

RUGGED Herbicide

For use in wheat, barley, rye, corn, established pastures, rangeland, turf, stubble land, roadsides, uncropped land and control of woody growth.

**COMMERCIAL
Solution**

ACTIVE INGREDIENT: 2,4-D, (present as acid).....418 g/L

REGISTRATION NO. 33055 PEST CONTROL PRODUCTS ACT

WARNING



POISON

**EYE IRRITANT
KEEP OUT OF REACH OF CHILDREN**

READ THE ENTIRE LABEL BEFORE USING

(1 L – 1,000 L)

**Winfield Solutions, LLC
P.O. Box 64589
St. Paul, MN 55164
1-888-975-4769**

PRECAUTIONS:**KEEP OUT OF REACH OF CHILDREN.**

Corrosive. Causes irreversible eye damage. Harmful if absorbed through skin or swallowed. Do not get in eyes or on clothing. Avoid contact with skin. Wash concentrate from skin or eyes immediately. Avoid spray drift. Store the container tightly closed and away from seeds, feeds, fertilizer plants and foodstuffs. Avoid contamination of ponds, streams, rivers and other water sources.

ENVIRONMENTAL HAZARDS

- Toxic to small mammals, birds, aquatic organisms and non-target terrestrial plants.
- Observe buffer zones specified under DIRECTIONS FOR USE.
- This product may harm other broadleaf plants in the vicinity of the treatment area. If applying this product using a handheld sprayer, DO NOT directly spray or allow the spray to drift onto ornamentals or gardens.
- DO NOT spray exposed roots of trees and ornamentals.

LEACHING: 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.

RUNOFF: To reduce runoff from treated areas into aquatic habitats, consider the characteristics and conditions of the site before treatment.

- Avoid application to areas with moderate to steep slope, compacted soil, or clay.
- Avoid application of this product when heavy rain is forecast.
- Contamination of aquatic areas as a result of runoff may be reduced by including a strip of untreated vegetation between the treated area and the edge of the water body.
- To prevent runoff from domestic uses avoid spraying on driveways, sidewalks or other hard surfaces.
- DO NOT irrigate within 24 hours after application.

PROTECTIVE CLOTHING AND EQUIPMENT**Mixers, Loaders and Other Handlers:**

- Wear coveralls over a long-sleeved shirt, long pants, chemical-resistant gloves, socks, shoes and protective eyewear (goggles or face shield) during mixing, loading, clean-up and repair. Rinse gloves before removal.
- When handling more than 265 kg a.e. (633 L of RUGGED HERBICIDE) per day, workers must also use a closed mixing and loading system.

Application by Groundboom or Aerial Equipment:

- Wear coveralls over a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes during application. Rinse gloves before removal.
- Gloves are not required during application within a closed cab or cockpit.

Application by Handheld Equipment:

- Wear coveralls over a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes during application. Rinse gloves before removal.
- For applications using **mechanically-pressurized handguns**, also wear a respirator with a NIOSH-approved organic-vapour-removing cartridge with a prefilter approved for pesticides, or a NIOSH-approved canister approved for pesticides during mixing, loading and application when handling more than 5 kg a.e. per day (11.9 L of RUGGED HERBICIDE). DO NOT handle more than 8 kg a.e. per day (19.1 L of RUGGED HERBICIDE).

OPERATOR USE PRECAUTIONS:

- Wear freshly laundered clothing and clean protective equipment daily.
- Rinse gloves before removal.
- Wash hands before eating, drinking, using tobacco or using the toilet.
- If herbicide penetrates clothing, remove immediately; then wash thoroughly and put on clean clothing.
- Throw away clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate.
- After using this product, remove clothing and launder separately, and promptly and thoroughly wash hands and exposed skin with soap and water.

- Follow manufacturer's instructions for cleaning personal protective clothing and equipment. If no such instructions for washables are provided, use detergent and hot water. Keep and wash personal protective equipment separate from household laundry.
- After work, remove all clothing and shower using soap and water.

TRANSFER SYSTEM: For containers larger than 20L: Use a transfer system that avoids open pouring when transferring the liquid concentrate from such containers into the spray tank.

FIRST AID:

- **IF SWALLOWED:** Call a poison control centre or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person.
- **IF ON SKIN OR CLOTHING:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control centre or doctor for treatment advice.
- **IF INHALED:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control centre or doctor for further treatment advice.
- **IF IN EYES:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice.

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

TOXICOLOGICAL INFORMATION: No specific antidote. Employ supportive care. Treatment should be based on judgment of the physician in response to reactions of the patient. 2,4-D may cause severe irritation to eyes. Overexposure to 2,4-D may cause coughing, burning, dizziness or temporary loss of muscle coordination. Other possible effects of overexposure include fatigue, muscle weakness or nausea. Treat symptomatically.

STORAGE:

- Store container tightly closed and away from seeds, feeds, fertilizer, plants and foodstuffs.
- Store in original container.
- Insecticides and fungicides should be segregated from herbicides so as to prevent the possibility of cross-contamination.
- Protect from freezing.

CONTAINER DISPOSAL: DO NOT reuse this container for any purpose.

- Triple-or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
- Follow provincial instructions for any required additional cleaning of the container prior to disposal.
- Make the empty container unsuitable for further use.
- Dispose of the container in accordance with provincial requirements.

PRODUCT 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.

CLEANING OF SPRAY TANK: Thoroughly clean the herbicide sprayer before applying any other chemical on crops which may be damaged. Wash the outside of the sprayer and drain the tank completely. Remove and clean filters, screens and nozzle tips separately. Fill the sprayer tank with water. With the agitator running flush out the lines and boom, then drain. Fill the sprayer with clean water and for each 100 L add 1 L household ammonia. Operate the pump and agitator for 15 minutes. If possible, let the solution remain in the tank and hoses overnight, recirculate and drain each time. DO NOT contaminate irrigation or drinking water when cleaning the sprayer.

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

DIRECTIONS FOR USE:

- DO NOT apply this product directly to freshwater habitats such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs and wetlands, estuaries or marine habitats.
- DO NOT contaminate irrigation/drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes.

RESTRICTED ENTRY INTERVAL:

- DO NOT enter or allow entry into treated areas during the restricted entry intervals (REIs) specified in the following table:

Crop	Re-entry activities	Restricted entry interval
Agricultural applications	All activities	12 hours
Turf	Sod Farms – all activities	12 hours
	Golf courses, lawns, parks, etc. – all activities	Until sprays have thoroughly dried.
Non-crop applications	All activities	Until sprays have thoroughly dried.

RESISTANCE-MANAGEMENT RECOMMENDATIONS:

For resistance management, RUGGED Herbicide is a Group 4 herbicide. Any weed population may contain or develop plants naturally resistant to RUGGED Herbicide and other Group 4 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 RUGGED Herbicide or other Group 4 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 Winfield Solutions, LLC at 1-888-975-4769 or at Winfieldunited.ca.

GENERAL USE PRECAUTIONS:

- Avoid spray drift to any desirable vegetation NOT listed on this label as damage may occur.
- Avoid contamination of ponds, streams, rivers and other water sources.
- Specified buffer zones should be observed (See Buffer Zone Table).
- DO NOT spray during periods of high winds when spray is likely to drift. Coarse sprays are less likely to drift.
- DO NOT spray during periods of high temperatures when crops may be under stress as damage to the crop may occur.
- Apply only when the potential for drift to areas of human habitation or areas of human activity such as houses, cottages, schools, and recreation areas is minimal. Take into consideration wind speed, wind direction, temperature inversions, application equipment and sprayer settings.

EQUIPMENT AND SPRAY VOLUME:

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) coarse classification. Boom height must be 60 cm or less above the crop or ground.

Apply in 50 to 200 litres of water per hectare by ground equipment unless otherwise indicated. Higher water volumes will reduce the risk of crop injury. Select nozzle tips to apply the recommended volume per hectare. Calibrate the sprayer and adjust the boom height to ensure uniform coverage. Nozzles must be in good condition and spraying the same volume. Flat fan nozzle tips are recommended.

Knapsack, Spot Treatment Applications: Mix 230 ml of product in 10 L water. Spray to wet all foliage thoroughly.

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) coarse classification. Reduce drift caused by turbulent wingtip vortices. Nozzle distribution along the spray boom length MUST NOT exceed 65% of the wing- or rotorspan.

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. Use sufficient water for even distribution.

Apply in a minimum of 30 litres of water per hectare by aerial equipment.

USE PRECAUTIONS FOR AERIAL APPLICATION (to Cereal Crops, Forage Sorghum and Forage Millet, Established Pastures and Rangeland, Stubble, Uncropped Land and Woody Growth):

- 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 outline 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 (See Buffer Zone Table).
- 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.

Aerial 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 general 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 (Aerial Applications):

Read and understand the entire label before opening this product. If you have questions call the manufacturer or obtain technical advice from the distributor or your provincial agricultural representative. Application of this specific product must meet and/or conform to the following:

- Use boom pressure of 235 kPa or less. Avoid placing nozzles where spray will enter wing tip vortices.
- DO NOT apply this product directly to, or otherwise permit it to come into direct contact with desirable crops or other desirable broadleaf plants or non-target species and DO NOT permit spray mists to drift onto them.
- Coarse sprays are less likely to drift, use only nozzles or nozzle configurations which minimize the production of fine spray drops. DO NOT angle nozzles forward into the airstream and DO NOT increase spray volume by increasing nozzle pressure. When spraying, avoid combinations of pressure and nozzle type that will result in fine particles (mist) which are more likely to drift.
- A spray thickening agent or drift retardant (such as InterLock™) may be used with this product to aid in reducing spray drift.
- DO NOT use human flaggers.
- BUFFER ZONES: Appropriate buffer zones should be established between treatment areas and aquatic systems, and treatment areas and significant wildlife habitat.
- DO NOT spray in winds exceeding 16 km per hour.
- DO NOT spray in dead clam near sensitive plants. A “cloud” of suspended droplets may drift onto sensitive plants when the wind comes up. Spray only when the wind is blowing away from a sensitive crop, shelter-belt or garden.
- **Avoid spray drift:** Apply only when there is little or no hazard from spray drift. Small quantities of the spray, which may not be visible, may seriously injure susceptible crops and damage sensitive non-target habitat. A method must be used to detect air movement, lapse conditions, or temperature inversions (stable air) such as the use of balloons or continuous smoke column at or near the spray site or a smoke generator on the spray equipment. If the smoke develops into layers or indicates a potential for hazardous spray drift, DO NOT spray.

MIXING:

Water based spray

Fill the equipment half full of water, agitate while adding this product, and then add the rest of the water.

Compatibility

Before full-scale mixing of this product with other herbicides, fertilizer solutions and adjuvants, it is advisable to determine the compatibility of the proposed mixture:

- Use proportionate quantities of each ingredient and mix in a small container.
- Always mix one product thoroughly with the diluent before adding another product.
- If no incompatibility is evident after 30 minutes, the mixture is generally compatible for spraying.

USE RECOMMENDATIONS:

SPRING CEREALS (WHEAT, BARLEY, RYE), not underseeded with legumes:

APPLICATION TIME: Crops may be sprayed from the full 3-leaf expanded to the early flag-leaf (shot blade) stage. Preferred application timing is the 4-leaf stage. Treatment at the 4-leaf stage usually combines maximum crop tolerance with maximum weed susceptibility.

- DO NOT apply after the flag leaf stage.
- DO NOT apply more than one treatment per year.

METHOD: Ground or Aerial application

RECOMMENDED RATE PER HECTARE: Up to 1.25 L/ha

Higher rates may be needed to control certain weed species. Possible crop injury from these higher rates is usually offset by increased yield of the cleaner crop.

WATER RATE:

If applying by ground use in a minimum of 50 L/ha water. Spraying with higher volumes of water (100-150 L/ha) may reduce the risk of crop injury.

PRE-HARVEST/GRAZING INTERVALS:

- DO NOT permit lactating dairy animals to graze fields within 7 days after application.
 - DO NOT harvest forage or cut hay within 30 days after application.
 - Withdraw meat animals from treated fields at least 3 days before slaughter.
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WINTER CEREALS (WINTER WHEAT, FALL RYE)

APPLICATION TIME: Treat in the spring between full tillering and just before the flag leaf stage.

- DO NOT apply during and after the flag leaf stage.
- DO NOT apply to seedling winter cereals in the fall.
- DO NOT apply more than one treatment per year.

METHOD: Ground or Aerial application

RECOMMENDED RATE PER HECTARE: Up to 1.25 L/ha

Higher rates may be needed to control certain weed species. Possible crop injury from these higher rates is usually offset by increased yield of the cleaner crop.

WATER RATE:

If applying by ground use in a minimum of 50 L/ha water. Spraying with higher volumes of water (100-150 L/ha) may reduce the risk of crop injury.

PRE-HARVEST/GRAZING INTERVALS:

- DO NOT permit lactating dairy animals to graze fields within 7 days after application.
 - DO NOT harvest forage or cut hay within 30 days after application.
 - Withdraw meat animals from treated fields at least 3 days before slaughter.
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FIELD CORN

APPLICATION TIMING: Apply as an overall spray, before the corn is 15 cm tall (leaf extended) and/or before the 6-leaf stage. Damage to corn may occur if an overall spray is applied beyond this stage. For later applications (corn 15-75 cm, leaf extended), use a shielded spray or a directed spray with drop pipes. Keep spray off corn foliage.

- DO NOT spray within 2 weeks of silking or tasseling.
- DO NOT add oil or surfactant.
- DO NOT apply more than one treatment per year.
- In case of very dry conditions, delay spraying until one week following rain.
- Avoid cultivation for 2 weeks following spraying.

METHOD: Ground application

RECOMMENDED RATE PER HECTARE: Up to 1.20 L/ha

WATER RATE: Use at least 100 L/ha water.

PRE-HARVEST/GRAZING INTERVALS:

- DO NOT permit lactating dairy animals to graze fields within 7 days after application.
 - DO NOT harvest forage or cut hay within 30 days after application.
 - Withdraw meat animals from treated fields at least 3 days before slaughter.
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FORAGE SORGHUM, FORAGE MILLET

APPLICATION TIMING: Apply post emergent to the weeds and crop when the crop is at the 4-6 leaf stage, use drop nozzles if sorghum is over 15 cm.

- DO NOT apply more than one application per year.

METHOD: Ground only

RECOMMENDED RATE PER HECTARE:

Susceptible weeds:

Small seedlings, good growing conditions: 670 ml/ha

Weeds in bud, dry/cold conditions, or heavy infestation: 1.35 L/ha

Harder to control weeds:

Small seedlings, good growing conditions: 1.35 L/ha

PRE-HARVEST/GRAZING INTERVALS:

- DO NOT permit lactating dairy animals to graze fields within 7 days after application.
- DO NOT harvest forage or cut hay within 30 days after application.
- Withdraw meat animals from treated fields at least 3 days before slaughter.

ESTABLISHED PASTURE AND RANGELAND (without legumes)

APPLICATION TIMING: Apply at time of rapid growth, usually May, June and/or September. Apply only after pasture has been grazed or cut and weed growth has resumed. A second treatment may be required.

- There is a possibility that plants poisonous to livestock will appear more palatable and could be grazed more readily after 2,4-D treatment (i.e.: tansy ragwort, water hemlock, poison hemlock, death camas).
 - Suitable precautions should be taken when such plants are present.
 - Livestock should not be allowed to graze the treated area until poisonous plants have been removed, are dead or have resumed a normal growth habit.
- DO NOT apply in freshly seeded grasses and pastures until well established.
- Under conditions of good growth and adequate soil moisture, sprays can be applied up to 2 weeks before normal frost time.
- DO NOT apply more than two treatments per year.

METHOD: Ground or Aerial application

RECOMMENDED RATE PER HECTARE: 2.0 to 5.35 L/ha

Use the higher rate for perennial weeds; a second treatment may be required

WATER RATE: 100 to 300 L/ha water

PRE-HARVEST INTERVALS:

- DO NOT permit lactating dairy animals to graze fields within 7 days after application.
 - DO NOT harvest forage or cut hay within 30 days after application.
 - Withdraw meat animals from treated fields at least 3 days before slaughter.
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GRASS CROPS- FOR FORAGE AND SEED PRODUCTION**APPLICATION TIMING:**

1. Seedling Grasses-Stand Establishment: May be used on seedling grasses from the 3-leaf to just before the shot-blade stage of development.
2. Established Grasses: May be used in the spring up to the shot-blade stage of the grass or in the fall after harvest to control annual and biennial broad-leaved weeds.
 - DO NOT use during flower development or pollination or seed yields will be reduced.
 - DO NOT apply more than two applications per year.

METHOD: Ground application

RECOMMENDED RATE PER HECTARE:

Seedling Grasses-Stand Establishment:

660 ml/ha to 1.25 L/ha in 100-200 L/ha water

Established Grasses:

790 ml/ha to 2.55 L/ha in 100-300 L/ha water

Established Grasses (grown for seed):

Up to 1.25 L/ha. DO NOT exceed 1.25 L/ha.

Note: Late germinating weeds such as red bartsias may be controlled at 1.25 L/ha of product after the first hay crop has been removed.

PRE-HARVEST/GRAZING INTERVALS:

- DO NOT permit lactating dairy animals to graze fields within 7 days after application.
 - DO NOT harvest forage or cut hay within 30 days after application.
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- Withdraw meat animals from treated fields at least 3 days before slaughter.
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BEARING FRUIT TREES: Apple, Peach, Pear, Plum, Apricot, Sweet and Sour Cherry

APPLICATION TIMING: Apply to orchard floor in early spring after weed emergence or post-harvest to actively growing broadleaf weeds.

- DO NOT apply when useable fruit is on the orchard floor.

METHOD: Ground application.

RECOMMENDED RATE PER HECTARE: 2.25 L/ha

WEEDS CONTROLLED: Plantains, Dandelion, Curled Dock, Mustards, Red Pigweed, Prostate Pigweed, Russian Pigweed, Common Ragweed, Shepherd's Purse, Lamb's-Quarters, Stinkweed, Cocklebur, Prickly Lettuce, Narrow-Leaved Hawk's Beard (fall rosette or sprint at 1-2 Leaf Stage), Russian Thistle, seedling Sow Thistle and seedling Canada Thistle.

PRE-HARVEST INTERVAL: DO NOT harvest fruit within 80 days of application.

NON-CROP USES

Stubble Land, Uncropped Land (i.e., roadsides, rights-of-way for transportation, rights-of-way for utility lines, airports, wastelands and industrial parks)

APPLICATION TIMING: Apply at time of rapid growth, usually May, June and/or September. Use the higher rate for perennial weeds and susceptible woody growth; a second treatment may be required.

- There is a possibility that plants poisonous to livestock will appear more palatable and could be grazed more readily after 2,4-D treatment (i.e.: tansy ragwort, water hemlock, poison hemlock, death camas).
 - Suitable precautions should be taken when such plants are present.
 - Livestock should not be allowed to graze the treated area until poisonous plants have been removed, are dead or have resumed a normal growth habit.
- DO NOT apply in freshly seeded grasses and pastures until well established.
- Under conditions of good growth and adequate soil moisture, sprays can be applied up to 2 weeks before normal frost time.
- DO NOT apply more than twice per year. This does not include spot treatments.

METHOD:

Ground or Aerial application (stubble land and uncropped land).

Ground application (roadsides, airports and industrial parks).

RECOMMENDED RATE PER HECTARE:

Susceptible weeds:

Small seedlings, good growing conditions: 2.0 L/ha

Weeds in bud, dry/cold conditions, or heavy infestation: 3.70 L/ha

Harder to control weeds:

Small seedlings, good growing conditions: 3.70 L/ha

Weeds in bud, dry/cool conditions, heavy infestations, perennials and small brush: 5.35 L/ha

WATER RATE: Spray using 100 litres or more of water per hectare, if applying by ground.

PRE-HARVEST/GRAZING INTERVALS (for stubble land)

- DO NOT permit lactating dairy animals to graze fields within 7 days after application.
 - DO NOT harvest forage or cut hay within 30 days after application.
 - Withdraw meat animals from treated fields at least 3 days before slaughter.
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TURF USES

Lawns and parks, sod farms, and golf courses (roughs and fairways)

APPLICATION INFORMATION: This product is only effective when applied to the leaves of actively growing weeds. This product will not prevent new weeds. Apply only when weeds are present. Apply at a time of rapid growth, usually May, June and/or September, before grasses are in the flag-leaf (shot blade stage).

- If weed populations do not warrant a broadcast application, consider spot treatment that target only
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weedy areas.

- Application while plants are under stress, such as during hot, cold or drought conditions, will increase risk of damage to turf and can result in reduced weed control.
- Avoid mowing for several days before and after treatment.
- Use caution when spraying near sensitive desirable vegetation.
- Use adequate buffer zones, as specified, to protect sensitive non-target vegetation.
- DO NOT use on bentgrass or newly seeded areas.
- DO NOT apply to the exposed roots of trees and ornamentals.
- DO NOT apply if rainfall is expected, or irrigating, within 24 hours.
- DO NOT apply more than two broadcast applications per year. This does not include spot treatments.
- DO NOT allow people (other than the applicator) or pets onto the treatment area during application.

METHOD: Ground application only.

RECOMMENDED RATE PER HECTARE: 2.55 L/ha

WATER RATE: 100-200 L/ha water

WEED AND BRUSH CONTROL ON NON-CROP/NON-GRAZED LAND

APPLICATION TIMING:

1. **Ground Applications:** Apply at time of rapid growth (usually May, June and/or September). Applications soon after leaves are fully open usually give best results. Spray brush species up to 3 metres tall after foliage is well developed. Brush or trees above 3 metres tall should be cut close to the ground and sprayed when the regrowth is over 0.6 metres tall.
 - With good growing conditions and adequate soil moisture, sprays may be applied up to 2 to 3 weeks before normal frost time.
 - DO NOT apply more than two treatments per year.
2. **Aerial Application:** Spray after foliage is well developed.
 - With good growing conditions and adequate soil moisture, sprays can be applied up to 2 to 3 weeks before normal frost time.
 - Use special care during aircraft application as risk to drift is greater.
 - DO NOT spray in winds exceeding 16 km/h.
 - Use caution when spraying near sensitive, desirable vegetation as contact with spray drift will cause damage.
 - DO NOT contaminate any body of water.

RECOMMENDED RATE PER HECTARE: 3.50 to 10.5 L/ha

Use the lower rate for species that are more susceptible such as chokecherry, western snowberry, willow and poplar.

RATE OF CARRIER: Apply sufficient spray volume to thoroughly wet all plant parts to the ground line- 1,000 to 3,000 L/ha of spray solution may be required if applying by ground. For aerial applications use 55 to 165 L/ha of spray solution.

WEEDS CONTROLLED:

Susceptible Weeds: Annual sow-thistle, bluebur (up to 4 leaf stage), burdock (before the 4-leaf stage), cocklebur, common plantain, daisy fleabane, false flax, false ragweed, flixweed, goat's beard, kochia, lamb's-quarters, mustards (except dog and tansy), narrow-leaved hawk's beard (susceptible in the fall and at 1-2 leaf in the spring), prickly lettuce, ragweeds (common & giant), redroot pigweed, Russian pigweed, Russian thistle, shepherd's purse, stinging nettle, stinkweed, sweet clover, thyme-leaved spurge, volunteer canola, wild radish, wild (prairie) sunflower.

Rates to Use on Susceptible Weeds:

Easy-to-control weeds in the seedling stage (2 to 4) leaf and growing rapidly. Use 800 mL/ha to 1.25 L/ha. Use the higher rate for larger weeds, dry or cold weather, or heavy infestations.

Less Susceptible Weeds: Blue lettuce, biennial wormwood, common chickweed, common purslane, curled dock (before the 4-leaf stage), dandelion (in lawn), dog mustard, flixweed (spring, prior to bolting), groundsel, gumweed, hairy galinsoga,

hawkweed, heal-all, hedge bindweed, knotweed (before the 4-leaf stage), narrow-leaved hawk's-beard (spring, prior to bolting), oak-leaved goosefoot, peppergrass, pineappleweed, prostrate pigweed, Russian knapweed, sheep sorrel, tansy mustard, tumble pigweed, velvet leaf, yellow rocket (before the 4-leaf stage).

Rates for Less Susceptible Weeds:

Harder-to control weeds in the seedling stage (2 to 4 leaf) and growing rapidly. Use 1.35 L/ha to 2.0 L/ha. Use the higher rate for larger weeds, dry or cold weather, or heavy infestation.

Top Growth Control Only:

Biennial wormwood, blue lettuce, bull thistle, burdock, buttercup, Canada thistle, field bindweed, field dandelion, gumweed, hedge bindweed, hoary cress, lady's-thumb, leafy spurge, mouse-eared chickweed, perennial sow-thistle, Russian knapweed, smartweed, tartary buckwheat, teasel, volunteer sunflower, wild buckwheat, yellow rocket (controlled with applications before the 4-leaf stage).

Rates of Application for Top Growth Control Only:

Use 1.35 to 2.0 L/ha

Buffer zones:

Spot treatments using hand-held equipment DO NOT require a buffer zone.

For application to rights-of-way, buffer zones for protection of sensitive terrestrial habitats are not required; however, the best available application strategies which minimize off-site drift, including meteorological conditions (e.g., wind direction, low wind speed) and spray equipment (e.g., coarse droplet sizes, minimizing height above canopy), should be used. Applicators must, however, observe the specified buffer zones for protection of sensitive aquatic habitats.

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

Method of Application	Crop		Buffer Zone (meters) Required for the Protection of:					
			Freshwater Habitat of Depths:		Estuarine/Marine Habitats of Depths:		Terrestrial Habitat	
			Less than 1 m	Greater than 1 m	Less than 1 m	Greater than 1 m		
Field Sprayer*	Golf Courses, Turf		1	0	1	0	1	
	Field Crops (cereal grains, corn, forage sorghum, forage millet)		1	0	1	0	1	
	Grasslands, fallow land and crop stubble, established pastures, rangeland, non-crop/non-grazed land (including roadsides, airports, rights-of-way, and brush control)		1	0	1	0	2*	
Aerial	Field crops (cereal grains, forage sorghum, forage millet)	Fixed wing	1	0	1	0	45	
		Rotary wing	1	0	1	0	40	
	Grasslands, fallowland and crop stubble, established pastures and rangeland	Fixed wing	1	0	1	0	60	
		Rotary wing	1	0	1	0	50	
	Non-cropland (including rights-of-way and brush control)	5.35 L/ha (2.24 kg a.e./ha)	Fixed wing	1	0	1	0	150*
			Rotary wing	1	0	1	0	80*
		11.70 L/ha (4.48 kg a.e./ha)	Fixed wing	2	0	2	0	225*
			Rotary wing	1	0	1	0	100*

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

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

The buffer zones for this product can be modified based on weather conditions and spray equipment configuration by accessing the Buffer Zone Calculator on the Pest Management Regulatory Agency web site.

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