOLERANT CORN:

##### **TOUCHDOWN TOTAL Herbicide plus AATREX Liquid 480 Herbicide**

For residual control of lamb's quarters, redroot pigweed, and common ragweed in glyphosate tolerant corn, apply a tank mixture of 1.6 – 2.1 L/ha of AATREX Liquid 480 Herbicide with 1.8 L/ha of TOUCHDOWN TOTAL Herbicide. Apply up to and including the 5 leaf stage of corn. This tank mix should be used when only a single application timing is required. Use the higher rate of AATREX 480 Liquid Herbicide for heavier weed infestations. For more information on weeds controlled and rates follow the label directions for TOUCHDOWN TOTAL Herbicide and AATREX Liquid 480 Herbicide.

**TOUCHDOWN TOTAL Herbicide plus CALLISTO® 480SC Herbicide**

For residual control of eastern black nightshade, velvetleaf, redroot pigweed and suppression of common ragweed in glyphosate tolerant corn, apply a tank mixture of 0.21 L/ha of CALLISTO 480SC Herbicide with 1.8 L/ha of TOUCHDOWN TOTAL Herbicide, in 100-200 L of water per hectare. Add AGRAL 90 at 0.2% v/v. Apply up to and including the 8 leaf stage of corn. This tank mix should be used when only a single application timing is required. For more information on weeds controlled and rates follow the label directions for TOUCHDOWN TOTAL Herbicide and CALLISTO 480SC Herbicide.

**TOUCHDOWN TOTAL Herbicide plus CALLISTO 480SC Herbicide plus AATREX Liquid 480 Herbicide**

For residual control of eastern black nightshade, velvetleaf, redroot pigweed and common ragweed in glyphosate tolerant corn, apply a tank mixture of 0.21 L/ha of CALLISTO 480SC Herbicide plus 0.58 L/ha AATREX Liquid 480 with 1.8 L/ha of TOUCHDOWN TOTAL Herbicide, in 150-200 L of water per hectare. Add AGRAL 90 at 0.2% v/v. Apply up to and including the 8 leaf stage of corn. This tank mix should be used when only a single application timing is required. For more information on weeds controlled and rates follow the label directions for TOUCHDOWN TOTAL Herbicide, CALLISTO 480SC Herbicide and AATREX Liquid 480 Herbicide.

**TOUCHDOWN TOTAL Herbicide plus DUAL MAGNUM Herbicide or DUAL II MAGNUM Herbicide**

For residual control of selected annual grasses listed on the DUAL MAGNUM Herbicide or DUAL II MAGNUM Herbicide labels in glyphosate tolerant corn, apply a tank mixture of 1.25 – 1.75 L/ha of DUAL MAGNUM Herbicide or DUAL II MAGNUM Herbicide with 1.8 L/ha of TOUCHDOWN TOTAL Herbicide. Apply up to and including the 6 leaf stage of corn. This tank mix should be used when only a single application timing is required. For more information on weeds controlled and rates follow the label directions for TOUCHDOWN TOTAL Herbicide, and DUAL MAGNUM Herbicide or DUAL II MAGNUM Herbicide.

**TOUCHDOWN TOTAL Herbicide plus CALLISTO 480SC Herbicide plus DUAL MAGNUM Herbicide or DUAL II Magnum Herbicide**

For residual control of annual and perennial grasses and broadleaf weeds in glyphosate tolerant corn, apply a tank mixture of 1.8 L/ha of TOUCHDOWN TOTAL Herbicide with 0.21 L/ha of CALLISTO 480SC Herbicide and 1.25 - 1.75 L/ha of DUAL MAGNUM Herbicide or DUAL II MAGNUM Herbicide. Use the higher rate of DUAL MAGNUM Herbicide or DUAL II MAGNUM Herbicide for heavier weed populations. Apply up to and including the 6 leaf stage of corn. This tank mix should only be used when a single application timing is required. For more information on weeds controlled and rates see elsewhere on this label as well as the labels for CALLISTO 480SC Herbicide and DUAL MAGNUM Herbicide or DUAL II MAGNUM Herbicide.

**TOUCHDOWN TOTAL Herbicide plus PRIMEXTRA II MAGNUM AGRICULTURAL HERBICIDE**

For residual control of selected annual grasses and broadleaf weeds listed on the PRIMEXTRA II MAGNUM AGRICULTURAL Herbicide label in glyphosate tolerant corn, apply a tank mixture of 2.5 L/ha of PRIMEXTRA II MAGNUM AGRICULTURAL Herbicide with 1.8 L/ha of TOUCHDOWN TOTAL Herbicide, in 150-200 L of water per hectare. Apply up to and including the 6 leaf stage of corn. This tank mix should be used when only a single application timing is required. For more information on weeds controlled and rates follow the label directions for TOUCHDOWN TOTAL Herbicide and PRIMEXTRA II MAGNUM AGRICULTURAL Herbicide.

**TOUCHDOWN TOTAL Herbicide plus CALLISTO 480SC Herbicide plus DUAL MAGNUM Herbicide or DUAL II MAGNUM Herbicide plus AATREX Liquid 480 Herbicide**

For residual control of selected annual grasses and broadleaf weeds in glyphosate tolerant corn, apply a tank mixture of 0.21 L/ha of CALLISTO 480SC Herbicide and 1.25-1.75 L/ha of DUAL MAGNUM or DUAL II MAGNUM Herbicide and 0.58 L/ha AATREX Liquid 480 with 1.8 L/ha of TOUCHDOWN TOTAL Herbicide, in 150-200 L of water per hectare. Apply up to and including the 6 leaf stage of corn. This tank mix should only be used when a single application timing is required.

Add AATREX Liquid 480 Herbicide to the TOUCHDOWN TOTAL Herbicide plus CALLISTO 480SC Herbicide plus DUAL MAGNUM or DUAL II MAGNUM Herbicide tank mix when the control of common ragweed is required. For more information on weeds controlled and rates follow the label directions for TOUCHDOWN TOTAL Herbicide, CALLISTO 480SC Herbicide, DUAL MAGNUM or DUAL II MAGNUM and AATREX Liquid 480 Herbicide.

**TOUCHDOWN TOTAL Herbicide plus PRIMEXTRA II MAGNUM AGRICULTURAL Herbicide plus CALLISTO 480SC Herbicide**

For residual control of selected annual grasses and broadleaf weeds in glyphosate tolerant corn, apply a tank mixture of 2.5 L/ha of PRIMEXTRA II MAGNUM AGRICULTURAL Herbicide and 0.21 L/ha of CALLISTO 480SC Herbicide with 1.8 L/ha of TOUCHDOWN TOTAL Herbicide, in 150-200 L of water per hectare. Apply up to and including the 6 leaf stage of corn. This tank mix should only be used when a single application timing is required. Add CALLISTO 480SC Herbicide to the TOUCHDOWN TOTAL Herbicide plus PRIMEXTRA II MAGNUM AGRICULTURAL Herbicide tank mix when velvetleaf is present. For more information on weeds controlled and rates follow the label directions for TOUCHDOWN TOTAL Herbicide, PRIMEXTRA II MAGNUM AGRICULTURAL Herbicide and CALLISTO 480SC Herbicide.

**TOUCHDOWN TOTAL Herbicide plus Marksman® Herbicide**

For residual control of lamb's quarters, redroot pigweed, common ragweed and velvetleaf in glyphosate tolerant corn, apply a tank mixture of 2.5 to 3.7 L/ha of Marksman Herbicide with 1.8 L/ha of TOUCHDOWN TOTAL Herbicide. Apply up to and including the 5 leaf stage of corn. This tank mix should be used when only a single application timing is required. For more information on weeds controlled and rates follow the label directions for TOUCHDOWN TOTAL Herbicide and Marksman Herbicide.

**TOUCHDOWN TOTAL Herbicide plus Elim EP Herbicide 25% Dry Flowable**

For residual control of green foxtail, redroot pigweed, fall panicum and suppression of lamb's-quarters in glyphosate tolerant corn, apply a tank mixture of 50 g/ha of Elim EP 25% Dry Flowable Herbicide with 1.8 L/ha of TOUCHDOWN TOTAL Herbicide. Apply up to and including the 6 leaf stage of corn. This tank mix will provide residual control until crop canopy closure. This tank mix should be used when only a single application timing is required. For more information on weeds controlled and rates follow the label directions for TOUCHDOWN TOTAL Herbicide and Elim EP 25% Dry Flowable Herbicide.

**WEED CONTROL IN GLYPHOSATE TOLERANT CANOLA**

**WARNING:** APPLY TOUCHDOWN TOTAL HERBICIDE ON GLYPHOSATE TOLERANT CANOLA VARIETIES ONLY

**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.

Apply TOUCHDOWN TOTAL Herbicide in glyphosate tolerant canola only as directed by the following weed control table.

Some short-term, visual yellowing may occur when TOUCHDOWN TOTAL 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.

Make pre-harvest applications at least 7 days before harvest.

DO NOT APPLY BY AIRCRAFT.

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

<b>WEED CONTROL IN GLYPHOSATE TOLERANT CANOLA</b>			
<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>
0.60 – 1.35	0 to 6 leaf	<p><b><u>Annual Grasses:</u></b> Wild oats, green foxtail, volunteer barley, volunteer wheat, barnyard grass</p> <p><b><u>Annual Broadleaves:</u></b> Stinkweed, redroot pigweed, wild mustard, Russian thistle, lamb's-quarters, non-glyphosate tolerant volunteer canola, hemp-nettle, lady's-thumb, kochia, chickweed, corn spurry, wild tomato, cleavers*, wild buckwheat*, shepherd's-purse*, cow cockle*, night-flowering catchfly*, smartweed*, stork's bill*, flixweed*, narrow-leaved hawk's beard*, round-leaved mallow***</p> <p><b><u>Perennials (suppression)**:</u></b> Canada thistle, perennial sowthistle, dandelion</p> <p><b><u>Perennials (season long control):</u></b> Quack grass**, foxtail barley***, Canada thistle***, perennial sowthistle****</p>	<p>No additional surfactant is required at the higher rate. Repeat applications may be required if a second flush of weeds germinates prior to canopy closure. Ensure the crop has not advanced beyond the recommended growth stage.</p> <p>* Use the 0.90 L/ha rate for control of these weeds at all crop growth stages. The lower rate can be used for control of shepherd's-purse, cow cockle and night-flowering catchfly at the 1-3 leaf stage of the crop, or for control of smartweed at the 4-6 leaf stage.</p> <p>** A single application at the 0.90 L/ha rate is required.</p> <p>***Sequential applications at the 0.90 L/ha rate are required.</p> <p>****Sequential applications at the 0.90 L/ha rate are required or a single application of 1.35 L/ha. For sequential applications, ensure the crop has not advanced beyond the recommended growth stage.</p>

### **TOUCHDOWN TOTAL Herbicide plus Lontrel™ 360**

For season long control of top growth of Canada thistle and control of wild buckwheat in glyphosate tolerant canola, apply a tank mixture of 0.28 L/ha of Lontrel 360 with 0.9 L/ha of TOUCHDOWN TOTAL Herbicide, in 100 litres of water per hectare. Apply when canola is in the 2-6 leaf stage. For

more information on weeds controlled and rates, follow the label directions for TOUCHDOWN TOTAL Herbicide and Lontrel 360.

### **SPOT TREATMENTS (IN-CROP)**

May be used to control perennial weeds in barley, corn, oats, soybeans, wheat, strawberry, blueberry, forage grasses and legumes including seed production. Treatments may be made up to heading of small grain, initial pod set on soybeans, silking of corn and emergence of seed heads.

**The crop in the treated area will be destroyed.** Avoid drift beyond the treated area. DO NOT APPLY IF CROP GROWTH HAS ADVANCED BEYOND SEED SET. [ALLOW 3 TO 5 DAYS FOR TOUCHDOWN TOTAL HERBICIDE TO TRANSLOCATE INTO ALL PLANT PARTS BEFORE GRAZING OR HARVESTING TREATED AREAS IN FORAGES.] (See General Use Precautions section for more information).

Application can be made using a boom sprayer, knapsack or high volume equipment (see APPLICATION EQUIPMENT).

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

To control perennial weeds such as quack grass and Canada thistle in seed fields. Apply to weeds at least 20 to 25 cm in height and before emergence of seed head. **The crop in the treated area will be destroyed.** Avoid drift outside of treated area.

**PRE-HARVEST USE ON wheat, barley, oats, canola (including glyphosate tolerant canola), peas, lentils, flax (including low linolenic acid varieties), soybeans (including glyphosate tolerant soybeans), dry beans, and forages.**

### **GROUND OR AERIAL APPLICATION**

**AERIAL PRE-HARVEST APPLICATION IS A RESTRICTED USE, FOLLOW DIRECTIONS IN “RESTRICTED USE - PREHARVEST AERIAL APPLICATION FOR SALE FOR USE IN THE PRAIRIE PROVINCES ONLY (including PEACE RIVER REGION OF B.C.)”**

For control of quack grass, Canada thistle, common milkweed, dandelion, toadflax, and season long control of perennial sowthistle. TOUCHDOWN TOTAL Herbicide can be applied prior to harvest of wheat, barley, oats, canola (including glyphosate tolerant canola), peas, lentils, flax (including low linolenic acid varieties), soybeans (including glyphosate tolerant soybeans), dry beans, 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.

TOUCHDOWN TOTAL Herbicide should be applied pre-harvest at 1.8 L/ha in 50 to 100 L/ha of clean water, by ground application only. Apply only when the crop has 30% or less grain moisture content. This stage typically occurs 7 to 14 days before harvest. For forage crops, apply this product at 1.8 to 3.6 litres per hectare 3 to 7 days prior to the last cut before rotation or forage renovation. Consult the following table for visual indicators of this stage in each crop. For the best weed control results, quack grass should be actively growing and have at least 4 to 5 green leaves.

Canada thistle and perennial sowthistle 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 to 7 days for forage application, 14 days for glyphosate tolerant soybeans) 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.

Forage can be harvested as hay, haylage or grazed.

Overspray or drift to important wildlife habitats such as bodies of water, wetlands (e.g. sloughs), shelter belts, woodlots and other cover on the edges of fields frequented by wildlife, should be avoided.

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 AIRCRAFT.

**TABLE 1: Guidelines for Timing of Pre-harvest Applications**

**VISUAL SYMPTOMS**

**CROP(S)**

**(grain moisture is less than 30%)**

Wheat	Hard dough stage; thumbnail impression remains on the seed.
Barley	Hard dough stage; thumbnail impression remains on the seed.
Oats	Hard dough stage; thumbnail impression remains on the seed.
Canola (including glyphosate tolerant canola)	Pods are green to yellow; most seeds are yellow to brown.
Peas	Majority (75%-80%) of pods are brown.
Flax (including low linolenic acid varieties)	Majority (75%-80%) of bolls are brown.
Lentils	Lowermost pods (bottom 15%) are brown and seeds rattle.
Soybeans (including glyphosate tolerant soybeans)	Stems are green to brown in colour; pod tissue is dry and brown in appearance; 80-90% leaf drop.
Dry Beans	Stems are green to brown in colour; pods are mature (yellow to brown in colour); 80-90% leaf drop (original leaves).
Forages	Apply 3-7 days prior to last cut in the final year of the forage.



### **SUMMERFALLOW**

This product, or labelled tank mixes, may be applied in summerfallow to control weeds listed on this label. Refer to the table “ANNUAL WEED CONTROL TANK MIXTURES FOR SUMMERFALLOW AND MINIMUM TILL”.

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.

### **POST HARVEST STUBBLE TREATMENT**

This product, or labelled tank mixes, may be applied to control weeds listed on this label. Allow weeds to regrow to the desired stage (20 to 25 centimetres tall for quack grass and Canada thistle) before application and ensure they have a high proportion of green colouration. Straw should be removed or evenly spread to allow for proper regrowth and spray coverage. Heavy frosts prior to application may decrease control.

### **TOUCHDOWN TOTAL Herbicide plus Dicamba (480 g/L)**

For control of Canada thistle and perennial sowthistle in post harvest stubble, apply 1.2 L/ha of TOUCHDOWN TOTAL Herbicide plus 1.25 L/ha dicamba (480 g/L formulation) in 100-200 L/ha of clean water. An adjuvant must be added for use with this tank mixture.

In post harvest stubble, apply this tank mixture to actively growing Canada thistle and perennial sowthistle 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 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.

### **FALL STUBBLE**

This product, or labelled tank mixes, may be applied in fall stubble to control weeds listed on this label.

### **TREE, VINE AND BERRY CROPS**

To control annual and perennial weeds in established vineyards or orchards, or for site preparation prior to transplanting tree and vine crops.

Use boom sprayer, shielded sprayers, hand held guns, or wiper, roller or wick applicators (the latter three are for use only in orchards or vineyards).

Repeat applications may be necessary as new seedlings emerge or underground parts of untreated weeds emerge.

**DO NOT APPLY MORE THAN 25 L/ha OF TOUCHDOWN TOTAL HERBICIDE PER YEAR. EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF TOUCHDOWN TOTAL HERBICIDE SOLUTION, SPRAY DRIFT OR MIST WITH FOLIAGE OR GREEN BARK OF TRUNK, BRANCHES, SUCKERS, FRUIT, OR OTHER PARTS OF TREES OR VINES. CONTACT OF**

TOUCHDOWN TOTAL HERBICIDE WITH ANY OTHER THAN MATURED BROWN BARK CAN RESULT IN SERIOUS CROP DAMAGE. Allow mowed weeds time to re-grow to recommended growth stage for treatment.

<b>WEED CONTROL IN TREE, VINE and BERRY CROPS</b>					
<b>Crop</b>	<b>Rate (L/ha)</b>	<b>Pre-Harvest Interval (days)</b>	<b>Max. App. per year</b>	<b>Weeds Controlled</b>	<b>Comments</b>
Apples, Apricot, Cherry (Sweet/Sour), Peaches, Pears, Plums	1.6 – 8.6 (directed spray)	30	3	Annual and perennial weeds	Apply as directed spray with no more than 275 kPa.
Grapes	1.6 – 8.6 (directed spray)	14	3	Annual and perennial weeds	Remove all sucker growth from the spray zone before spraying, except for the Concord variety of grape. Suckering should be conducted within 2 weeks prior to application. Do not apply to vines which have been established less than 3 years.
Apples, Grapes	1.6 – 8.6 (directed spray) + Simazine 2.0 – 4.5 kg ai/ha	-	1	Annual and perennial weeds	Will provide season-long preemergent control. Do not apply to coarse, sandy or gravelly soil. Use according to the more restrictive label directions for each product in the mix. Do not apply to vines which have been established less than 3 years.
Highbush (cultivated) Blueberry	2.0 – 4.0 (directed spray)	30	1	Quack grass	Use as a directed spray, with no more than 275 kPa pressure.
Lowbush Blueberry	0.7 – 1.4% solution (spot treatment)	Apply in non-bearing year only	1	Wood brush	Apply as directed spray in mid-summer of the vegetative (non-bearing) year. See Agricultural Use section in booklet for

<b>WEED CONTROL IN TREE, VINE and BERRY CROPS</b>					
<b>Crop</b>	<b>Rate (L/ha)</b>	<b>Pre-Harvest Interval (days)</b>	<b>Max. App. per year</b>	<b>Weeds Controlled</b>	<b>Comments</b>
					instructions on spot treatments.
Filberts, Hazelnut (established plantations)	1.8 – 2.5 (directed spray)	14	-	Annual weeds	Use as a directed spray with no more than 275 kPa pressure.
Walnut, Chestnut, Japanese heartnut	1.6 – 8.6 (directed spray)	-	2	Annual and perennial weeds	Apply late spring and fall post-harvest but prior to a killing frost. Apply in 200-300 L water as a directed spray using no more than 275 kPa pressure. Apply alternatively as a 1.4% wiper solution. See Application Equipment section in booklet for instructions on wiper application.
Cranberry	15% Solution (0.7 L TOUCHDOWN TOTAL Herbicide + 4 L water)	50	1	Annual and perennial weeds	Apply using wick or wiper applicators. See Application Equipment section for instructions on wiper applications.
Strawberry	0.7 – 1.4% solution (spot treatment) 21% solution (wiper application)	30	1	Emerged perennial weeds	Apply when weeds are at a susceptible growth stage. See Agricultural Use section for instructions on spot treatments. See Application Equipment section for instructions on wiper applications.
Sugar beets	0.7 – 1.4% solution (spot treatment)	Treated crop MUST NOT be harvested	1	Dodder species	Apply when dodder is vigorously growing but before flowering. See Agricultural Use section for instructions on spot treatments.
Asparagus	0.9 – 1.8	7	1	Fall seeded rye grass	Apply in spring before emergence of crop shoots.

## **USE RATES**

TOUCHDOWN TOTAL Herbicide applied alone will not control glyphosate tolerant volunteer crops.

Results are best when weeds are actively growing. If weeds have been mowed, allow to return to optimum growth stages.

Delay application until vegetation has emerged to the stages described for control of such vegetation under the Annual and Perennial Weed Control tables of this booklet to provide adequate leaf surface to receive the spray. Non-emerged plants arising from underground rhizomes or rootstocks of perennials will not be affected by the spray and will continue to grow. For this reason, best control of most perennial weeds is obtained when treatment is made at late growth stages approaching maturity.

Always use the higher rate of TOUCHDOWN TOTAL Herbicide 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.

TOUCHDOWN TOTAL Herbicide may be used with the following surfactants: AGRAL 90 or Ag-Surf<sup>®</sup>. Always refer to surfactant label for specific instructions regarding use of that product.

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

Do not mix with any surfactant, pesticide, herbicide, oil 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.

## **ANNUAL WEED CONTROL**

TOUCHDOWN TOTAL Herbicide applied alone will not control glyphosate tolerant volunteer crops.

Allow at least one day after treatment before conducting tillage.

Annual weeds will continue to germinate from seed throughout the growing season. It may be necessary to conduct repeat applications to control later germinating weeds.

ANNUAL WEED CONTROL					
Equipment	Weeds Controlled	Growth Stage	Rate L/ha	Water Volume L/ha	Comments
Boom or Boomless	Wild oats, green foxtail, volunteer cereals, non-glyphosate tolerant volunteer canola, wild mustard, lady's-thumb, stinkweed	Weeds up to 8 cm in height	0.50	50-100	For wild oats, apply at 1-3 leaf stage. Add 350 mL of a surfactant registered for use such as AGRAL 90 or Ag-Surf. For heavy wild oat infestations, use 0.7 L/ha rate.
Boom or Boomless	All annual grasses listed above plus foxtail barley* (suppression only) All annual broad leaved weeds listed above plus flixweed** and kochia**	Weeds 8 cm to 15 cm	0.70	50-100	Add 350 mL of surfactant registered for use as listed above.  *Apply before initiation of seed-head or senescence of the lower leaves.  **Suppression only. Refer to higher rates of this table or tank mix table for control options.
Boom or Boomless	All annual grasses listed above plus downey brome, giant foxtail and persian danel All annual broadleaved weeds listed above plus cleavers, lamb's-quarters, redroot pigweed, hemp-nettle, flixweed, Russian thistle, volunteer flax, common ragweed*, Canada fleabane*, wild buckwheat**, narrow-leaved hawk's-beard***	Weeds up to 15 cm in height	0.9 – 1.4	50-100	No additional surfactant required.  For tankmix weed control see Tank Mix chart.  * DO NOT use these rates on plants greater than 8 cm in height.  ** For 3-4 leaf stage, use 1.4 L/ha rate.  *** For weeds 8 cm to 15 cm in height, use 1.4 L/ha.
	All annual grasses listed above plus crabgrass and annual blue grass. All annual broadleaved weeds listed above plus kochia, prickly lettuce, shepherd's-purse, annual sowthistle, and narrow-leaved vetch	Weeds up to 15 cm in height	1.6	50-100	* For additional annual broadleaved weed control options, refer to Tank Mix chart.
	All annual grasses and broadleaved weeds listed above plus woolly cup grass	Weeds over 15 cm in height	2.5	50-100	* For additional annual broadleaved weed control options, refer to Tank Mix chart.

ANNUAL WEED CONTROL					
Equipment	Weeds Controlled	Growth Stage	Rate L/ha	Water Volume L/ha	Comments
Wipers and Wicks	Green foxtail, wild oats, volunteer barley, volunteer corn, lamb's-quarters	Weeds to be at least 15 cm above desirable vegetation	0.7	2	This mixture is a 41% solution. Contact point for wiper or wick must be at least 5 cm above desirable vegetation. In severe weed infestations, reduce ground speed to ensure adequate control. See Application Equipment section for instructions on wiper and wick application.
Rollers	Green foxtail, wild oats, volunteer barley, volunteer corn, lamb's-quarters	Weeds to be at least 15 cm above desirable vegetation	0.35 – 0.70	10	This mixture is a 3.5 – 7.0% solution. Roller speed 50 - 150 rpm.  See Application Equipment section for instructions on roller application.

ANNUAL WEED CONTROL TANK MIXTURES FOR SUMMERFALLOW AND MINIMUM TILL				
TANK MIXTURES	RATE L/ha	WEEDS CONTROLLED <sup>1</sup>	WATER VOLUME <sup>3</sup> L/ha	COMMENTS
TOUCHDOWN TOTAL Herbicide + Dicamba (480 g/L formulation)	0.50-0.70 + 0.29	Volunteer cereals, wild oats, green foxtail  Non-glyphosate tolerant volunteer canola, wild mustard, flixweed*, lamb's-quarters, lady's-thumb, stinkweed, kochia, Russian thistle, cow cockle, redroot pigweed**, wild buckwheat**	50-100	<b>This tankmix is registered for summerfallow use only.</b>  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.  *TOUCHDOWN TOTAL Herbicide applied at 0.70 L/ha rate only.  **Suppression only. See other tank mixtures for control options.

ANNUAL WEED CONTROL TANK MIXTURES FOR SUMMERFALLOW AND MINIMUM TILL				
TANK MIXTURES	RATE L/ha	WEEDS CONTROLLED <sup>1</sup>	WATER VOLUME <sup>3</sup> L/ha	COMMENTS
TOUCHDOWN TOTAL Herbicide + 2,4-D Amine <sup>2</sup>	0.50-0.70  + 1.2	Volunteer cereals, wild oats* and green foxtail*, non-glyphosate tolerant volunteer canola, wild mustard, flixweed, redroot pigweed, lady's-thumb, stinkweed, kochia, lamb's-quarters**, Russian thistle**	50-100	<b>This tank mix is registered for summerfallow use only.</b>  Weeds should be less than 15 cm tall and actively growing for best results.  Use higher rate if weeds are beyond 8 cm in height.  * Use TOUCHDOWN TOTAL Herbicide at 0.70 L/ha rate only for wild oat and green foxtail control.  **Suppression only. See other tank mixtures for control options.
TOUCHDOWN TOTAL Herbicide + Pardner	0.50–0.70  + 1.25	Volunteer cereals, green foxtail, non-glyphosate tolerant volunteer canola, wild mustard, lady's-thumb, stinkweed, wild buckwheat*  Redroot pigweed**, kochia**, wild oats**	50-100	<b>This tank mix is registered for use in summerfallow, and prior to wheat, barley and oats in minimum tillage systems.</b>  Weeds should be less than 15 cm tall and actively growing for best results.  Use the higher rate if weeds are beyond 8 cm in height.  * Use TOUCHDOWN TOTAL Herbicide at 0.70 L/ha rate only for wild buckwheat control.  ** 0.70 L rate, suppression only. See other tank mixtures for control options.

ANNUAL WEED CONTROL TANK MIXTURES FOR SUMMERFALLOW AND MINIMUM TILL				
TANK MIXTURES	RATE L/ha	WEEDS CONTROLLED <sup>1</sup>	WATER VOLUME <sup>3</sup> L/ha	COMMENTS
TOUCHDOWN TOTAL Herbicide + Express Toss-N-Go	0.9 + 10 g/ha	Volunteer cereals, non-glyphosate tolerant volunteer canola, green foxtail, giant foxtail, hemp-nettle, persian darnel, kochia, lady's-thumb, lamb's-quarters, stinkweed, wild buckwheat, wild mustard, wild oats, Canada fleabane, Canada thistle* (top growth), common ragweed, cow cockle, downy brome, flixweed, dandelion (top growth) narrow-leaved hawk's-beard, Russian thistle, redroot pigweed	50 - 100	<p><b>This tank mix is registered for use in summerfallow only.</b></p> <p>* Suppression only. See other tank mixtures for control options.</p> <p>Allow at least 10 days before tillage in summerfallow.</p> <p>Refer to Express Toss-N-Go label for the appropriate weed growth stage.</p> <p>This tank mix is for use in the Prairie provinces and the Peace River region of British Columbia only.</p>
TOUCHDOWN TOTAL Herbicide + 2,4-D Amine <sup>2</sup>	0.90 – 1.40 + 0.60 – 0.90 <sup>4</sup> or 1.2 – 1.5 <sup>5</sup>	<p>Volunteer cereals, wild oats, green foxtail, downy brome, giant foxtail, and Persian Darnel</p> <p>Non-glyphosate tolerant volunteer canola, wild mustard, flixweed, redroot pigweed, lady's-thumb, stinkweed, kochia, lamb's-quarters, hemp-nettle, Russian thistle, volunteer flax, common ragweed*, Canada fleabane, wild buckwheat**, narrow-leaved hawk's-beard***</p> <p>Bluebur<sup>4</sup>, burdock<sup>4</sup>, cocklebur<sup>4</sup>, broad-leaved plantain<sup>4</sup>, daisy-fleabane<sup>4</sup>,</p>	50-100	<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>No surfactant required.</p> <p>*DO NOT use these rates on plants greater than 8 cm in height.</p> <p>**For 3-4 leaf stage, use 1.4 L rate.</p> <p>***For weeds 8 cm to 15 cm in height, use 1.4 L rate.</p> <p>Use this tank mix prior to seeding or after seeding but before crop emergence in wheat, winter wheat, barley and rye.</p>



ANNUAL WEED CONTROL TANK MIXTURES FOR SUMMERFALLOW AND MINIMUM TILL				
TANK MIXTURES	RATE L/ha	WEEDS CONTROLLED <sup>1</sup>	WATER VOLUME <sup>3</sup> L/ha	COMMENTS
		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>  Annual sowthistle <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> , 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> , sheep sorrel <sup>5</sup> , smartweed <sup>5</sup> , tumble pigweed <sup>5</sup> , velvetleaf <sup>5</sup> , volunteer canola <sup>5</sup>		

ANNUAL WEED CONTROL TANK MIXTURES FOR SUMMERFALLOW AND MINIMUM TILL				
TANK MIXTURES	RATE L/ha	WEEDS CONTROLLED <sup>1</sup>	WATER VOLUME <sup>3</sup> L/ha	COMMENTS
TOUCHDOWN TOTAL Herbicide  + Express Toss-N-Go  + AGRAL 90	0.50 - 0.70  + 10 g/ha  + 0.35% v/v	Non-glyphosate tolerant volunteer canola, green foxtail, kochia, lady's-thumb, lamb's-quarters, stinkweed, wild buckwheat, wild mustard, wild oats, Canada thistle (top growth)*, ** dandelion (top growth)*, narrow-leaved hawk's-beard**, Russian thistle**, redroot pigweed**	50 - 100	<p><b>This tank mix is registered for use in summerfallow, and prior to spring wheat (including durum) and barley in minimum tillage systems.</b></p> <p>* Use TOUCHDOWN TOTAL Herbicide at 0.70 L/ha.</p> <p>** Suppression only. See other tank mixtures for control options.</p> <p>Spring wheat or spring barley may be seeded 24 hours after application.</p> <p>Allow at least 10 days before tillage in summerfallow.</p> <p>This tankmix is for use in the Prairie provinces and the Peace River region of British Columbia only.</p> <p>Refer to Express Toss-N-Go label for the appropriate weed growth stage.</p>

ANNUAL WEED CONTROL TANK MIXTURES FOR SUMMERFALLOW AND MINIMUM TILL				
TANK MIXTURES	RATE L/ha	WEEDS CONTROLLED <sup>1</sup>	WATER VOLUME <sup>3</sup> L/ha	COMMENTS
TOUCHDOWN TOTAL Herbicide + MCPA <sup>6</sup> 500 g/L formulation  If another formulation is used, adjust rate accordingly.	0.90 – 1.4  + 0.5 – 0.7 <sup>7</sup>  OR  0.5 – 1.0 <sup>8</sup>	Volunteer cereals, wild oats, green foxtail, downy brome, giant foxtail, and Persian darnel  Volunteer canola (non-glyphosate tolerant), wild mustard, flixweed, redroot pigweed, lady's-thumb, stinkweed, kochia, lamb's-quarters, hemp-nettle, Russian thistle, volunteer flax, common ragweed*, Canada fleabane, wild buckwheat**. Narrow-leaved hawk's-beard***  bluebur <sup>9</sup> , burdock <sup>9</sup> (before 4 leaf stage), false flax <sup>9</sup> , flixweed <sup>9</sup> , lamb's-quarters <sup>9</sup> , mustards <sup>9</sup> (except dog and tansy), prickly lettuce <sup>9</sup> , ragweeds <sup>9</sup> , redroot pigweed <sup>9</sup> , Russian pigweed <sup>9</sup> , shepherd's-purse <sup>9</sup> , stinkweed <sup>9</sup> (field and pennycress), vetch <sup>9</sup> , wild radish <sup>9</sup> , wild sunflower <sup>9</sup>	50 - 100	Weeds should be less than 15 cm tall and actively growing for best results.  Use higher rate if weeds are beyond 8 cm in height.  No surfactant required.  *DO NOT use these rates on plants greater than 8 cm in height.  **For 3-4 leaf stage, use 1.4 L/ha rate.  ***For weeds 8 cm to 15 cm in height, use 1.4 L/ha rate.  Use this tankmix prior to seeding in <b>wheat, barley, rye, oats, corn (field and sweet), flax and field peas.</b>
TOUCHDOWN TOTAL Herbicide + Buctril M Herbicide	0.90 – 1.4  +  0.5 – 1.0 <sup>10</sup>	Volunteer cereals, wild oats, green foxtail, downy brome, giant foxtail, and Persian darnel  Volunteer canola (non-glyphosate tolerant), wild mustard, flixweed, redroot pigweed, lady's-thumb, stinkweed, kochia,	50 - 100	Weeds should be less than 15 cm tall and actively growing for best results.  Use higher rate if weeds are beyond 8 cm in height.  No surfactant required.  *DO NOT use these rates on plants greater than 8 cm in height.  **For 3-4 leaf stage, use 1.4 L/ha rate.

ANNUAL WEED CONTROL TANK MIXTURES FOR SUMMERFALLOW AND MINIMUM TILL				
TANK MIXTURES	RATE L/ha	WEEDS CONTROLLED <sup>1</sup>	WATER VOLUME <sup>3</sup> L/ha	COMMENTS
		<p>lamb's-quarters, hemp-nettle, Russian thistle, volunteer flax, common ragweed*, Canada fleabane, wild buckwheat**. Narrow-leaved hawk's beard***</p> <p>Seedlings up to the 4-leaf stage<sup>11</sup>: green smartweed, pale smartweed, lady's-thumb, cow cockle, redroot pigweed, flixweed, bluebur, shepherd's-purse, kochia<sup>12</sup>, Russian thistle<sup>12</sup>, scentless chamomile<sup>13</sup>, volunteer sunflower, night-flowering catchfly, cocklebur, velvetleaf<sup>14</sup>, ball mustard, American Nightshade</p> <p>Seedlings up to the 6-leaf stage<sup>11</sup>: wild tomato</p> <p>Seedlings up to the 8-leaf stage<sup>11</sup>: wild buckwheat, tartary buckwheat, common buckwheat, stinkweed, wild mustard, wormseed mustard, lamb's-quarters, common ragweed, common groundsel</p> <p>Perennials (top growth)<sup>11</sup>: Canada thistle, perennial sowthistle</p>		<p>***For weeds 8 cm to 15 cm in height, use 1.4 L/ha rate.</p> <p>Use this tankmix prior to seeding in <b>wheat, barley, rye, oats, corn, flax, canary seed and seedling grasses (including brome grass, crested wheatgrass, intermediate wheatgrass, 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 streambank wheatgrass and reed canary grass).</b></p>

ANNUAL WEED CONTROL TANK MIXTURES FOR SUMMERFALLOW AND MINIMUM TILL				
TANK MIXTURES	RATE L/ha	WEEDS CONTROLLED <sup>1</sup>	WATER VOLUME <sup>3</sup> L/ha	COMMENTS
TOUCHDOWN TOTAL Herbicide + MCPA <sup>15</sup> 500 g/L formulation  If another formulation is used, adjust rate accordingly.	0.90 – 1.4  + 0.5 – 0.7	Volunteer cereals, wild oats, green foxtail, downy brome, giant foxtail, and Persian darnel  Volunteer canola (non-glyphosate tolerant), wild mustard, flixweed, redroot pigweed, lady's-thumb, stinkweed, kochia, lamb's-quarters, hemp-nettle, Russian thistle, volunteer flax, common ragweed*, Canada fleabane, wild buckwheat**. Narrow-leaved hawk's-beard***  Bluebur <sup>16</sup> , burdock <sup>16</sup> (before 4 leaf stage), false flax <sup>16</sup> , flixweed <sup>16</sup> , lamb's-quarters <sup>16</sup> , mustards <sup>16</sup> (except dog and tansy), prickly lettuce <sup>16</sup> , ragweeds <sup>16</sup> , redroot pigweed <sup>16</sup> , Russian pigweed <sup>16</sup> , shepherd's-purse <sup>16</sup> , stinkweed <sup>16</sup> (field and pennycress), vetch <sup>16</sup> , wild radish <sup>16</sup> , wild sunflower <sup>16</sup>	50 - 100	Weeds should be less than 15 cm tall and actively growing for best results.  Use higher rate if weeds are beyond 8 cm in height.  No surfactant required.  *DO NOT use these rates on plants greater than 8 cm in height.  **For 3-4 leaf stage, use 1.4 L/ha rate.  ***For weeds 8 cm to 15 cm in height, use 1.4 L/ha rate.  Use this tankmix prior to seeding in <b>lentils and chickpeas.</b>

<sup>1</sup>For foxtail barley suppression, refer to "Perennial Weed Control" table.

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

<sup>3</sup>Add 350 mL/ha of adjuvant.

<sup>4</sup>2,4-D at 0.6 – 0.9 L/ha (280 – 420 g ai/ha).

<sup>5</sup>2,4-D at 1.2 – 1.5 L/ha (560 – 700 g ai/ha).

<sup>6</sup>Use only amine formulations of MCPA prior to corn and field peas.

<sup>7</sup>MCPA amine at 0.5 – 0.7 L/ha (250-350 g ai/ha) prior to peas.

<sup>8</sup>MCPA at 0.5 – 1.0 L/ha (250 - 500 g ai/ha) prior to wheat, barley, oats, corn (field and sweet), rye and flax.

<sup>9</sup>MCPA at 0.7 – 1.0 L/ha (350 - 500 g ai/ha) only.

<sup>10</sup>Buctril M at 0.5 – 1.0 L/ha (280-560 g ai/ha) for all crops listed.

<sup>11</sup>Buctril M at 1.0 L/ha (560 g ai/ha only).

<sup>12</sup>Spray before plants are 5 cm high.

<sup>13</sup>Spring annuals only.

<sup>14</sup>Spray before plants are 8 cm high.

<sup>15</sup>MCPA amine at 0.5 – 0.7 L/ha (250-350 g ai/ha) prior to seeding in lentils and chickpeas.

<sup>16</sup>MCPA amine at 0.7 L/ha (350 g ai/ha) only.

## PERENNIAL WEED CONTROL

**Weed Stages:** Weeds must be at the proper stage for effective control. Refer to “**PERENNIAL WEED CONTROL**” Table.

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

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

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

**Tillage Effects:** Fall or spring tillage prior to spring applications and tillage between harvesting and fall applications will reduce the effectiveness on perennial weeds. Follow-up tillage after application should be delayed 5 to 10 days for best results. See “**Weed Control**” tables for specific tillage interval for each weed.

**Rainfall Effects:** Heavy rainfall immediately after application may wash the chemical off the foliage and a repeat treatment may be required to control weeds regenerating from seeds or other underground parts. Do not apply if rainfall is forecast for the time of application.

**Regrowth from Germinating Seeds:** This product only 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.

PERENNIAL WEED CONTROL					
Equipment	Weeds Controlled	Growth Stage	Rate L/ha	Water Volume L/ha	Comments
Boom or Boomless	Field Bindweed	Full bloom or beyond	5.0 – 8.6	100 to 300	Allow 7 days or more after application before tillage.
	Common Milkweed	Bud to full bloom (preharvest)	1.8	50 - 100	Spot treatment rate is 85 mL per 5 L water/100 m <sup>2</sup> and spray to wet not runoff.
		Bud to full bloom for most shoots	8.6	100 to 300	Reduced results may occur if sprayed after full bloom.  Common milkweed may not all be in the correct stage, therefore, repeat treatment may be required.  Allow 7 days or more after application before tillage.
	Quack Grass Spring Application (no fall tillage)	3 to 4 green leaves (approx. 20 cm high)	1.8	50 to 300	Season long control.  At higher water volumes (i.e. 150 – 300 L/ha), use an approved surfactant at 0.5% v/v (0.5 L per 100 L clean water).  Allow 3 days after application before tillage.
	Quack Grass Spring Application (fall-tilled land)	4-5 green leaves (approx. 20 cm high)	1.8	50 to 300	Season long control.  Apply in spring prior to seeding. Growth stage usually reached 1 to 4 weeks later on land that has been fall-tilled.  Reduced control may result on land tilled deeper than 15 cm.

PERENNIAL WEED CONTROL					
Equipment	Weeds Controlled	Growth Stage	Rate L/ha	Water Volume L/ha	Comments
	Quack Grass Fall Application	3-5 green leaves (approx. 20 cm high)	1.8	50 to 300	<p>For season long control the following year.</p> <p>Do not till between harvest and application. Allow 5 days or more after application before tillage.</p> <p>Rates higher than 1.8 L/ha will provide more consistent, longer term control, especially with heavier infestations and/or higher water volumes (i.e. 150 – 300 L/ha).</p>
			1.8 – 5.0	50 to 300	<p><b>LONG TERM CONTROL</b> Reduced control may result if rhizomes have become dormant due to poor sod or land has not been tilled for several years.</p> <p>Treatment after a mild frost is possible if 3-4 leaves are still green and actively growing but not after a heavy frost.</p> <p>Straw should be removed or evenly spread to allow re-growth and adequate spray coverage.</p>



PERENNIAL WEED CONTROL					
Equipment	Weeds Controlled	Growth Stage	Rate L/ha	Water Volume L/ha	Comments
Boom and Boomless	Canada Thistle	Bud stage or beyond	3.4 – 5.0	100 to 300	Allow 5 days after application before tillage.
		Rosette stage (summerfallow)	1.8	50 to 100	<p>Heavy frost prior to application may decrease control.</p> <p>Ensure proper growth stage by performing last summerfallow tillage between July 15 and August 1st. Allow re-growth for minimum of 5 weeks to reach rosette stage and a minimum of 15 cm in diameter.</p> <p>Allow 10 days after application before tillage.</p> <p>Treatment after mild frost is possible if leaves are still green and actively growing but not after heavy damaging frost.</p> <p>Refer to “CANADA THISTLE TOUCHDOWN TOTAL Herbicide plus Dicamba” section.</p>
Boom and Boomless	Toadflax	Vegetative Stage (summerfallow)  Bud to full bloom (preharvest)	1.8	50 - 100	<p>Allow 7 or more days after treatment before tillage in summerfallow.</p> <p>Vegetative Stage: Ensure proper growth stage by performing last summerfallow tillage between July 10<sup>th</sup> and July 21<sup>st</sup>. Allow re-growth for a minimum of 4 to 5 weeks to reach rosette stage and a minimum of 15 cm in diameter and at a lush green vegetative stage.</p> <p>Treatment after mild frost is possible if leaves are still green and actively growing but not after heavy damaging frost.</p>

PERENNIAL WEED CONTROL					
Equipment	Weeds Controlled	Growth Stage	Rate L/ha	Water Volume L/ha	Comments
Boom and Boomless	Alfalfa	Early bud to full bloom stage  Fall applications only	2.7 – 3.6	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 "ALFALFA - TOUCHDOWN TOTAL Herbicide plus 2,4-D" section.
Boom and Boomless	Dandelion	< 15 cm  > 15 cm  Rosette to full bloom (preharvest)	1.8  2.7 – 3.6  1.8	50 – 100  50 – 300  50 - 300	Allow 3 or more days after treatment before tillage for all rates.  Use the higher rate when infestations are heavy. Refer to "Dandelion" notes for more information.  Allow 7 or more days after treatment before tillage. For more information, see "Preharvest Use" section.
Boom and Boomless	Foxtail Barley	Seeding to heading	1.8 – 3.6	50 - 100	Allow a minimum of 1 day after treatment before tillage or seeding.  Use higher rates for larger, more established plants, heavy infestations or if plants are stressed.
Boom or Boomless	Wirestem muhly, alfalfa, broad-leaved plantain, Canada goldenrod, horsetail, mouse-eared chickweed, sheep sorrel and wild grape  Redtop, orchard grass, colt's-foot, dandelion, grass-leaved stitchwort, Jerusalem artichoke, round-leaved mallow, smooth bedstraw, stork's-bill, white clover and wild carrot		1.6 – 3.2  3.2 – 5.0	100-300  100-300	Use higher rate for weeds beyond 8 cm in height or in heavy weed infestation.  Allow 7 days after application before tillage.  Use higher rate for weeds beyond 8 cm in height or in heavy weed infestation.  Allow 7 days after application before tillage.

PERENNIAL WEED CONTROL					
Equipment	Weeds Controlled	Growth Stage	Rate L/ha	Water Volume L/ha	Comments
Boom or Boomless	Other Perennial Weeds	Early heading or early bud stage (See Weeds Controlled Section)	5.0 – 8.6	100-300	Use higher rate for weeds beyond 8 cm in height or in heavy weed infestation.  Allow 7 days after application before tillage.  TOUCHDOWN TOTAL Herbicide rate is equivalent to 50-86 mL/100 m <sup>2</sup> .
Wiper and Wicks	Canada Thistle, milkweed, quack grass, cottontop	Weeds to be at least 15 cm above desirable vegetation	0.70	2	See Application Equipment section for instructions on Wiper and Wick Application.
Rollers	Canada Thistle, milkweed, quack grass, cottontop	Weeds to be at least 15 cm above desirable vegetation	0.35 – 0.70	10	This mixture is a 3.5 - 7% solution. See Application Equipment section for instructions on Roller Application.  This treatment will only <b>suppress perennial weeds contacted</b> .  Roller speed 50-150 rpm.

### CANADA THISTLE

#### **TOUCHDOWN TOTAL Herbicide plus Dicamba (480 g/L)**

For control of Canada thistle (and perennial sowthistle) in summerfallow or in post-harvest stubble, apply 1.2 litres per hectare TOUCHDOWN TOTAL Herbicide plus 1.25 litres per hectare dicamba (480 g/L formulation) in 100 – 200 litres per hectare of clean water. In addition, add 350 millilitres per hectare of a non-ionic surfactant registered for use with this product, such as AGRAL 90 or Ag Surf. For best results in summerfallow, cultivate in the spring and apply when the majority of Canada thistle and perennial sowthistle are 15 centimetres to 25 centimetres tall and before the bud stage. Cultivate 3 weeks after application.

In postharvest stubble, apply this tank mixture to actively growing Canada thistle and perennial sowthistle at least 2 weeks prior to a killing frost.

**NOTE:** Grow only cereals, canola, 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.

## **ALFALFA**

### **TOUCHDOWN TOTAL Herbicide plus 2,4-D**

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

For fall control of established stands of alfalfa, apply 1.8 – 3.6 litres per hectare TOUCHDOWN TOTAL Herbicide and 1.2 to 2.4 litres per hectare of any 500 grams per litre 2,4-D amine or low volatile ester formulation in 100 to 200 litres of water per hectare. (Adjust product rates accordingly for other 2,4-D formulations). For spring applications, use only the low rate of 2,4-D (i.e., 1.2 litres per hectare) and 1.8 – 3.6 litres per hectare TOUCHDOWN TOTAL 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 TOUCHDOWN TOTAL Herbicide rates when perennial grasses are prevalent.

### **APPLICATION EQUIPMENT (Mixing and Application Instructions)**

#### **AERIAL Equipment**

AERIAL APPLICATION IS A RESTRICTED USE. FOLLOW DIRECTIONS IN “RESTRICTED USE - PREHARVEST AERIAL APPLICATION FOR SALE FOR USE IN THE PRAIRIE PROVINCES ONLY (including PEACE RIVER REGION OF B.C.)”

#### **BOOM (Ground Boom) and BOOMLESS Equipment:**

#### **Mixing**

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

If tank mixing, use the following mixing order:

1. Fill the spray tank with  $\frac{1}{2}$  the required amount of water.
2. Add any WG or DF formulation mix partners, and agitate to ensure complete mixing.
3. Add any suspension concentrate (SC) formulation mix partners, and agitate to ensure complete mixing.
4. Add the required non-ionic surfactant, if using PRIMEXTRA II Magnum Agricultural Herbicide as a tank-mix partner and agitate to ensure complete mixing.
5. Add any emulsifiable concentrate (EC) formulation mix partners and agitate to ensure complete mixing.
6. Fill the tank to  $\frac{3}{4}$  the required amount of water.
7. Add any solution (SN) formulation mix partners and agitate to ensure complete mixing.
8. Add TOUCHDOWN TOTAL Herbicide.
9. Finish filling the sprayer with water, maintaining gentle agitation.

## **Application**

Use flat fan nozzles in boom sprayers. To control perennial weeds, apply TOUCHDOWN TOTAL Herbicide in 50 to 300 L of water per hectare as a broadcast spray. Use no more than 275 kPa pressure.

To control annual weeds as listed, apply TOUCHDOWN TOTAL Herbicide in 50 L to 100 L of water per hectare as a broadcast spray. Use no more than 275 kPa pressure.

## **KNAPSACK SPRAYERS HAND HELD AND HIGH VOLUME EQUIPMENT**

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

## **Mixing**

Mix the proper amount of TOUCHDOWN TOTAL Herbicide with water in a larger container. Fill the sprayer with the mixed solution.

Unless otherwise stated, make a 0.7% solution of TOUCHDOWN TOTAL Herbicide in water (0.7 L of TOUCHDOWN TOTAL Herbicide in 100 L of water). A 1.4% solution (1.4 L of TOUCHDOWN TOTAL Herbicide in 100 L of water) should be used on harder to control perennials.

## **Application**

Spray coverage should be uniform and complete. Apply on a spray-to-wet basis. Do not spray to the point of run-off. Handgun application should be properly directed to avoid spraying desirable plants.

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

These applicators apply TOUCHDOWN TOTAL Herbicide solution directly onto the weeds by contacting the weed with an absorbent material containing the herbicide solution. The weeds must be above any desired vegetation to prevent contact with the desired vegetation.

## **Mixing**

Mix the proper amount of TOUCHDOWN TOTAL Herbicide with water in a larger container. Use this mixed solution in the wiper, wick or roller equipment.

## **Application**

These applicators can be used to control weeds in the following agricultural crops: apple, cherry, peach, apricot, pear and plum orchards, grape vineyards and cranberries.

The applicator should be adjusted so that the contact point of the wiper, roller or wick is at least 5 cm above the desirable vegetation. Droplets or foam of the TOUCHDOWN TOTAL Herbicide solution settling on desirable vegetation may result in discolouration, stunting or destruction.

Weeds should be a minimum of 15 cm above the desired vegetation.

Best results may be obtained if two applications are made in opposite directions where possible. Otherwise, best results may be obtained when more of the weed is exposed to TOUCHDOWN TOTAL Herbicide Solution.

Weeds not contacted will not be affected. This may occur in dense clumps, severe infestation, or when the height of the weeds varies so that not all weeds are contacted. In these instances, a repeat treatment may be necessary.

AVOID CONTACT WITH DESIRABLE VEGETATION.

**Application Notes:**

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

**NOTE TO BUYER/USER: READ THE FOLLOWING BEFORE USING THIS PRODUCT FOR SPECIAL USE APPLICATIONS:**

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

Accordingly, the Buyer and User assume all risks related to performance and crop tolerance arising, and agree to hold Syngenta Canada Inc. harmless from any claims based on efficacy or phytotoxicity in connection with the use on North American Ginseng.

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

**NEW GARDENS (BRITISH COLUMBIA ONLY):** Apply TOUCHDOWN TOTAL Herbicide in the fall after seeding but before freeze-up in new gardens only, to control volunteer grain. Apply when weeds are at the growth stage described on the label. Use one application at 1.8 L/ha in 50 to 100 L of water per hectare. **DO NOT EXCEED RATE OR SPRAY VOLUMES OR CROP INJURY MAY RESULT.** TOUCHDOWN TOTAL Herbicide is a non-selective herbicide and may cause crop damage if in contact with actively growing ginseng foliage. **DO NOT USE A FALL APPLICATION IN EXISTING/ESTABLISHED GARDENS.**

**EXISTING/ESTABLISHED GARDENS:** Apply TOUCHDOWN TOTAL Herbicide in the spring before the crop has emerged above the soil. Apply when weeds are at the growth stage described on the label. Use up to two applications at 1.8 L/ha in 50 to 100 L of water per hectare. **DO NOT EXCEED RATE OR SPRAY VOLUMES OR CROP INJURY MAY RESULT.** TOUCHDOWN TOTAL Herbicide is a non-selective herbicide and may cause crop damage if in contact with actively growing ginseng foliage. **DO NOT USE A FALL APPLICATION IN EXISTING/ESTABLISHED GARDENS.**

**AERIAL APPLICATION**

**Aerial application can only be used in preharvest situations. Refer to information below for further directions, precautions and restrictions.**

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

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

Ensure uniform application. To avoid streaked, uneven or overlapped application, use appropriate marking devices.

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

### Use Precautions

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

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

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

### Operator Precautions

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

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

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

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

### Product Specific Precautions

Read and understand the entire label before opening this product. If you have questions, call the manufacturer at 1-87-SYNGENTA (1-877-964-3682) or obtain technical advice from the distributor or your provincial agricultural representative.

### Use Precautions

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

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



Do not apply when other climatic conditions, including lesser wind velocities, will allow significant drift to occur. Coarse sprays are less likely to drift, therefore do not use nozzles or nozzle configurations which disperse spray as fine spray droplets. Do not angle nozzles forward into the airstream and do not increase spray volume by increasing nozzle pressure. See number 1 under "Nature of Restrictions" for additional details.

**Do not overspray or allow drift onto bodies of water, wetlands<sup>1</sup> and/or wetland vegetation (eg. sloughs, swamps, bogs, marshes, potholes), shelterbelts, woodlots and other cover on the edge of fields, for all aerial application uses outlined in this label.**

Do not apply directly to roadside ditches, or apply under conditions that would favour drift into roadside ditches.

<sup>1</sup>A wetland is any land where the water table stands at or above the land surface for at least part of the year, and contains vegetation associated with wetlands such as bulrushes, sedges, cattails, etc.

**Ensure uniform application.** To avoid streaked, uneven or overlapped application, use appropriate marking devices or equivalent electronic positioning systems (GPS).

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

### **Buffer Zones**

**DO NOT** apply during periods of dead calm or when winds are gusty.

Aerial application: **DO NOT** apply when average wind speed is greater than 16 km/h. **DO NOT** apply with spray droplets smaller than the ASAE coarse classification.

Do not directly apply to any aquatic habitats that are traversed by the right of way.

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), sensitive freshwater habitats (such as lakes, rivers, sloughs, ponds, Prairie potholes, creeks, marshes, streams, reservoirs and wetlands), and estuarine/marine habitats.

Use	Method of application	Buffer zone (metres) required for the protection of:	
		Freshwater habitat	Terrestrial habitat
Pre-harvest application on wheat, barley, oats, canola (including glyphosate tolerant canola), flax (including low linolenic acid varieties), lentils, peas, dry beans, forages and soybeans (including glyphosate tolerant soybeans)	Aerial-restricted use	25	55

### RESTRICTED USE

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

Refer to and observe general directions and precautions concerning aerial application, including **Buffer Zone** section.

**DIRECTIONS FOR USE**

TOUCHDOWN TOTAL Herbicide may be applied with aerial application equipment for control of quack grass, Canada thistle, common milkweed, toadflax and dandelion, and season-long control of perennial sowthistle. TOUCHDOWN TOTAL Herbicide can be applied prior to harvest of wheat, barley, oats, canola (including glyphosate tolerant canola), flax (including low linolenic acid varieties), lentils, peas, dry beans, forages and soybeans (including glyphosate tolerant 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.

TOUCHDOWN TOTAL Herbicide should be applied at 1.8 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. For forage crops, apply this product at 1.8 to 3.6 litres per hectare 3 to 7 days prior to the last cut before rotation or forage renovation. Consult the table "Guidelines for Timing of Preharvest Applications" for visual indicators of this stage in each crop. For the best weed control results, quack grass should be actively growing and have at least 4 to 5 green leaves. Canada thistle and perennial sowthistle 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 14 days for glyphosate tolerant soybeans) 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.

Forage can be harvested as hay, haylage or grazed.

**GUIDELINES FOR TIMING OF PREHARVEST APPLICATIONS**

<b><u>CROP(S)</u></b>	<b><u>VISUAL SYMPTOMS (grain moisture is less than 30%)</u></b>
Wheat	Hard dough stage; thumbnail impression remains on the seed.
Barley	Hard dough stage; thumbnail impression remains on the seed.
Oats	Hard dough stage; thumbnail impression remains on the seed.
Canola (including glyphosate tolerant canola)	Pods are green to yellow; most seeds are yellow to brown.
Peas	Majority (75%-80%) of pods are brown.
Flax (including low linolenic acid varieties)	Majority (75%-80%) of bolls are brown.
Lentils	Lowermost pods (bottom 15%) are brown and seeds rattle.
Soybeans (including glyphosate tolerant soybeans)	Stems are green to brown in colour; pod tissue is dry and brown in appearance; 80-90% leaf drop.
Dry Beans	Stems are green to brown in colour; pods are mature (yellow to brown in colour); 80-90% leaf drop (original leaves).
Forages	Apply 3-7 days prior to last cut in the final year of the forage.

**Resistance-Management Recommendations**

For resistance management, TOUCHDOWN TOTAL Herbicide is a Group 9 herbicide. Any weed population may contain or develop plants naturally resistant to TOUCHDOWN TOTAL 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 TOUCHDOWN TOTAL Herbicide or other Group 9 herbicides within a growing season (sequence) or among growing seasons with different herbicide groups that control the same weeds in a field.

Use tank mixtures with herbicides from a different group when such use is permitted. To delay resistance, the less resistance-prone partner should control the target weed(s) as effectively as the more resistance-prone partner.

Herbicide use should be based on an integrated weed management program that includes scouting, historical information related to herbicide use and crop rotation, and considers tillage (or other mechanical control methods), cultural (for example, higher crop seeding rates; precision fertilizer application method and timing to favour the crop and not the weeds), biological (weed-competitive crops or varieties) and other management practices.

Monitor weed populations after herbicide application for signs of resistance development (for example, only one weed species on the herbicide label not controlled). If resistance is suspected, prevent weed seed production in the affected area if possible by an alternative herbicide from a different group. Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment when moving between fields, and planting clean seed.

Have suspected resistant weed seeds tested by a qualified laboratory to confirm resistance and identify alternative herbicide options.

Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or integrated weed-management recommendations for specific crops and weed biotypes.

For further information or to report suspected resistance, contact company representatives at 1-87-SYNGENTA (1-877-964-3682) or at [www.syngenta.ca](http://www.syngenta.ca).

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