



# TUNDRA HERBICIDE

**GROUP 1, 6 & 27 HERBICIDE**

**FOR USE IN THE PRAIRIE PROVINCES, INTERIOR  
OF BRITISH COLUMBIA AND EASTERN CANADA**

Emulsifiable Concentrate

**COMMERCIAL**



**DANGER – CORROSIVE TO EYES AND SKIN  
POTENTIAL SKIN SENSITIZER**

**REGISTRATION NUMBER: 29367  
PEST CONTROL PRODUCTS ACT**

**ACTIVE INGREDIENT:**

Bromoxynil (present as mixed octanoate and heptanoate esters) .....	87.5 g/L
Fenoxaprop-p-ethyl .....	46 g/L
Pyrasulfotole .....	15.5 g/L

Warning, contains the allergen soy

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

Product Information: 1-888-283-6847  
**Bayer CropScience Inc.**  
Suite 200, 160 Quarry Park Blvd. SE,  
Calgary, AB T2C 3G3

NET CONTENTS: 1 L – Bulk  
IN CASE OF SPILLS, POISONING OR FIRE, TELEPHONE EMERGENCY RESPONSE  
NUMBER 1-800-334-7577 (24 HOURS A DAY).

**PRECAUTIONS: KEEP OUT OF REACH OF CHILDREN.** Harmful or fatal if swallowed. Causes eye irritation. Corrosive to eyes. **DO NOT** get in eyes. Potential skin sensitizer. May irritate the skin. **DO NOT** get on skin. Wash thoroughly with soap and water after handling and before eating, drinking or smoking. Remove and wash contaminated clothing before reuse. **DO NOT** use in residential areas, which are defined as sites where bystanders may be present during or after spraying, including homes, schools, parks, playgrounds, playing fields, and public buildings. Apply only when the potential for drift to areas of human habitation or areas of human activity such as houses, cottages, schools and recreational areas is minimal. Take into consideration wind speed, wind direction, temperature inversions, application equipment and sprayer settings.

**Protective Clothing and Equipment:** To minimize exposure, the following precautions should be followed: Wear coveralls over long-sleeved shirt and long pants, chemical-resistant gloves, shoes and socks during application, mixing, loading, clean-up and repair activities. In addition, wear goggles or face shield during mixing, loading, cleanup and repair activities. Coveralls and gloves are not required during application within a closed cab. Change contaminated clothing daily and wash before reusing. Discard clothing or other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. **DO NOT** reuse them. Users should remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. **DO NOT** handle product with bare hands. Chemical resistant gloves significantly reduce hand exposure. **ALWAYS** wear gloves for mixing/loading operations and when making sprayer and nozzle repairs and adjustments. **DO NOT USE LEATHER OR CLOTH GLOVES.** Rinse gloves with soap and water before removal, and wash hands thoroughly before eating, smoking or drinking. Clean protective equipment daily. **DO NOT** enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 24 hours. Do not apply this product in a way that this product will contact workers or other persons, either directly or through drift. Only handlers wearing personal protective equipment may be in the area being treated during application. Refer to Section 3 for additional precautions. If this pest control product is to be used on a commodity that may be exported and you require information regarding Maximum Residue Limits for an importing country, please contact Bayer CropScience Canada Inc. at 1-888-283-6847 or [www.cropscience.bayer.ca](http://www.cropscience.bayer.ca).

**FIRST AID:** Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention. **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 swallowed:** Call a poison control centre or doctor immediately for treatment advice. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give **any** liquid to the person. Do not give anything by mouth to an unconscious person. **If on skin or clothing:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15–20 minutes. Call a poison control centre or doctor for treatment advice. **If inhaled:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control centre or doctor for further treatment advice.

**TOXICOLOGICAL INFORMATION:** Contains petroleum distillates – vomiting may cause aspiration pneumonia. Treat symptomatically. **ENVIRONMENTAL PRECAUTIONS:** This product contains an active ingredient and an aromatic petroleum distillate which are toxic to aquatic organisms and non-target terrestrial plants. Avoid contamination of aquatic systems during application. Do not contaminate these systems through direct application, disposal of

waste, or cleaning equipment. **USE ONLY FOR RECOMMENDED PURPOSES AND AT RECOMMENDED RATES.** Refer to Section 5 for additional information and observe buffer zones specified under Section 9.3. **STORAGE:** Keep in original container during storage. Store the tightly closed container away from feeds, seeds, fertilizers, plants and foodstuffs. Cannot be stored below freezing. If stored for one year or longer, shake or mix well before using. Do not use or store in or around the home. **DISPOSAL: Recyclable Container Disposal:** 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: Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank. Make the empty, rinsed container unsuitable for further use. If there is no container collection site in your area, dispose of the container in accordance with provincial requirements. **Returnable Container Disposal:** Do not reuse this container for any purpose. For disposal, this empty container may be returned to the point of purchase (distributor/dealer). **Returnable-refillable Container Disposal:** 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 use this container for any other purpose. **Disposal of Unused, Unwanted Product:** 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 cleanup of spills. **NOTICE TO USER:** This pest control product is to be used only in accordance with the directions on the label. It is an offence under the *Pest Control Products Act* to use this product in a way that is inconsistent with the directions on the label.

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# TUNDRA Herbicide

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## For More Information, Contact:

Product Information: 1-888-283-6847

Bayer CropScience Inc.  
Suite 200, 160 Quarry Park Blvd. SE,  
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## GENERAL INFORMATION

### SECTION 1: 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.

### SECTION 2: THE PRODUCT

TUNDRA Herbicide is a post-emergent herbicide which controls a broad spectrum of annual grassy and broadleaf weeds in spring wheat, durum wheat and spring barley.

## SAFETY AND HANDLING

### SECTION 3: PRECAUTIONS, PROTECTIVE CLOTHING AND EQUIPMENT

#### **PRECAUTIONS:**

**KEEP OUT OF REACH OF CHILDREN.** Harmful or fatal if swallowed. Causes eye irritation. Corrosive to eyes. **DO NOT** get in eyes. Potential skin sensitizer. May irritate the skin. **DO NOT** get on skin. Wash thoroughly with soap and water after handling and before eating, drinking or smoking. Remove and wash contaminated clothing before reuse.

When applied as a tank-mix combination, read and observe all label directions, including rates, restrictions, and grazing limitations for each product used in the tank-mix. Follow the more stringent label precautionary measures for mixing, loading and applying stated on both product labels.

**DO NOT** use in residential areas, which are defined as sites where bystanders may be present during or after spraying, including homes, schools, parks, playgrounds, playing fields, and public buildings.

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

#### **Protective Clothing and Equipment:**

To minimize exposure, the following precautions should be followed:

- Wear coveralls over long-sleeved shirt and long pants, chemical-resistant gloves, shoes and socks during application, mixing, loading, clean-up and repair activities. In addition, wear goggles or face shield during mixing, loading, cleanup and repair activities. Coveralls and gloves are not required during application within a closed cab/or cockpit.
- Change contaminated clothing daily and wash before reusing.
- Discard clothing or other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. **DO NOT** reuse them.
- Users should remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

- DO NOT handle product with bare hands. Chemical resistant gloves significantly reduce hand exposure. ALWAYS wear gloves for mixing/loading operations and when making sprayer and nozzle repairs and adjustments. DO NOT USE LEATHER OR CLOTH GLOVES.
- Rinse gloves with soap and water before removal, and wash hands thoroughly before eating, smoking or drinking.
- Clean protective equipment daily.
- Do not apply this product in a way that this product will contact workers or other persons, either directly or through drift. Only handlers wearing personal protective equipment may be in the area being treated during application.

If this pest control product is to be used on a commodity that may be exported and you require information regarding Maximum Residue Limits for an importing country, please contact Bayer CropScience Canada Inc. at 1-888-283-6847 or [www.cropscience.bayer.ca](http://www.cropscience.bayer.ca).

<b>SECTION 4: FIRST AID AND TOXICOLOGICAL INFORMATION</b>
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**FIRST AID:** Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

<b>IF SWALLOWED</b>	<ul style="list-style-type: none"> <li>• Call a poison control centre or doctor immediately for treatment advice.</li> <li>• Do not induce vomiting unless told to do so by a poison control centre or doctor.</li> <li>• Do not give <b>any</b> liquid to the person.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<b>IF ON SKIN OR CLOTHING</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15–20 minutes.</li> <li>• Call a poison control centre or doctor for treatment advice.</li> </ul>
<b>IF INHALED</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.</li> <li>• Call a poison control centre or doctor for further treatment advice.</li> </ul>
<b>IF IN EYES</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15–20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control centre or doctor for treatment advice.</li> </ul>

**TOXICOLOGICAL INFORMATION:** Contains petroleum distillates – vomiting may cause aspiration pneumonia. Treat symptomatically.

<b>SECTION 5: ENVIRONMENTAL PRECAUTIONS</b>
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This product contains an active ingredient and an aromatic petroleum distillate which are toxic to aquatic organisms and non-target terrestrial plants. Observe buffer zones specified under Section 9.3. The use of this chemical may result in contamination of groundwater particularly in areas where soils are permeable (e.g. sandy soil) and/or the depth to the water table is shallow.

To reduce runoff from treated areas into aquatic habitats avoid application to areas with a moderate to steep slope, compacted soil, or clay. Avoid application when heavy rain is forecast. Do not apply, drain,

or flush spray equipment on or near desirable trees or other plants or on areas where their roots may extend, or in locations where the chemical may be washed or moved into contact with their roots.

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

Avoid contamination of aquatic systems during applications. Do not contaminate these systems through direct application, disposal of waste, or cleaning equipment.

USE ONLY FOR RECOMMENDED PURPOSES AND AT RECOMMENDED RATES.

## **SECTION 6: STORAGE**

Keep in original container during storage.

Store the tightly closed container away from feeds, seeds, fertilizers, plants and foodstuffs.

Cannot be stored below freezing.

If stored for one year or longer, shake or mix well before using.

Do not use or store in or around the home.

## **SECTION 7: DISPOSAL**

### **Recyclable Container Disposal:**

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

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

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

### **Returnable Container Disposal:**

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

**Returnable-refillable Container Disposal:** 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 use this container for any other purpose.

### **Disposal of Unused, Unwanted Product:**

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 cleanup of spills.



## DIRECTIONS FOR USE

### SECTION 8: CROPS AND WEEDS

#### 8.1 CROPS AND APPLICATION TIMING

TUNDRA Herbicide can be applied to the following crops when at the indicated growth stages:

CROP	GROWTH STAGE
Wheat, spring	1 to 6-leaves on main stem plus 3 tillers
Wheat, durum	
Barley, spring	

- Application to spring wheat, durum wheat and spring barley beyond the 6-leaf plus 3 tiller stage may result in crop injury.
- Do not apply to a crop that is stressed by severe weather conditions, frost, low fertility, drought, water-saturated soil, disease or insect damage, as crop injury may result.
- DO NOT apply to crops undersown with legume species.

#### 8.2 APPLICATION RATE AND WEEDS CONTROLLED

Application of TUNDRA Herbicide at 2 L/ha and according to label recommendations will provide control the following weed species:

GRASS AND BROADLEAF WEEDS <sup>1</sup>	RECOMMENDED STAGE
Wild oat	1 to 6-leaf stage (up to emergence of 3 <sup>rd</sup> tiller)
Green foxtail	1 to 6-leaf stage (up to emergence of 3 <sup>rd</sup> tiller)
Yellow foxtail	1 to 6-leaf stage (up to emergence of 3 <sup>rd</sup> tiller)
Barnyard grass	1 to 6-leaf stage (up to emergence of 3 <sup>rd</sup> tiller)
Annual sow-thistle	1 to 6-leaf stage
Canada fleabane <sup>2,3,4</sup>	Up to 10 cm in height/diameter
Chickweed	1 to 6-leaf stage
Cleavers <sup>2,5</sup>	1 to 6 whorls
Canada Thistle <sup>4</sup>	Up to 30 cm in height
Common ragweed	1 to 6-leaf stage
Dandelion <sup>6,7</sup>	Up to 10 cm in height and 25 cm in diameter
Flixweed	Up to 10 cm in height
Giant ragweed <sup>2,3,6</sup>	1 to 6-leaf stage
Hemp-nettle	1 to 6-leaf stage
Kochia	Up to 10 cm in height
Lamb's-quarters	1 to 6-leaf stage
Narrow-leaved hawk's-beard	Up to 10 cm and prior to bolting
Pale smartweed	1 to 6-leaf stage
Perennial sow-thistle <sup>6</sup>	1 to 6-leaf stage
Redroot pigweed	1 to 6-leaf stage
Round-leaved mallow <sup>6</sup>	1 to 6-leaf stage

Russian thistle	Up to 10 cm in height
Shepherd's purse	1 to 6-leaf stage
Spreading atriplex <sup>2,6</sup>	1 to 10-leaf stage
Stinkweed	1 to 6-leaf stage
Stork's-bill (only in tank mix with 2,4-D Ester) <sup>8</sup>	1 to 8-leaf stage
Volunteer canola (includes conventional and herbicide tolerant)	1 to 6-leaf stage
Wild buckwheat	1 to 6-leaf stage
Wild mustard	1 to 6-leaf stage

<sup>1</sup> Includes ALS (Group 2) resistant biotypes.

<sup>2</sup> For control of cleavers at the 4 to 6-whorl growth stage, control of Canada fleabane, and suppression of giant ragweed and spreading atriplex, add ammonium sulphate at 500 g/ha (99%) or 1 L/ha (49% solution) or 1.25 L/ha (40% solution). If using an ammonium sulphate product with a different concentration, adjust the rate accordingly.

<sup>3</sup> Includes glyphosate resistant biotypes.

<sup>4</sup> Remove established Canada fleabane plants prior to planting via tillage or a pre-seed burn-off treatment.

<sup>5</sup> Includes indoleacetic acid (Group 4) resistant biotypes

<sup>6</sup> Suppression only

<sup>7</sup> Includes seedlings and overwintered rosettes.

<sup>8</sup> Control only when tank-mixed with 2,4-D Ester + AMS. Refer to Section 8.3 for additional directions for use.

- For best results, apply to emerged, young, actively growing weeds according to the weed stages listed.
- Under stressed conditions and/or heavy crop canopy, early application will result in improved weed control.
- Weeds growing under adverse environmental conditions such as drought will be less susceptible to TUNDRA Herbicide.

### 8.3 TANK- MIXTURES

For control of weed species listed for TUNDRA Herbicide alone plus additional broadleaf weeds, TUNDRA Herbicide may be tank mixed with the following herbicide. Consult the label of the tank mix partner(s) for further instructions regarding directions for use, restrictions and precautions. Always observe the largest (most restrictive) buffer zone of the products involved in the tank mixture.

Crop	Tank Mix Product	Tank Mix Product Rate	Weeds Controlled	Growth Stage Timing
Spring wheat, Durum wheat, Spring barley	2,4-D Ester  +  AMS*	280 g a.e./ha (e.g., 425 mL/ha of 2,4-D Ester 700**)  +  1.25 L/ha (40% solution)	Weeds controlled by TUNDRA Herbicide alone plus Stork's bill	Spring wheat, durum wheat and spring barley may be treated from the 4-leaf stage of growth until 6 leaves on main stem plus 3 tillers.  Apply when stork's-bill is at the 1- to 8-leaf stage of growth.

\* If using an ammonium sulphate (AMS) product with a different concentration, adjust the rate accordingly (e.g., add ammonium sulphate at 500 g/ha (99%) or 1 L/ha (49% solution) or 1.25 L/ha (40% solution)).

\*\* 2,4-D Ester 700 contains 660 g a.e./L

## 8.4 RAINFASTNESS

- Rainfall within 1 hour of application may reduce effectiveness.

# SECTION 9: APPLICATION INSTRUCTIONS AND USE LIMITATIONS

## 9.1 GENERAL REMINDERS FOR SUCCESSFUL OPERATION

- Apply only once per season.
- For best results, apply to emerged, young, actively growing weeds.
- TUNDRA Herbicide will have an effect on weeds that are larger than the recommended leaf stage, however the speed of activity and level of control may be reduced.
- Under cool and/or dry conditions activity may be reduced or delayed. Weed control may also be reduced if application is made when weeds are dust covered or in the presence of heavy dew, fog, or mist/rain.
- If crop is under stress due to abnormal environmental conditions, delay application until stress passes and after both crop and weeds have resumed active growth.
- Follow directions under Section 8 for the correct rate and timing of application.
- Avoid contact with desirable plants or crops either from direct application or from spray drift as severe damage may occur.
- As this product is not registered for the control of pests in aquatic systems, DO NOT use to control aquatic pests.
- DO NOT contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes.

## 9.2 GROUND AND AERIAL APPLICATION

### GROUND APPLICATION

- **Field sprayer application:** DO NOT apply during periods of dead calm. Avoid application of this product when winds are gusty. DO NOT apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE) medium classification. Boom height must be 60 cm or less above the crop or ground.
- Application of TUNDRA Herbicide should be made using a minimum of 46.8 litres of water per hectare, at a pressure of 275 kPa, or 310 kPa if using check valves, and at a ground speed of 6-8 kph.
- The use of 80° or 110° flat fan nozzles is recommended for optimum spray coverage.
- Do not use flood jet nozzles, controlled droplet application equipment or Sprafoil® equipment.
- Uniform, thorough coverage is important to obtain consistent weed control. Higher water volumes should be used under dense crop and weed canopies to ensure thorough coverage of the target weeds.
- Avoid overlapping; shut off spray boom while starting, turning, slowing or stopping to prevent crop injury from over-application.

### AERIAL APPLICATION

- **Aerial application:** DO NOT apply during periods of dead calm. Avoid application of this product when winds are gusty. DO NOT apply when wind speed is greater than 16 km/h at flying height at

the site of application. **DO NOT** apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE) medium classification. To reduce drift caused by turbulent wingtip vortices, the nozzle distribution along the spray boom length **MUST NOT** exceed 65% of the wing- or rotorspan.

- Apply TUNDRA Herbicide alone in no less than 28.1 litres of water per hectare at a pressure no less than 300 kPa.
- 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 on this label.
- Ensure uniform application. To avoid streaked, uneven or overlapped application, use appropriate marking devices.

#### Aerial Use Precautions

- Read and understand the entire label before opening this product. If you have questions, call Bayer at 1-888-283-6847 or obtain technical advice from the distributor or your provincial agricultural representative.
- 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 terrain where there is a potential for surface run-off to enter aquatic systems.
- Do not apply to any body of water. Avoid drifting of spray onto any body of water or other non-target areas. Specified buffer zones should be observed.
- Do not apply if rain is expected within 1 hour after spraying. If tank mixing, consult the tank mix partner label and respect the most restrictive interval.

#### **AERIAL OPERATOR PRECAUTIONS:**

- **Aerial applicators:** Wear coveralls over a long-sleeved shirt, long pants, socks and shoes during application. Coveralls and gloves are not required during application within a closed cockpit. 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 pilots have communication capabilities at each treatment site at the time of application.
- **The field crew and the mixer/loaders:** Wear, coveralls over a long-sleeved shirt, long pants, chemical-resistant gloves, socks, shoes, 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 1-888-283-6847 or obtain technical advice from the distributor or your provincial agricultural representative.

### **9.3 BUFFER ZONES:**

Use of the following spray methods or equipment **DO NOT** require a buffer zone: hand-held or backpack sprayer, inter-row hooded sprayer, spot treatment, soil drench, and soil incorporation.

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

Method of Application	Crop		Buffer Zones (metres) Required for the Protection of:		
			Freshwater Habitat of Depths:		Terrestrial Habitat
			Less than 1 m	Greater than 1 m	
Field Sprayer*	Wheat (spring, durum), Spring barley		3	1	10
Aerial	Wheat (spring, durum), Spring barley	Fixed wing	20	5	375
		Rotary wing	20	3	225

\* For field sprayer application, buffer zones can be reduced with the use of drift reducing spray shields. When using a spray boom fitted with a full shield (shroud, curtain) that extends to the crop canopy, the labelled buffer zone can be reduced by 70%. When using a spray boom where individual nozzles are fitted with cone-shaped shields that are no more than 30 cm above the crop canopy, the labelled buffer zone can be reduced by 30%.

#### 9.4 ROTATIONAL CROPS

Only the following crops have been field tested to indicate they may be safely planted at the prescribed interval after an application of TUNDRA Herbicide. To avoid the possibility of injury to subsequent crops after an application of the recommended rate of TUNDRA Herbicide, follow the crops and replanting interval which appear on this label, and if tank mixing on the label of the tank mix partner, and always observe the most restrictive replanting interval. A field bioassay must be conducted the year prior to growing any other crop of interest to confirm crop safety.

CROP	REPLANTING INTERVAL
Alfalfa	10 months
Barley, spring	10 months
Canaryseed	10 months
Canola	10 months
Corn, field*	10 months
Flax, including low linolenic acid varieties	10 months
Lentils	22 months
Peas, field**	10 months
Potatoes	10 months
Soybeans*	10 months
Sunflower	10 months
Tame oats	10 months
Tomatoes*	10 months
Wheat, spring and durum	10 months

\* Eastern Canada and Manitoba only.

\*\* Field peas may be grown the year following TUNDRA Herbicide application in all Black, Grey-Wooded and Dark Brown soil zones. Do not plant field peas the year following a TUNDRA Herbicide application in the Brown soil zone where organic matter content is below 2.5 % and where soil pH is above 7.5.

## **SECTION 10: PRE-HARVEST INTERVAL, PRE-GRAZING FEEDING INTERVAL AND RE-ENTRY INTERVAL**

DO NOT enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 24 hours.

DO NOT graze the treated crops or cut for forage or hay within 25 days of TUNDRA Herbicide application, or harvest for grain within 65 days of TUNDRA Herbicide application.

## **SECTION 11: MIXING INSTRUCTIONS**

TUNDRA Herbicide must be applied with properly calibrated and clean sprayer equipment. TUNDRA Herbicide is specially formulated to mix readily in water. Prior to adding TUNDRA Herbicide to the spray tank, ensure that the spray tank is thoroughly clean (see Section 12 “Sprayer Cleanup”).

1. Fill the spray tank  $\frac{1}{4}$  to  $\frac{1}{2}$  full with clean water and begin agitation or bypass.
2. Add the appropriate rate of TUNDRA Herbicide, as specified under Section 8, directly to the spray tank. Maintain sufficient agitation during both mixing and application. Add tank mix partner as required.
3. Fill the spray tank with balance of water required.
4. Maintain sufficient agitation during both mixing and application of TUNDRA Herbicide.

TUNDRA Herbicide may settle if left standing without agitation. If the spray solution is allowed to stand for one hour or more, re-agitate the spray solution for a minimum of 10 minutes before application.

## **SECTION 12: SPRAYER CLEANUP**

Before and after using TUNDRA Herbicide always complete a thorough cleaning of the spray tank, lines and filters. The following procedures are recommended:

1. Drain the tank completely, and then wash out tank, boom and hoses with clean water. Drain again.
2. Half fill the tank with clean water and add ammonia (i.e., 3% domestic ammonia solution) at a dilution rate of 1% (i.e., 1 litre of domestic ammonia for every 100 litres of rinsate). Complete filling of the tank with water. Agitate/recirculate and flush through boom and hoses. Leave agitation on for 10 minutes. Drain tank completely.
3. Repeat step 2.
4. Remove nozzles and screens and soak them in a 1% ammonia solution. Inspect nozzles and screens and remove visible residues.
5. Flush tank, boom, and hoses with clean water.
6. Inspect tank for visible residues. If present, repeat step 2.
7. Dispose of rinsings in accordance with provincial regulations.

## **SECTION 13: RESISTANCE MANAGEMENT RECOMMENDATIONS**

For resistance management, TUNDRA Herbicide is a Group 1, 6 and 27 herbicide. Any weed population may contain or develop plants naturally resistant to TUNDRA Herbicide and other Group 1, 6 and 27 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:

1. Where possible, rotate the use of TUNDRA Herbicide or other Group 1, 6 and 27 herbicides within a growing season (sequence) or among growing seasons with different herbicide groups that control the same weeds in a field.
2. 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.
3. 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.
4. 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.
5. Have suspected resistant weed seeds tested by a qualified laboratory to confirm resistance and identify alternative herbicide options.
6. 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.
7. For further information or to report suspected resistance contact Bayer at 1-888-283-6847 or at [www.cropscience.bayer.ca](http://www.cropscience.bayer.ca).

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