



# Glyphosate 54

GLYPHOSATE | GROUP 9 | HERBICIDE

**ACTIVE INGREDIENT:**

\*Glyphosate, N-(phosphonomethyl) glycine, in the form of its isopropylamine salt ..... 53.8%

**OTHER INGREDIENTS:** ..... 46.2%

**TOTAL:** ..... 100.0%

\*Contains 660 grams per liter or 5.5 pounds per U.S. gallon of the active ingredient glyphosate, in the form of its isopropylamine salt. Equivalent to 480 grams per liter or 4 pounds per U.S. gallon of the acid, glyphosate.

## KEEP OUT OF REACH OF CHILDREN CAUTION

See inside label booklet for First Aid, additional Precautionary Statements, and Directions for Use including Storage and Disposal instructions.

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.

(If you do not understand the label, find someone to explain it to you in detail.)

Read the entire label before using this product. Use only according to label instructions.

Read the "WARRANTY" and "LIABILITY" statements at the end of the label before buying or using.

If terms are not acceptable, return at once unopened.

**Manufactured for:**

RedEagle International, LLC  
5143 S. Lakeland Drive Suite 4  
Lakeland, FL 33813

EPA Reg. No. 94398-1-85678

#### FIRST AID

**IF IN EYES:**

- Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing.
- Call a poison control center or doctor for treatment advice.

#### HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-222-1222 for emergency medical treatment information.

#### PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**CAUTION:** Causes moderate eye irritation. Do not get in eyes, on skin, or on clothing. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash clothing before re-use.

**DOMESTIC ANIMALS:** This product is considered to be relatively non-toxic to dogs and other domestic animals; however, ingestion of this product or large amounts of freshly sprayed vegetation may result in temporary gastrointestinal irritation (vomiting, diarrhea, colic, etc.). If such symptoms are observed, provide the animal with plenty of fluids to prevent dehydration. Call a veterinarian if symptoms persist for more than 24 hours.

#### PERSONAL PROTECTIVE EQUIPMENT: (PPE)

Applicators and other handlers must wear long-sleeved shirt and long pants, and shoes plus socks. Follow manufacturer's instructions for cleaning / maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

Engineering controls statement: When handlers use closed system, enclosed cabs or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

#### User Safety Recommendations:

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if contaminated. Wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of the gloves before removing. As soon as possible, wash thoroughly and change clothing.

#### ENVIRONMENTAL HAZARDS

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

#### PHYSICAL OR CHEMICAL HAZARDS

Spray solutions of this product should be mixed, stored and applied using only stainless steel, aluminum, fiberglass, plastic or plastic-lined steel containers.

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

Do not mix or allow contact with oxidizing agents. Hazardous chemical reaction may occur.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulations.

**AVOID HERBICIDE CONTACT WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.**

Read the entire label before using this product. Use only according to label instructions. Read "WARRANTY DISCLAIMER" and "LIMITATION OF LIABILITY" before buying or using. If terms are not acceptable, return product at once unopened.

#### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water, is: coveralls, chemical resistant gloves made of butyl rubber, natural rubber, neoprene rubber, or nitrile rubber  $\geq$  14 mils, and shoes plus socks.

#### NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Keep people and pets off treated areas until spray solution has dried.

#### PRODUCT INFORMATION

**Product Description:** This product is a postemergent, systemic herbicide with no soil residue activity. It is generally non-selective and gives broad spectrum control of many annual weeds, perennial weeds, woody brush and trees. It is formulated as a water-soluble liquid.

This product can be mixed with additives containing surfactant, buffering agents or pH adjusting agents. It can be applied through most standard industrial or field-type sprayers after dilution and thorough mixing with water or other carriers according to label instructions. Ammonium Sulfate can be used. See the "MIXING" section of this label for instructions.

**Time to Visible Symptoms:** This product moves through the plant from the point of foliage contact to and into the root system. Visible effects on most annual weeds occur within 2 to 4 days, but on most perennial weeds may not occur for 7 days or more. Extremely cool or cloudy weather following treatment may slow activity of this product and delay development of visible symptoms. 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.

**Stage of Weeds:** Annual weeds are easiest to control when they are small. Best control of most perennial weeds is obtained when treatment is made at late growth stages approaching maturity. Refer to the annual, perennial, woody brush and trees rate tables for more information on controlling specific weeds.

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

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

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

**Rainfastness:** Heavy rainfall or irrigation soon after application may wash this product off of the foliage and a repeat application may be required for adequate control.

**Spray Coverage:** For best results, spray coverage should be uniform and complete. Do not spray weed foliage to the point of runoff.

**Mechanism of Action:** The active ingredient in this product inhibits an enzyme, found only in plants and microorganisms, that is essential to formation of specific amino acids.

**No Soil Activity:** Weeds must be emerged at the time of application to be controlled by this product. Weeds germinating from seed after application will not be controlled. Unemerged plants arising from unattached underground rhizomes or root stocks of perennials will not be affected by the herbicide and will continue to grow.

**Biological Degradation:** Degradation of this product is primarily a biological process carried out by soil microbes.

**Annual Maximum Use Rate:** Except as otherwise specified in the crop section of this label, the combined total of all treatments must not exceed 192 fluid ounces (6 quarts) (6 pounds of glyphosate acid) of this product per acre per year. For applications in noncrop sites or in tree, vine, or shrub crops, the combined total of all treatments must not exceed 256 fluid ounces (8 quarts) (8 pounds of glyphosate acid) of this product per acre per year. The maximum use rates stated throughout this product's labeling apply to this product combined with the use of all other herbicides containing glyphosate or sulfosate as the active ingredient, whether applied as mixtures or separately. Calculate the application rates and ensure that the total use of this and other glyphosate or sulfosate containing products does not exceed stated maximum use rate.

#### WEED RESISTANCE MANAGEMENT

For resistance management, **Glyphosate 54** is a Group 9 herbicide. Any weed population may contain or develop plants naturally resistant to **Glyphosate 54** and other Group 9 herbicides. The resistant biotypes may dominate the weed population if these herbicides are used repeatedly in the same field. Appropriate resistance-management strategies should be followed.

To delay herbicide resistance, take one or more of the following steps:

- Rotate the use of **Glyphosate 54** 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 or premixes with herbicides from a different group if such use is permitted; where information on resistance in target weed species is available, use the less resistance-prone partner. Consult your local extension service or certified crop advisor if you are unsure as to which active ingredient is currently less prone to resistance.
- Scout after herbicide application to monitor weed populations for early signs of resistance development. Indicators of possible herbicide resistance include: failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds; a spreading patch of non-controlled plants of a particular weed species; surviving plants mixed with controlled individuals of the same species. If resistance is suspected, prevent weed seed production in the affected area by an alternative herbicide from a different group or by a mechanical method such as hoeing or tillage. Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment when moving between fields and planting clean seed.
- If a weed pest population continues to progress after treatment with this product, discontinue use of this product, and switch to another management strategy or herbicide with a different mode of action, if available.
- Contact your local extension specialist, certified crop advisors and/or manufacturer for herbicide resistance management and/or integrated weed management recommendations for specific crops and resistant weed biotypes.

Report any incidence of non-performance of this product against a particular weed species to your RedEagle International, LLC retailer or representative. If resistance is suspected, treat weed escapes with an herbicide having a different mechanism of action and/or use non-chemicals means to remove escapes, as practical, with the goal of preventing further seed production. In addition to the guidance above, registrants are encouraged to incorporate the appropriate elements of Best Management Practices from HRAC and WSSA on the label.

#### MIXING

Clean sprayer parts immediately after using this product by thoroughly flushing with water.

**NOTE:** Reduced results may occur if water containing soil is used, such as visibly muddy water or water from ponds and ditches that is not clear.

#### Mixing with Water:

This product mixes readily with water. Mix spray solutions of this product as follows:

- Fill the mixing or spray tank with the required amount of water.
- Add the specified amount of this product near the end of the filling process and mix well. Use caution to avoid siphoning back into the carrier source. Use approved anti-back-siphoning devices required by state or local regulations.
- During mixing and application, foaming of the spray solution may occur. To prevent or minimize foam, avoid the use of mechanical agitators, terminate by-pass and return lines at the bottom of the tank and, if needed, use an approved anti-foam or defoaming agent.

#### Tank Mixing Procedure:

This product does not provide residual weed control. For subsequent residual weed control, follow a label-approved herbicide program. Always predetermine the compatibility of labeled tank mixtures of this product with water carrier by mixing small proportional quantities in advance.

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

To the extent consistent with applicable law, buyer and all users are responsible for all loss or damage in connection with the use or handling of mixtures of this product with herbicides or other materials that are not expressly recommended in this labeling. Mixing this product with herbicides or other materials not recommended on this label may result in reduced performance

Mix labeled tank mixtures of this product as follows:

1. Place a 20 to 35 mesh screen or wetting basket over filling port.
2. Through the screen, fill the spray tank one-half full with water and start agitation.
3. If ammonium sulfate is used, add it slowly through the screen into the tank. Continue agitation. Ensure that dry ammonium sulfate is completely dissolved in the spray tank before adding other products.
4. If a wettable powder is used, make a slurry with the water carrier, and add it SLOWLY through the screen into the tank. Continue agitation.
5. If a flowable formulation is used, premix one part flowable with one part water. Add diluted mixture SLOWLY through the screen into the tank. Continue agitation.
6. If an emulsifiable concentrate formulation is used, premix one part emulsifiable concentrate with two parts water. Add diluted mixture slowly through the screen into the tank. Continue agitation.
7. Continue filling the spray tank with water and add the required amount of this product near the end of the filling process.
8. If a surfactant is used, add it to the spray tank before completing the filling process.
9. Add individual formulations to the spray tank as follows: wettable powder, flowable, emulsifiable concentrate, drift control additive, water soluble liquid.

Maintain good agitation at all times until the contents of the tank are sprayed. If the spray mixture is allowed to settle, thorough agitation is required to resuspend the mixture before spraying is resumed.

Keep a by-pass line on or near the bottom of the tank to minimize foaming. Screen size in nozzle or line strainers should be no finer than 50 mesh.

#### Mixing for Hand-Held Sprayers

Prepare the desired volume of spray solution by mixing the amount of this product in water as shown in the following table:

#### Spray Solution

Desired Volume	Amount of Glyphosate 54					
	0.5%	1%	1.5%	2%	5%	10%
1 Gallon	0.6 fluid oz.	1.3 fluid oz.	2 fluid oz.	2.6 fluid oz.	6.5 fluid oz.	13 fluid oz.
25 Gallon	16 fluid oz.	32 fluid oz.	48 fluid oz.	64 fluid oz.	160 fluid oz.	320 fluid oz.
100 Gallon	64 fluid oz.	128 fluid oz.	192 fluid oz.	256 fluid oz.	640 fluid oz.	1,280 fluid oz.
2 tablespoons = 1 fluid ounce						

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

#### Surfactants

Surfactants or wetting agents that are labeled for use with herbicides can be added to the spray solution. Do not reduce rates of this herbicide when adding surfactants. Read and follow instructions on the additives' label. When an adjuvant is to be used with this product, RedEagle International, LLC recommends the use of a Council of Producers and Distributors of Agrotechnology Chemical Producers and Distributors Association certified adjuvant.

#### Ammonium Sulfate

The addition of 1 to 2 percent dry ammonium sulfate by weight or 8.5 to 17 pounds per 100 gallons of water may increase the performance of this product, particularly under hard water conditions, drought conditions or when tank mixed with certain residual herbicides on annual and perennial weeds. The equivalent rate of ammonium sulfate in a liquid formulation may also be used. Ensure that dry ammonium sulfate is completely dissolved in the spray tank before adding herbicides. Thoroughly rinse the spray system with clean water after use to reduce corrosion.

**NOTE:** When using ammonium sulfate, apply this product at rates specified in this label. Lower rates will result in reduced performance.

#### Colorants or Dyes

Agriculturally approved colorants or marking dyes may be added to this product. Colorants or dyes used in spray solutions of this product may reduce performance, especially at lower rates or dilutions. Use colorants or dyes according to the manufacturer's directions.

#### Drift Control Additives

Drift control additives may be used with all equipment types, except wiper applicators, sponge bars and CDA equipment. When a drift control additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label. The use of drift control additives can affect spray coverage which may result in reduced performance.

#### APPLICATION EQUIPMENT AND TECHNIQUES

Do not apply this product through any type of irrigation system. This product may be applied with the following application equipment:

**Aerial** – Fixed Wing and Helicopter

**Ground Broadcast Spray** – Boom or boomless systems, pull-type sprayer, floaters, pick-up sprayers, spray coupes and other ground broadcast equipment.

**Hand-Held and High-Volume Spray Equipment** – Knapsack and backpack sprayers, pump-up pressure sprayers, handguns, handwands, mistblowers\*, lances and other hand-held and motorized spray equipment used to direct spray onto weed foliage.

\* THIS PRODUCT IS NOT REGISTERED IN CALIFORNIA OR ARIZONA FOR USE IN MISTBLOWERS.

**Selective Equipment** – Recirculating sprayers, shielded and hooded sprayers, wiper applicators and sponge bars.

**Injection Systems** – Aerial or ground injection sprayers.

**Controlled Droplet Applicators (CDA)** – Hand-held or boom-mounted applicators that produce a spray consisting of a narrow range of droplet sizes.

APPLY THESE SPRAY SOLUTIONS IN PROPERLY MAINTAINED AND CALIBRATED EQUIPMENT CAPABLE OF DELIVERING DESIRED VOLUMES.

#### AERIAL EQUIPMENT

DO NOT APPLY THIS PRODUCT USING AERIAL SPRAY EQUIPMENT EXCEPT UNDER CONDITIONS AS SPECIFIED WITHIN THIS LABEL.

Use the specified rates of this herbicide in 3 to 15 gallons of water per acre unless otherwise specified on this label. Unless otherwise specified, do not exceed 24 fl. oz. per acre. Refer to the individual use area sections of this label for specified volumes and application rates.

For aerial application in California and Fresno County California, refer to the "FOR AERIAL APPLICATION IN CALIFORNIA ONLY" and "FOR AERIAL APPLICATION IN FRESNO COUNTY CALIFORNIA ONLY" sections of this label for specific instructions, restrictions and requirements.

For aerial application in Arkansas, refer to the "ARKANSAS ONLY" section of this label for specific instructions, restrictions and requirements.

Avoid direct application to any body of water.

**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 and from spills. PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART. LANDING GEAR IS MOST SUSCEPTIBLE. The maintenance of an organic coating (paint), which meets aerospace specification MIL-C-38413, may prevent corrosion.

#### **MANDATORY SPRAY DRIFT**

##### **Aerial Applications:**

- Do not release spray at a height greater than 10 ft. above the ground or vegetative canopy, unless a greater application height is necessary for pilot safety.
- Applicators are required to use a Medium or coarser droplet size (ASABE S572.1) unless tank-mixing with a pesticide product that requires use of a finer droplet size. If a finer droplet size is used, applicators are required to use a Fine or coarser droplet size (ASABE S572.1).
- If the windspeed is 10 miles per hour or less, applicators must use ½ swath displacement upwind at the downwind edge of the field. When the windspeed is 11-15 miles per hour, applicators must use a ¾ swath displacement upwind at the downwind edge of the field.
- Do not apply when wind speeds exceed 15 mph at the application site. If the windspeed is greater than 10 mph, the boom length must be 65% or less of the wingspan for fixed wing aircraft and 75% or less of the rotor diameter for helicopters. Otherwise, the boom length must be 75% or less of the wingspan for fixed-wing aircraft and 90% or less of the rotor diameter for helicopters.
- Do not apply during temperature inversions.

##### **Ground Boom Applications:**

- User must only apply with the release height recommended by the manufacturer, but no more than 4 feet above the ground or crop canopy.
- Applicators are required to use a Medium or coarser droplet size (ASABE S572.1) unless tank-mixing with a pesticide product requires use of a finer droplet size. If a finer droplet size is used, applicators are required to use a Fine or coarser droplet size (ASABE S572.1).
- Do not apply when wind speeds exceed 15 miles per hour at the application site.
- Do not apply during temperature inversions.

##### **Boomless Ground Applications:**

- Applicators are required to use a Medium or coarser droplet size (ASABE S572.1) unless tank-mixing with a pesticide product that requires use of a finer droplet size. If a finer droplet size is used, applicators are required to use a Fine or coarser droplet size (ASABE S572.1).
- Do not apply when wind speeds exceed 15 miles per hour at the application site.
- Do not apply during temperature inversions.

#### **SPRAY DRIFT ADVISORIES**

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT. BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

#### **IMPORTANCE OF DROPLET SIZE**

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under favorable environmental conditions.

##### **Controlling Droplet Size – Ground Boom**

- Volume – Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- Pressure – Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- Spray Nozzle – Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

##### **Controlling Droplet Size – Aircraft**

- Adjust Nozzles – Follow nozzle manufacturers' recommendations for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.

##### **BOOM HEIGHT – Ground Boom**

For ground equipment, the boom should remain level with the crop and have minimal bounce.

##### **RELEASE HEIGHT – Aircraft**

Higher release heights increase the potential for spray drift.

##### **SHIELDED SPRAYERS**

Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

##### **TEMPERATURE AND HUMIDITY**

When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

### **TEMPERATURE INVERSIONS**

Drift potential is high during a temperature inversion. Temperature inversions restrict vertical air mixing, which can cause small droplets to remain suspended in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and common on nights with limited cloud cover and light to no wind. They can begin to form in late afternoon/early evening and often continue into the morning. Their presence can be indicated by ground fog. If fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

### **WIND**

Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS. Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

#### **Boomless Ground Applications:**

- Setting nozzles at the lowest effective height will help to reduce the potential for spray drift.

#### **Handheld Technology Applications:**

- Take precautions to minimize spray drift.

### **FOR AERIAL APPLICATION IN CALIFORNIA ONLY**

Do not apply this product using aerial application equipment in residential areas.

When tank mixing this product with 2,4-D for aerial applications, only 2,4-D amine formulations may be used. This tank mixture may be used for fallow and reduced tillage systems and alfalfa and pasture renovation applications only.

This product plus dicamba tank mixtures may not be applied by air in California.

**AVOID DRIFT – DO NOT APPLY WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITION WHICH FAVORS DRIFT. DRIFT MAY CAUSE DAMAGE TO ANY VEGETATION CONTACTED TO WHICH TREATMENT IS NOT INTENDED. TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.**

Use the following guidelines when aerial applications are made near crops or desirable perennial vegetation after bud break and before total leaf drop, and/or near other desirable vegetation or annual crops.

1. Do not apply within 100 feet of all desirable vegetation or crop(s).
2. If wind up to 5 miles per hour is blowing toward desirable vegetation or crop(s), do not apply within 500 feet of the desirable vegetation or crop(s).
3. Winds blowing from 5 to 10 miles per hour toward desirable vegetation may require buffer zones in excess of 500 feet.
4. Do not apply when winds are in excess of 10 miles per hour or when inversion conditions exist.

Coarse sprays are less likely to drift; therefore, do not use nozzles or nozzle configurations which dispense spray as fine droplets. Do not angle nozzles forward into the airstream and do not increase spray volume by increasing nozzle pressure above the manufacturer's recommendation.

Drift control additives may be used. When a drift control additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label.

Ensure uniform application --to avoid streaking and 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 IS MOST SUSCEPTIBLE. Maintaining an organic coating (paint) that meets aerospace specification MIL-C-38413 may prevent corrosion.

### **FOR AERIAL APPLICATION IN FRESNO COUNTY, CALIFORNIA ONLY**

#### **From February 15 through March 31 Only**

Always read and follow the label direction and precautionary statements for all products used in the aerial application.

#### **Applicable Area**

The area contained inside the following boundaries within Fresno County, California.

North: Fresno County line

South: Fresno County line

East: State Highway 99

West: Fresno County line



Observe the following directions to minimize off-site movement during aerial application of this product. Minimization of off-site movement is the responsibility of the grower, Pest Control Advisor and aerial applicator.

#### **Written Directions**

A written recommendation MUST be submitted by or on behalf of the applicator to the Fresno county Agricultural Commissioner 24 hours prior to the application. This written recommendation MUST state the proximity of surrounding crops, and that conditions of each manufacturer's product label and this label have been satisfied.

#### **Aerial Applicator Training and Equipment**

Aerial application of this product is limited to pilots who have successfully completed a Fresno County Agricultural Commissioner and California Department of Pesticide Regulation approved training program for aerial application of herbicides. All aircraft must be inspected, critiqued in flight and certified at a Fresno County Agricultural Commissioner approved fly-in. Test and calibrate spray equipment at intervals sufficient to ensure that proper rates of herbicides and adjuvants are being applied during commercial use. Applicator must document such calibrations and testing. Demonstration of performance at Fresno County Agricultural Commissioner approved fly-ins constitutes such documentation, or other written records showing calculations and measurements of flight and spray parameters acceptable to the Fresno County Agricultural Commissioner.

**Applications at Night** – Do not apply this product by air earlier than 30 minutes prior to sunrise and/or later than 30 minutes after sunset without prior permission from the Fresno County Agricultural Commissioner.

**Note:** For aerial application from April 1 through February 14, refer to the "FOR AERIAL APPLICATION IN CALIFORNIA ONLY" section of this label.

#### **ARKANSAS ONLY**

**AVOID DRIFT. DO NOT APPLY INTO STILL AIR WHERE THERE IS A TEMPERATURE INVERSION LAYER LOW ENOUGH FOR FINE SPRAY PARTICLES TO BECOME SUSPENDED AND MOVE OUTSIDE THE TARGET AREA WHEN THE INVERSION LAYER MOVES. DO NOT APPLY WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITION THAT FAVORS DRIFT. DRIFT IS LIKELY TO CAUSE DAMAGE TO ANY VEGETATION CONTACTED. TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.**

Use the specified rate of this product in 3 to 15 gallons of water per acre. Use sufficient carrier volume and appropriate equipment set-up to form droplets large enough to avoid drift potential. Coarse droplets in the 300 to 500 (VMD) micron range are required.

Applications should typically be made with the nozzle release point at 8 to 15 feet above the top of the target plants unless a greater height is required for aircraft safety. The distance of the outermost nozzles on the boom must not exceed 75% of the length of the wingspan or rotor. In many cases reducing this distance to 65% of the length of the wingspan or rotor will improve drift control without affecting the swath width.

Nozzles must always discharge backward parallel with the airstream and never discharge downwards more than 45 degrees on fixed wing aircraft or forward of the prevailing airflow on rotary winged aircraft. Avoid the use of nozzles with wide-angle discharge.

Do not apply this product when wind speeds are in excess of 10 miles per hour. Do not apply when there is a low-level inversion where fine spray particles could be suspended in still air and move outside the target area when the inversion layer moves. These conditions may occur when wind speeds are less than 2 mph.

Use the following guidelines when applications are made near crops or other desirable vegetation:

1. Do not apply within 100 feet of any desirable vegetation or crops.
2. If wind up to 5 miles per hour is blowing toward desirable vegetation or crops, do not apply within 500 feet upwind of the desirable vegetation or crops.
3. Winds blowing from 5 to 10 miles per hour toward desirable vegetation or crops will likely require buffer zones in excess of 500 feet.

#### **ARKANSAS, LOUISIANA, MISSISSIPPI, MISSOURI, AND TENNESSEE ONLY**

This product controls annual and perennial weeds listed on this label prior to planting or emergence of corn, cotton, rice, sorghum and soybeans; prior to the harvest of cotton and soybeans; and following the harvest of any crop in the fall via aerial applications in these locations.

Aerial applications of this product may be made in fallow systems and conventional, reduced and zero tillage systems. For applications via aerial equipment, use the specified rates of this product in 3 to 10 gallons of water per acre. Do not exceed a rate of 72 fluid ounces (4.5 pts.) per acre.

The likelihood of injury occurring from the use of this product is greatest when winds are gusty or in excess of 5 miles per hour or when other conditions, including lesser velocities, will allow spray drift to occur.

#### **GROUND BROADCAST EQUIPMENT**

Use the specified rates of this product in 3 to 40 gallons of water per acre as a broadcast spray unless otherwise specified. As density of weeds increases, spray volume should be increased within the specified range to ensure complete coverage. Carefully select proper nozzles to avoid spraying a fine mist. For best results with ground application equipment, use flat fan nozzles. Check for even distribution of spray droplets.

#### **HAND-HELD AND HIGH-VOLUME EQUIPMENT**

Apply to foliage of vegetation to be controlled. For applications made on a spray-to-wet basis, spray coverage should be uniform and complete. Do not spray to the point of runoff. Use coarse sprays only. For specified rates and timing, refer to the "Annual Weeds – Hand-Held or High-Volume Equipment" section of this product label.

#### **SELECTIVE EQUIPMENT**

This product may be applied through recirculating spray systems, shielded applicators, hooded sprayers, wiper applicators or sponge bars, after dilution and thorough mixing with water, to listed weeds growing in any noncrop site specified on this label.

In cropping systems, hooded sprayers, shielded sprayers, and wipers may be used in row middles (in between rows of crop plants) where any dripping or leaking will not contact crop foliage. Such equipment must be capable of preventing all crop contact with herbicide solutions and operated without leakage of spray mists or dripping onto crop. Wipers over-the-top of crops may be used only when specifically specified in this product's labeling.

#### **AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION.**

Contact of the herbicide solution with desirable vegetation may result in damage or destruction. Applicators used above desirable vegetation should be adjusted so that the lowest spray stream or wiper contact point is at least 2 inches above the desirable vegetation. Droplets, mist, foam, or splatter of the herbicide solution settling on desirable vegetation may result in discoloration, stunting or destruction.

Applications made above the crops should be made when the weeds are a minimum of 6 inches above the desirable vegetation. Better results may be obtained when more of the weed is exposed to the herbicide solution. Weeds not contacted by the herbicide solution will not be affected. This may occur in dense clumps, severe infestations or when height of the weeds varies so that not all weeds are contacted. In these instances, repeat treatments may be necessary.

#### **Recirculating Spray System**

A recirculating spray system directs the spray solution onto weeds growing above desirable vegetation, while spray solution not intercepted by weeds is collected and returned to the spray tank for reuse.

#### **Shielded and Hooded Applicators**

When applied under the conditions described in the following paragraphs for shielded and hooded applications, this product at specified rates will control those weeds listed in the "ANNUAL WEEDS RATE TABLE" and "PERENNIAL WEEDS RATE TABLE" sections of this label. A hooded sprayer is a type of shielded applicator where the spray pattern is fully enclosed including top, sides, front and back, thereby shielding the crop from the spray solution. Keep shields on these sprayers adjusted to protect desirable vegetation. When applying to crops grown on raised beds, ensure that the hood is designed to completely enclose the spray solution. If necessary, extend the front and rear flaps of the hoods to reach the ground in deep furrows. **EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION.**

This equipment must be set up and operated in a manner that avoids bouncing or raising the hoods off the ground in any way. If the hoods are raised, spray particles may escape and come into contact with the crop causing damage or destruction of the crop. Avoid operation on rough or sloping ground where the spray hoods might be raised off the ground.

Use hoods designed to minimize excessive dripping or run-off down the insides of the hoods. A single, low pressure / low drift flat-fan nozzle with an 80 to 95 degree spray angle positioned at the top center of the hood is recommended. Spray volume should be 20 to 30 gallons per acre.

These procedures will reduce the potential for crop injury:

- The spray hoods must be operated on the ground or skimming across the ground.
- Leave at least an 8 inch untreated strip over the drill row. For example, if the crop row width is 38 inches, the maximum width of the spray hood should be 30 inches.
- Maximum tractor speed: 5 mph to avoid bouncing of the spray hoods.
- Maximum wind speed: 10 mph.
- Use low-drift nozzles that provide uniform coverage within the treated area.

Crop injury may occur when the foliage of treated weeds comes into direct contact with leaves of the crop. Do not apply this product when the leaves of the crop are growing in direct contact with weeds to be treated. Droplets, mist, foam or splatter of the herbicide solution may contact the crop and cause discoloration, stunting or destruction.

#### **Wiper Applicators**

Wiper applicators are devices that physically wipe appropriate amounts of this product directly onto the weed.

Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting desirable vegetation. Operate this equipment at ground speeds no greater than 5 mph. Performance may be improved by reducing speed in areas of heavy weed infestations to ensure adequate wiper saturation. Better results may be obtained if 2 applications are made in opposite directions.

Avoid leakage or dripping onto desirable vegetation. Adjust height of applicator to ensure adequate contact with weeds. Keep wiping surfaces clean. Be aware that, on sloping ground, the herbicide solution may migrate, causing dripping on the lower end and drying of the wicks on the upper end of a wiper applicator.

Do not use wiper equipment when weeds are wet.

Mix only the amount of solution to be used during a 1-day period, as reduced activity may result from use of leftover solutions. Clean wiper parts immediately after using this product by thoroughly flushing with water.

Do not add surfactant to the herbicide solution.

**For rope or sponge wick applicators:** Mix 96 fluid ounces (3 qts.) of this product in 2 gallons of water to prepare a 33% solution. Apply this solution to weeds listed in this section.

**For porous-plastic applicators:** Solutions ranging from 25% to 100% of this product in water may be used in porous-plastic wiper applicators.

When applied as specified, this product **CONTROLS** the following weeds:

Corn, volunteer*	Sicklepod
Panicum, Texas	Spanishneedles
Rye, common	Starbur, bristly
Shattercane	

When applied as specified, this product **SUPPRESSES** the following weeds:

Beggarweed, Florida	Ragweed, common
Bermudagrass	Ragweed, giant
Dogbane, hemp	Smutgrass
Dogfennel	Sunflower
Guineagrass	Thistle, Canada
Johnsongrass	Thistle, musk
Milkweed	Vaseygrass
Nightshade, silverleaf	Velvetleaf
Pigweed, redroot	

\* Except volunteer Roundup Ready Corn.

#### **INJECTION SYSTEMS**

This product may be used in aerial or ground injection spray systems. It may be used as a liquid concentrate or diluted prior to injecting into the spray stream. Do not mix this product with the concentrate of other products when using injection systems.

#### **CDA EQUIPMENT**

The rate of this product applied per acre by vehicle-mounted CDA equipment must not be less than the amount specified in this label when applied by conventional broadcast equipment. For vehicle-mounted CDA equipment, apply 3 to 15 gallons of water per acre.

For the control of annual weeds with hand-held CDA units, apply a 20% solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 1.5 mph (1.5 pts. per acre). For the control of perennial weeds, apply a 20 to 40% solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 0.75 mph (48 to 96 fluid ounces per acre).

Controlled droplet application equipment produces a spray pattern that is not easily visible. Extreme care must be exercised to avoid spray or drift contacting the foliage or any other green tissue of desirable vegetation, as damage or destruction may result.

#### **ANNUAL AND PERENNIAL CROPS (Alphabetical)**

NOTE: THIS SECTION GIVES DIRECTIONS FOR USE OF THIS PRODUCT THAT APPLY TO ALL CROPS LISTED BELOW, GROUPED ALPHABETICALLY. SEE THE INDIVIDUAL CROP CATEGORIES FOR SPECIFIC INSTRUCTIONS, PREHARVEST INTERVALS, AND ADDITIONAL PRECAUTIONS AND RESTRICTIONS.

See the "ROUNDUP READY CROPS" section of this label for instructions for treating Roundup Ready crops.

**Types of applications:** Chemical fallow, preplant fallow beds, preplant, pre-emergence, at-planting, Selective equipment in row middles (hooded or shielded sprayers, or wiper applicators), and postharvest treatments.

See "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional information.

**Use Instructions:**

Apply this product during fallow intervals preceding planting, prior to planting or transplanting, at-planting, or pre-emergent to annual and perennial crops listed in this label, except where specifically limited. For any crop not listed in this label, applications must be made at least 30 days prior to planting. Unless otherwise specified, weed control applications may be made according to the rates listed in the annual, perennial and woody brush tables in this label. Repeat applications may be made up to a maximum of 192 fluid ounces (6 quarts) per acre per year.

Post-directed hooded sprayers and wiper equipment capable of preventing all crop contact with herbicide solutions may be used in mulched or unmulched row middles after crop establishment. Where specifically noted below, wipers may also be used above certain crops to control tall weeds. Refer to the "SELECTIVE EQUIPMENT" section of this label for essential precautions when using hooded sprayers or wipers to avoid crop injury caused by leakage of spray mists or dripping onto crops. Crop injury is possible with these applications and shall be the sole responsibility of the applicator.

The maximum use rates stated throughout this product's labeling apply to this product combined with the use of all other herbicides containing glyphosate or sulfosate as the active ingredient, whether applied as mixtures or separately. Calculate the application rates and ensure that the total use of this and other glyphosate or sulfosate containing products does not exceed stated maximum use rate.

**PRECAUTIONS:**

- Avoid contact of herbicide with foliage, green shoots or stems, bark, exposed roots (including those emerging from plastic mulch), or fruit of crops because severe injury or destruction may result.
- When making pre-emergence and at-planting applications, applications must be made before crop emergence to avoid severe crop injury. Broadcast applications made at emergence will result in injury or death to emerged seedlings.
- When applying this product prior to transplanting or direct-seeding crops into plastic mulch, care must be taken to remove residues of this product, which could cause crop injury, from the plastic prior to planting. Residues can be removed by a single 0.5 inch application of water, either by natural rainfall or via a sprinkler system.
- Apply before seed germination in coarse sandy soils to further minimize the risk of injury.
- In crops where spot treatment is allowed the crop receiving spray in the treated area will be killed. Take care to avoid drift or spray outside the target area for the same reason.

**RESTRICTIONS:**

- Unless otherwise specified on this product's labeling, treatments with selective equipment including wipers and hooded sprayers must be made at least 14 days prior to harvest.
- Postharvest or fallow applications must be made at least 30 days prior to planting any non-labeled crop.
- In crops where spot treatments are allowed, do not treat more than 10 percent of the total field to be harvested.
- For broadcast postemergent treatments, do not harvest or feed treated vegetation for 8 weeks following application, unless otherwise specified.

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**Cereal and Grain Crops**

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**Labeled crops:** Barley, buckwheat, millet (pearl, proso), oats, rice, rye, quinoa, teff, teosinte, triticale, wheat (all types), wild rice.

**Types of applications:** Those listed in the "ANNUAL AND PERENNIAL CROPS" section of this label plus the following: Red rice control prior to planting rice, spot treatment (except rice), wiper applicators over-the-top (wheat and feed barley only), preharvest (wheat and feed barley only), for barnyardgrass control (*Echinochloa crus-galli*) in rice using renovation treatments in California only.

Do not treat rice fields or levees when field contains floodwater.

**Preplant, Pre-emergence and At-planting**

**USE INSTRUCTIONS:** This product may be applied before, during or after planting of cereal crops. Applications must be made prior to emergence of the crop.

**Red Rice Control Prior to Planting Rice**

**USE INSTRUCTIONS:** Apply 20 fluid ounces (1.25 pts.) of this product in 5 to 10 gallons of water per acre. Flush fields prior to application to obtain uniform germination and stand of red rice. Make application when the majority of red rice plants are in the 2-leaf stage and no more than 4 inches tall. Red rice plants with less than 2 true leaves may be only partially controlled. Avoid spraying during low humidity conditions, as reduced control may result.

**RESTRICTIONS:** Do not treat rice fields or levees when the fields contain floodwater. Do not re-flood treated fields for 8 days following application.

**Spot Treatment (except rice)**

**USE INSTRUCTIONS:** This product may be applied as a spot treatment in cereal crops. Apply this product before heading in small grains.

**PRECAUTIONS:** The crop receiving spray in the treated area will be killed. Take care to avoid drift or spray outside the target area for the same reason.

**RESTRICTION:** Do not treat more than 10% of the total field area to be harvested.

**Wiper Applications (wheat and feed barley only)**

**USE INSTRUCTIONS:** Wiper applications may be used in wheat or feed barley. To control common rye or cereal rye, apply after the weeds have headed and achieved maximum growth, when the rye is at least 6 inches above the wheat crop.

**RESTRICTIONS:** Allow at least 35 days between application and harvest. Do not use roller applicators.

**Preharvest (wheat and feed barley only)**

**USE INSTRUCTIONS:** This product provides weed control when applied prior to the harvest of wheat and feed barley. For wheat, apply after the hard-dough stage of grain (30% or less grain moisture). For feed barley, apply after the hard-dough stage and when the grain contains 20 percent moisture or less. Stubble may be grazed immediately after harvest. This product may be applied using either aerial or ground spray equipment. For ground applications, apply this product in 10 to 20 gallons of water per acre. For aerial applications, apply this product in 3 to 10 gallons of water per acre.

**RESTRICTIONS:** Do not apply more than 24 fluid ounces (1.5 pts.) of this product per acre. Allow 7 days between application and harvest or grazing. Do not apply to wheat or barley grown for seed, as a reduction in germination or vigor may occur.

**Postharvest**

**USE INSTRUCTIONS:** This product may be applied after harvest of cereal crops. Higher rates may be required for control of large weeds that were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

**RESTRICTIONS:** For any crop not listed on this label, applications must be made at least 30 days prior to planting the next crop. Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation.

**South Dakota Only**

**For nonselective control of listed annual weeds in small grain cropping systems**

**USE INSTRUCTIONS:** For ground applications, use 3 to 5 gallons of water per acre. For aerial applications, use 2 to 3 gallons of water per acre.

The likelihood of injury occurring from the use of this product is greatest when winds are gusty or in excess of 5 miles per hour, or when other conditions, including lesser wind velocities, will allow spray drift to occur. Adjust boom height on ground equipment to prevent streaked, overlapped, or uneven applications. Avoid spraying when weeds are subject to moisture stress, when dust is on foliage, or when straw canopy covers the weeds.

**California Only**

**Barnyardgrass control (*Echinochloa crus-galli*) in rice using renovation treatments**

**USE INSTRUCTIONS:** This product may be applied as a renovation treatment in rice crops to control barnyardgrass infestations using ground broadcast spray or hand-held equipment. Renovation is defined as herbicide treatment that will produce crop and weed destruction in an entire field or contiguous area treated within a field. Follow the application methods and specified treatment rates in this label.

**PRECAUTIONS:** The crop receiving spray in the treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

**RESTRICTIONS:** Do not use the rice straw and stubble from the treated area, including a 25-foot buffer zone on all sides, for grazing, animal bedding or any feed purposes. No aerial applications are permitted for rice renovation.

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**Corn**

**Types of corn:** Field corn, seed corn, silage corn, sweet corn and popcorn.

**Types of applications:** Those listed in the "ANNUAL AND PERENNIAL CROPS" section of this label plus the following: Spot treatment, preharvest.

For Roundup Ready corn, see the "ROUNDUP READY CROPS" section of this label.

**Preplant, Pre-emergence and At-planting**

**USE INSTRUCTIONS:** This product may be applied alone or in a tank mixture before, during or after planting corn. Applications must be made prior to emergence of the crop.

Tank Mixtures: The following tank mixtures may be applied before, during or after planting in conventional tillage systems, into a cover crop, established sod or in previous crop residue. Apply in 10 to 20 gallons of water or 10 to 60 gallons of nitrogen solution per acre:

2,4-D	DIFLUFENOPYR-SODIUM and DICAMBA	ATRAZINE and DICAMBA
ATRAZINE	THIFENSULFURON and RIMSULFURON	DIMETHENAMIDE-P
METRIBUZIN and FLUFENACET	LINURON	PENDIMETHALIN
ISOXAFLOTOLE	ATRAZINE and S-METOLACHLOR	FLUMETSULAM
DICAMBA	S-METOLACHLOR	SIMAZINE
ACETOCHLOR and ATRAZINE		ACETOCHLOR

For improved burndown, this product may be tank mixed with 2,4-D or dicamba.

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Annual weeds: For difficult-to-control weeds such as fall panicum, barnyardgrass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 24 fluid ounces (1.5 pints) per acre in these tank mixtures. For other labeled annual weeds, apply 12 to 18 fl. oz. of this product per acre when weeds are less than 6 inches tall, and 24 to 36 fluid ounces (1.5 to 2.25 pints) when weeds are over 6 inches tall. When using nitrogen solutions as the carrier, use rate may need to be increased for acceptable weed control.

**RESTRICTIONS:** Applications of 2,4-D or dicamba must be made at least 7 days prior to planting. For southern states, do not apply in nitrogen solutions to tough-to-control grasses such as barnyardgrass, fall panicum, broadleaf signalgrass, annual ryegrass and any perennial weeds. This area includes from Route 50 South in Illinois and Indiana and the following states: Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, New Jersey, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia and West Virginia.

THE TANK MIX RECOMMENDATIONS IN THIS SECTION ARE NOT REGISTERED IN CALIFORNIA.

#### **Hooded Sprayers**

**USE INSTRUCTIONS:** This product may be used through hooded sprayers for weed control between the rows of corn (all), including field corn, sweet corn and popcorn. Only hooded sprayers that completely enclose the spray pattern may be used. See additional instruction for the use of hooded sprayers in the "SELECTIVE EQUIPMENT" section of this label.

**PRECAUTION:** Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage. Such damage shall be the sole responsibility of the applicator.

**RESTRICTIONS:** Corn must be at least 12 inches tall, measured without extending leaves. Do not apply more than 24 fluid ounces (1.5 pts.) of this product per acre for each application and no more than 72 fluid ounces (4.5 pts.) per acre per year for hooded sprayer applications.

#### **Spot Treatment**

**USE INSTRUCTIONS:** For spot treatments, apply this product prior to silking of corn.

**PRECAUTION:** The crop receiving spray in the treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

**RESTRICTION:** Do not treat more than 10 percent of total field area to be harvested.

#### **Preharvest**

**USE INSTRUCTIONS:** Make applications at 35% grain moisture or less. Ensure that maximum kernel fill is complete and the corn is physiologically mature (black layer formed). For ground applications, apply up to 72 fluid ounces (4.5 pts.) of this product per acre. For aerial applications, apply up to 48 fluid ounces (3 pts.) of this product per acre.

**PRECAUTION:** Preharvest application is not recommended for corn grown for seed, as a reduction in germination or vigor may occur.

**RESTRICTION:** Allow a minimum of 7 days between application and harvest.

#### **Postharvest**

**USE INSTRUCTIONS:** This product may be applied after harvest of corn. Higher rates may be required for control of large weeds which were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

**RESTRICTION:** Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation.

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## Cotton

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**Types of applications:** Those listed in the "ANNUAL AND PERENNIAL CROPS" section of this label plus the following: Selective equipment, spot treatment, preharvest. For Roundup Ready cotton and Roundup Ready Flex cotton, see the "ROUNDUP READY CROPS" section of this label.

### Preplant, Pre-emergence, and At-planting

**USE INSTRUCTIONS:** This product may be applied before, during or after planting cotton. Applications must be made prior to emergence of the crop.

### Hooded Sprayer, Selective Equipment

**USE INSTRUCTIONS:** This product may be applied through hooded sprayers, recirculating sprayers, shielded applicators or wiper applicators in cotton.

**RESTRICTION:** Allow at least 7 days between application and harvest.

See the "SELECTIVE EQUIPMENT" part of the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for information on proper use and calibration of this equipment.

### Spot Treatment

**USE INSTRUCTIONS:** For spot treatments, apply this product prior to boll opening of cotton.

**PRECAUTION:** The crop receiving the spray in the treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

**RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested.

### Preharvest

**USE INSTRUCTIONS:** This product provides weed control and cotton regrowth inhibition when applied prior to harvest of cotton. For weed control, apply at rates given in the annual, perennial and woody brush tables of this label. For cotton regrowth inhibition, apply 12 to 48 fluid ounces (0.75 to 3 pts.) of this product per acre.

Up to 48 fluid ounces (3 pts.) of this product may be applied using either aerial or ground spray equipment. Apply after sufficient bolls have developed to produce the desired yield of cotton. Applications made prior to this time could affect maximum yield potential.

This product may be tank mixed with tribufos, diuron and thidiazuron, or ethephon to provide additional enhancement of cotton leaf drop.

**PRECAUTION:** Preharvest application is not recommended for cotton grown for seed, as a reduction in germination or vigor may occur.

**RESTRICTIONS:** Allow a minimum of 7 days between application and harvest of cotton. THE USE OF ADDITIVES FOR PREHARVEST APPLICATION OF THIS PRODUCT TO COTTON IS PROHIBITED.

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## Fallow Systems

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**Types of applications:** Chemical fallow, preplant fallow beds, aid-to-tillage.

### Chemical Fallow

**USE INSTRUCTIONS:** This product may be applied during the fallow period prior to planting or emergence of any crop listed on this label. This product may be used as a substitute for tillage to control annual weeds in fallow fields. Also, broadcast or spot treatments will control or suppress many perennial weeds in fallow fields. Ground or aerial application equipment may be used. Tank mixtures with 2,4-D and dicamba may be used. Applications up to 3 pts. per acre may be made by aerial application in fallow sites where there is sufficient buffer to prevent injury due to drift onto adjacent crops.

**RESTRICTIONS:** For any crop not listed on this label, applications must be made at least 30 days prior to planting. DO NOT APPLY DICAMBA TANK MIXTURES BY AIR IN CALIFORNIA.

Refer to specific product labels for crop rotation restrictions and precautionary statements of all products used in tank mixtures. Some crop injury may occur if dicamba is applied within 45 days of planting.

### Preplant Fallow Beds

**USE INSTRUCTIONS:** This product may be applied to fallow beds prior to planting or emergence of any crop listed on this label. For any crop not listed on this label, applications must be made at least 30 days prior to planting. This product will control weeds listed in the annual, perennial and woody brush tables of this label.

In addition, 9 fluid ounces of this product plus the specified amount of the appropriately labeled of oxyfluorfen product per acre will control the following weeds with the maximum height or length indicated: 3" – common cheeseweed, chickweed, groundsel; 6" – London rocket, shepherd's purse.

12 fluid ounces of this product plus the specified amount of the appropriately labeled of oxyfluorfen product per acre will control the following weeds with the maximum height or length indicated: 6" – common cheeseweed, groundsel, marestail (*Coryza canadensis*), 12" – chickweed, London rocket, shepherd's purse.

**Aid-to-Tillage**

**USE INSTRUCTIONS:** This product may be used in conjunction with tillage practices in fallow systems or preplant to labeled crops to control downy brome, cheat, volunteer wheat, tansy mustard and foxtail.

Apply 6 fluid ounces of this product in 3 to 10 gallons of water per acre. Make applications before weeds are 6 inches in height. Application must be followed by conventional tillage practices no later than 15 days after treatment and before regrowth occurs. Allow at least 1 day after application before tillage.

**PRECAUTION:** Tank mixtures with residual herbicides may result in reduced performance.

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**Grain Sorghum (Milo)**

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**Type of applications:** Those listed in the "ANNUAL AND PERENNIAL CROPS" section of this label plus the following: Spot treatment, over-the-top wiper applicators, preharvest.

**Preplant, Pre-emergence, At-planting**

**USE INSTRUCTIONS:** This product may be applied alone or in a tank mixture before, during or after planting grain sorghum. Applications must be made prior to emergence of the crop.

**Tank Mixtures:** This product may be applied in tank mixtures with appropriately labeled products containing the following active ingredients. Apply in 10 to 20 gallons of water or 10 to 60 gallons of nitrogen solution per acre:

ATRAZINE  
S-METOLACHLOR  
ATRAZINE and S-METOLACHLOR

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

For difficult to control annual weeds such as fall panicum barnyardgrass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 24 fluid ounces (1.5 pints) per acre in these tank mixtures. For other labeled annual weeds, apply 16 to 24 fluid ounces (1 to 1.5 pints) of this product per acre when weeds are less than 6 inches tall, and 24 to 36 fluid ounces (1.5 to 2.25 pints) when weeds are over 6 inches tall. When using nitrogen solutions as the carrier, the use rate may need to be increased for acceptable weed control.

**Spot Treatment and Over-the-top Wiper Applications**

**USE INSTRUCTIONS:** This product may be applied as a spot treatment in grain sorghum. Make spot treatments before heading of milo. This product may be applied with wiper applicators to control or suppress the weeds listed under "Wiper Applicators" in the "SELECTIVE EQUIPMENT" section of this label.

**PRECAUTION:** For spot treatment, the crop receiving spray in the treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

**RESTRICTIONS:** For spot treatment, do not treat more than 10 percent of the total field area to be harvested.

For wiper applicators, allow at least 40 days between application and harvest. Do not use roller applicators. Do not feed or graze treated milo fodder. Do not ensile treated vegetation.

**Hooded Sprayers**

**USE INSTRUCTIONS:** This product may be used through hooded sprayers for weed control between the rows of milo. Only hooded sprayers that completely enclose the spray pattern may be used. See additional instruction for the use of hooded sprayers in the "SELECTIVE EQUIPMENT" section of this label.

Treat before milo sends tillers between the drill rows. If such tillers are contacted with the spray solution, the main plant may be killed. Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage. Such damage shall be the sole responsibility of the applicator.

Crop injury may occur when the foliage of treated weeds comes into direct contact with leaves of the crop. Do not apply this product when the leaves of the crop are growing in direct contact with weeds to be treated. Droplets, mist, foam or splatter of the herbicide solution may contact the crop and cause discoloration, stunting or destruction.

**RESTRICTIONS:** Milo must be at least 12 inches tall, measured without extending leaves. Do not graze or feed milo forage or fodder following applications of this product through hooded sprayers. Do not apply more than 24 fluid ounces (1.5 pts.) of this product per acre per application and no more than 72 fluid ounces (4.5 pts.) per acre per year for hooded sprayer applications.

**Preharvest**

**USE INSTRUCTIONS:** Make applications at 30% grain moisture or less. As with other herbicides that cause sudden plant death, avoid preharvest applications of this product to milo infected with charcoal rot as lodging can occur.



**PRECAUTION:** Preharvest application is not recommended for sorghum grown for seed, as a reduction in germination or vigor may occur.

**RESTRICTIONS:** Do not apply more than 48 fluid ounces (3 pts.) of this product per acre. Allow a minimum of 7 days between application and harvest of sorghum. The use of this product for preharvest grain sorghum (milo) is not registered in California.

#### **Postharvest**

**USE INSTRUCTIONS:** This product may be applied after harvest of grain sorghum. Higher rates may be required for control of large weeds that were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

This product may be applied to grain sorghum (milo) stubble following harvest to suppress or control regrowth. Apply 24 fluid ounces (1.5 pts.) of this product per acre for control, or 16 fluid ounces (1 pint) of this product per acre for suppression.

**RESTRICTION:** Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation.

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#### **Herbs and Spices**

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**Labeled crops:** Allspice, Angelica, Star anise, Annatto (seed), Balm, Basil, Borage, Burnet, Camomile, Caper buds, Caraway, Black caraway, Cardamom, Cassia bark, Cassia buds, Catnip, Celery seed, Chervil (dried), Chive, Chinese chive, Cinnamon, Clary, Clove buds, Coriander leaf (cilantro or Chinese parsley), Coriander seed (cilantro), Costmary, Culantro (leaf), Culantro (seed), Cumin, Curry (leaf), Dill (dillweed), Dill (seed), Epazote, Fennel seed (common and Florence), Fenugreek, White flower ginger, Grains of paradise, Horehound, Hyssop, Juniper berry, Lavender, Lemongrass, Lovage (leaf and seed), Mace, Marigold, Marjoram (including oregano), Mexican oregano, Mioga flower, Mustard (seed), Nasturtium, Nutmeg, Parsley (dried), Pennyroyal, Pepper (black and white), Pepper leaves, Peppermint, Perilla, Poppy (seed), Rosemary, Rue, Saffron, Sage, Savory (summer and winter), Spearmint, Stevia leaves, Sweet bay, Tansy, Tarragon, Thyme, Vanilla, Wintergreen, Woodruff, Wormwood.

**Types of applications:** Those listed in the "ANNUAL AND PERENNIAL CROPS" section of this label plus the following: Over-the-top wiper application (peppermint and spearmint only), and spot treatment (peppermint and spearmint only).

**PRECAUTIONS:** This product could cause crop injury. When applying this product prior to transplanting or direct-seeding crops into plastic mulch, care must be taken to remove product residues from the plastic prior to planting. Residual product can be removed by a single 0.5-inch application of water, either by natural rainfall or by irrigation. Care should be taken to ensure that the washwater flushes off the plastic mulch and does not enter transplant holes. Applications made at emergence will result in injury or death to emerged seedlings.

#### **Over-the-top Wiper Applicators or Spot Treatments**

**USE INSTRUCTIONS:** This product may be applied as a spot treatment or over the top of peppermint or spearmint with wiper applicators in spearmint and peppermint. Apply spot treatments on a spray-to-wet basis with hand-held equipment, such as backpack sprayers, pump-up pressure sprayers, hand-guns, hand-wands or any other hand-held or motorized spray equipment used to direct the spray solution to a limited area.

**PRECAUTIONS:** For spot treatment, the crop receiving spray in the treated area will be killed. Take care to avoid drift or spray outside target area for the same reason. In wiper applications, contact of the herbicide solution with the crop may result in damage or destruction.

**RESTRICTIONS:** Allow at least 7 days between application and harvest. Further applications may be made in the same area at 30-day intervals. For spot treatment applications, do not apply this product to more than 10 percent of the total field area to be harvested.

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#### **Oil Seed Crops**

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**Labeled crops:** Borage, Buffalo gourd (seed), Canola, Crambe, Flax, Jojoba, Lesquerella, Meadowfoam, Mustard (seed), Rape, Safflower, Sesame, Sunflower.

Use directions for canola containing the Roundup Ready gene, are in the "ROUNDUP READY CROPS" section of this label.

**Types of applications:** Those listed in the "ANNUAL AND PERENNIAL CROPS" section of this label.

This product may be applied before, during or after planting oil seed crops listed in this section. Broadcast applications must be made prior to crop emergence. Wiper applicators or hooded sprayers may be used between the rows once the crop is established. See additional instructions of the use of selective equipment in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

Maximum Application Rates if a Preharvest Application is Made	
<b>Safflower</b>	
Combined total for all Preemergence and Selective Equipment applications	72 fluid ounces per acre
Preharvest application	72 fluid ounces per acre
<b>Sunflower</b>	
Combined total for all Preemergence and Selective Equipment applications	24 fluid ounces per acre
Preharvest application	24 fluid ounces per acre
<b>All other Oil Seed Crops Listed (Except Buffalo Gourd)</b>	
Combined total for all Preemergence and Selective Equipment applications	48 fluid ounces per acre
Preharvest application	36 fluid ounces per acre

RESTRICTIONS: Do not exceed a total application rate of 192 fluid ounces (6 quarts) of this product per acre per year. Preharvest application is not permitted on buffalo gourd.

**Preplant, At-Planting, Preemergence**

USE INSTRUCTIONS: This product may be applied before, during or after planting oilseed crops listed in this section but must be applied prior to crop emergence. Observe the maximum application rates listed at the beginning of this section.

**Tank Mixtures:** For sunflowers, a tank mixture with pendimethalin may be applied before, during or after planting into conventionally tilled soil, a cover crop, established sod or previous crop residue.

RESTRICTIONS: See the use instructions at the beginning of this section for important information on maximum application rates for preemergence and selective equipment applications of this product.

**Selective Equipment**

USE INSTRUCTIONS: This product may be applied using a wiper applicator or shielded sprayer between crop rows once the crop is established. Observe the maximum application rates listed at the beginning of this section. See additional instructions on the use of wiper applicators and hooded sprayers in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**Preharvest (Except Buffalo Gourd)**

USE INSTRUCTIONS: This product provides weed control and serves as a harvest aid when applied to a physiologically mature oil seed crop listed in this section. For safflower, up to 72 fluid ounces of this product may be applied per acre when seed has lost its opaque character, approximately 20 to 30 days after the end of flowering of the secondary branches. For sunflower, up to 24 fluid ounces of this product per acre may be applied when the backsides of sunflower heads are yellow and bracts are turning brown, and seed moisture content is less than 35 percent. For all other oil seed crops listed in this section (except buffalo gourd), up to 36 fluid ounces of this product per acre may be applied prior to harvest.

RESTRICTIONS: DO NOT MAKE A PREHARVEST APPLICATION if you have exceeded the maximum application rates for the combined total of all preemergence and selective equipment applications listed in the table at the beginning of this section. Make only 1 preharvest application of this product. Allow a minimum of 7 days between application and harvest or feeding to livestock. Application must be made a minimum of 30 days prior to the planting of any crop not listed on this label. Preharvest application is not allowed on buffalo gourd or on Roundup Ready canola.

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**Soybeans**

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**Types of applications:** Those listed in the "ANNUAL AND PERENNIAL CROPS" section of this label plus the following: Spot treatment, preharvest, and selective equipment.

For Roundup Ready soybeans, see the "ROUNDUP READY CROPS" section of this label.

**Preplant, At-planting and Pre-emergence**

USE INSTRUCTIONS: This product may be applied alone or in a tank mixture before, during or after planting soybeans. Applications must be made prior to emergence of the crop.

Tank Mixtures: This product may be applied with appropriately labeled products containing the following active ingredients in 10 to 20 gallons of water per acre:

CARFENTRAZONE-ETHYL	CLORANSULAM-METHYL	DIMETHENAMIDE-P
QUICALOFOP-P-ETHYL	FOMESAFEN	PENDIMETHALIN
SULFENTRAZONE	FLUAZOP-P-BUTYL and FENOXAPROP-P-ETHYL	IMAZETHAPYR
METRIBUZIN and S-METOLACHLOR	SULFENTRAZONE and CLORANSULAM-METHYL	FOMESAFEN
METRIBUZIN and CHLORIMURON	ALACHLOR	IMAZAQUIN
CHLORIMURON and SULFENTRAZONE	LINURON	FLUMIOXAZIN
S-METOLACHLOR	PENDIMETHALIN and IMAZETHAPYR	CLOMAZONE

For improved burndown, this product may be tank mixed with 2,4-D or 2,4-DB. See the 2,4-D label for intervals between application and planting.

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Annual weeds: For difficult-to-control weeds such as fall panicum, barnyardgrass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 24 fluid ounces (1.5 pints) per acre in these tank mixtures. For other labeled annual weeds, apply 16 to 24 fluid ounces (1 to 1.5 pints) of this product per acre when weeds are less than 6 inches tall, and 24 to 54 fluid ounces (1.5 to 2.25 pints) when weeds are over 6 inches tall.

RESTRICTION: THE TANK MIX RECOMMENDATIONS IN THIS SECTION ARE NOT REGISTERED IN CALIFORNIA.

#### **Spot Treatment**

USE INSTRUCTIONS: For spot treatments, apply this product prior to initial pod set in soybeans.

PRECAUTION: The crop receiving spray in the treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

RESTRICTION: Do not treat more than 10% of the total field area to be harvested.

#### **Preharvest**

USE INSTRUCTIONS: This product provides weed control when applied prior to harvest of soybeans.

Apply at rates given in the annual, perennial and woody brush and trees rate tables. This product may be applied using either aerial or ground spray equipment. Apply after pods have set and lost all green color. Care should be taken to avoid excessive seed shatter loss due to ground application equipment.

PRECAUTION: Preharvest application is not recommended for soybeans grown for seed as a reduction in germination or vigor may occur.

RESTRICTIONS: Do not apply more than 120 fluid ounces (3.75 quarts) per acre of this product for preharvest applications. Do not apply more than 48 fluid ounces (3 pts.) per acre of this product by air. Allow a minimum of 7 days between application and harvest of soybeans. Do not graze or harvest treated hay or fodder for livestock feed within 25 days of last preharvest application. (If the application rate is 24 fluid ounces (1.5 pints) per acre or lower, the grazing restriction is reduced to 14 days after last preharvest application.)

#### **Selective Equipment**

USE INSTRUCTIONS: This product may be applied through recirculating sprayers, shielded applicators, hooded sprayers, wiper applicators or sponge bars in soybeans.

See the "SELECTIVE EQUIPMENT" part of the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for information on proper use and calibration of this equipment.

RESTRICTION: Allow at least 7 days between application and harvest.

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### **Sugarcane**

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Types of applications: Those listed in the "ANNUAL AND PERENNIAL CROPS" section of this label plus the following: Spot treatment.

#### **Preplant, At-planting and Pre-emergence**

USE INSTRUCTIONS: This product may be applied in or around sugarcane fields or in fields prior to the emergence of plant cane.

RESTRICTION: Do not apply to vegetation in or around ditches, canals or ponds containing water to be used for irrigation.

#### **Spot Treatment**

USE INSTRUCTIONS: This product may be applied as a spot treatment in sugarcane. For control of volunteer or diseased sugarcane, make a 1% solution of this product in water and spray to wet foliage of vegetation to be controlled. Volunteer or diseased sugarcane should have at least 7 new leaves.

**PRECAUTION:** Avoid spray contact with healthy cane plants since severe damage or destruction may result.

**RESTRICTION:** Do not feed or graze treated sugarcane foliage following application.

#### **Fallow Treatments**

**USE INSTRUCTIONS:** This product may be used as a replacement for tillage in fields that are lying fallow between sugarcane crops. This product may also be used to remove the last stubble of ratoon cane. For removal of last stubble of ratoon cane, apply 96 to 120 fluid ounces (3 to 3.75 quarts) of this product in 10 to 40 gallons of water per acre to new growth having at least 7 new leaves. Allow 7 or more days after application before tillage. Ground or aerial application equipment may be used. Applications up to 72 fluid ounces (4.5 pts.) per acre may be made by aerial application in fallow sites where there is sufficient buffer to prevent injury due to drift onto adjacent crops. Tank mixtures with 2,4-D and dicamba may be used.

#### **Hooded Sprayers**

**USE INSTRUCTIONS:** This product may be used through hooded sprayers for weed control between rows of sugarcane.

See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional use instructions.

**PRECAUTIONS:** Do not allow treated weeds to come in contact with the crop. Droplets, mist, foam or splatter of the herbicide solution settling on the crop may result in discoloration, stunting or destruction. SUCH DAMAGE SHALL BE THE SOLE RESPONSIBILITY OF THE APPLICATOR.

#### **Sugarcane Ripening**

This product may be applied to foliage as a plant growth regulator to hasten ripening and increase the level of sucrose in sugarcane. It is effective in both low and high-tonnage sugarcane.

When applied as directed under the conditions described, this product will hasten ripening and extend the period of high sucrose level in sugarcane.

As a result of leaf desiccation, improved trash burn can be expected.

Most of the sucrose increase is concentrated in the top nodes of the treated sugarcane stalk. In order to maximize sugar where topping is practiced during harvest, top at the base of the fourth leaf.

Prior to application, consult your state sugarcane authority regarding the degree of sucrose response anticipated from the variety of sugarcane to be treated.

**PRECAUTIONS:** Application of this product may initiate development of shooting eyes. This product may not increase the sucrose content of sugarcane under conditions of good natural ripening. Within 2 to 3 weeks after application, this product may produce a slight yellowing to pronounced browning and drying of leaves, and a shortening of upper internodes. Spindle death may occur. Rainfall within 6 hours after application may reduce effectiveness.

Application is not specified for sugarcane grown for seed, as a reduction in germination or vigor may occur.

**RESTRICTIONS:** Do not feed or graze treated sugarcane forage following application. Do not plant subsequent crops in treated fields other than the following for 30 days after application: alfalfa or other forage legumes, beans (all types), corn (all types), cotton, melons (all types), pasture grasses, peanuts, potatoes (Irish or sweet), sorghum (milo), soybeans, squash (all types) or wheat. Do not apply for enhanced ripening to any crops other than sugarcane.

#### **Applications Rates**

Use the following application rates and timing instructions according to the State in which the sugarcane is grown.

**NOTE:** Use the higher rate within the specified range when treating sugarcane under adverse ripening conditions or when less responsive varieties are to be treated.

FLORIDA--Apply 6 to 14 fluid ounces of this product per acre 3 to 5 weeks before harvest of LAST RATOON CANE ONLY.

HAWAII--Apply 10 to 24 fluid ounces of this product per acre 4 to 10 weeks before harvest.

LOUISIANA--Apply 4 to 14 fluid ounces of this product per acre 3 to 7 weeks before harvest of RATOON CANE ONLY.

PUERTO RICO--Apply 6 fluid ounces of this product per acre 3 to 5 weeks before harvest of RATOON CANE ONLY.

TEXAS--Apply 6 to 14 fluid ounces of this product per acre 3 to 5 weeks before harvest of RATOON CANE ONLY.

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#### **Vegetable Crops**

**Types of applications:** Chemical fallow, preplant fallow beds, preplant, pre-emergence, prior to transplanting vegetables, at-planting, selective equipment in row middles (hooded or shielded sprayers, or wiper applicators), directed applications (in nonbearing ginseng), over-the-top wipers (rutabagas only), spot treatment or preharvest (dry beans, peas, lentils, and chickpeas only).

**PRECAUTIONS:** This product could cause crop injury. When applying this product prior to transplanting or direct-seeding crops into plastic mulch, care must be taken to remove residues of this product, which can cause crop injury, from the plastic prior to transplanting. Residues must be removed by a single 0.5 inch application of water, either by natural rainfall event or via a sprinkler system. Applications made at emergence will result in injury or death to emerged seedlings.

Avoid contact of herbicide with foliage, green shoots or stems, bark, exposed roots (including those emerging from plastic mulch), or fruit of crops because severe crop injury or destruction may result. When making preemergence and at planting applications, applications must be made before crop emergence to avoid severe crop injury. Apply before seed germination in coarse sandy soils to further minimize the risk of crop injury. In crops with vines, hooded sprayer, shielded sprayer and wiper applications to row middles should be made prior to vine development otherwise severe injury or destruction may result. Unless otherwise specified in this product's labeling, treatments with selective equipment including wipers and hooded sprayers must be made at least 14 days prior to harvest. Post-Harvest or fallow applications must be made at least 30 days prior to planting any non-labeled crop. See "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional information.

#### **Brassica Vegetables**

**LABELED CROPS:** Broccoli, Chinese broccoli (gai lan), Broccoli raab (rapini), Brussels sprouts, Cabbage, Chinese cabbage (bok choy), Chinese cabbage (napa), Chinese mustard cabbage (gai choy), Cauliflower, Cavalo broccolo, Collards, Kale, Kohlrabi, Mizuna, Mustard greens, Mustard spinach, Rape greens.

#### **Bulb Vegetables**

**LABELED CROPS:** Garlic, Great-headed garlic, Leek, Onion (dry bulb and green), Welsh onion, Shallot.

**RESTRICTION:** For garlic, apply prior to planting and allow at least 3 days between application and planting.

#### **Cucurbit Vegetables and Fruits**

**LABELED CROPS:** Chayote (fruit), Chinese waxgourd (Chinese preserving melon), Citron melon, Cucumber, Gherkin, Edible gourd (includes hyotan, cucuzza, hechima, Chinese okra), Melons (all), *Momordica* spp. (includes balsam apple, balsam pear, bittermelon, Chinese cucumber), Muskmelon (includes cantaloupe, casaba, crenshaw melon, golden pershaw melon, honeydew melon, honey ball melon, mango melon, Persian melon, pineapple melon, Santa Claus melon, snake melon), Pumpkin, Summer squash (includes crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini), Winter squash (includes butternut squash, calabaza, hubbard squash, acorn squash, spaghetti squash), Watermelon.

**RESTRICTIONS:** For Cantaloupe, Casaba melon, Crenshaw melon, Cucumber, Gherkin, Gourds, Honeydew melon, Honey ball melon, Mango melon, Melons (all), Muskmelon, Persian melon, Pumpkin, Squash (summer, winter), and Watermelon, allow at least 3 days between application and planting.

#### **Leafy Vegetables**

**LABELED CROPS:** Amaranth (Chinese spinach), Arugula (rocket), Beet greens, Cardoon, Celery, Chinese celery, Celtuce, Chaya, Chervil, Edible-leaved chrysanthemum, Garland chrysanthemum, Corn salad, Cress (garden and upland), Dandelion, Dock (sorrel), Dokudami, Endive (escarole), Florence fennel, Gow kee, Lettuce (head and leaf), Orach, Parsley, Purslane (garden and winter), Radicchio (red chicory), Rhubarb, Spinach, New Zealand spinach, Vine spinach, Swiss chard, Watercress (upland), Water spinach.

**RESTRICTIONS:** For Watercress, avoid applications within 3 days prior to seeding and during the period between seeding and emergence to minimize the risk of crop injury.

#### **Fruiting Vegetables**

**LABELED CROPS:** Eggplant, Groundcherry (*Physalis* spp.), Pepino, Pepper (includes bell pepper, chili pepper, cooking pepper, pimento, sweet pepper), Tomatillo, Tomato.

**RESTRICTIONS:** For Eggplant, Ground cherry, Pepper (all), and Tomatillo, allow at least 3 days between application and planting. For Tomato and tomatillos grown on sandy soil, do not make hooded, shielded sprayer or wiper applications in row middles because of potential for crop injury.

#### **Legume Vegetables (Succulent or dried):**

**LABELED CROPS:** Beans (all), Chick Peas, Guar, Lentils, and Peas (all).

#### **Spot Treatment, or Preharvest (Dry Beans, Peas, Lentils and Chickpeas only)**

This product may be applied as an over-the-top broadcast spray or as a spot treatment to control labeled weeds in dry beans, peas, lentils or chick peas. For spot treatment, to control troublesome weeds such as Canada thistle, quackgrass, mayweed (dog fennel), and milkweed, apply up to 24 fluid ounces of this product per acre in dry beans, or up to 72 fluid ounces per acre in dry peas, lentils, and chickpeas, in 10 to 20 gallons of water per acre through ground broadcast spray equipment or use a 2 percent solution in a hand-held sprayer. For optimal spot treatment results, apply at or beyond the bud stage of growth. For preharvest treatments, apply in 3 to 20 gallons of water per acre at the hard dough stage of the legume seed (30 percent in moisture or less).

**RESTRICTIONS:** Allow a minimum of 7 days between application and harvest. Only one application per year may be made; do not combine a preharvest spray with a spot treatment on the same crop area. Employ at least a 30-day plant-back interval between treatment and replanting for any crop not specified for treatment in this label. Do not feed treated vines and hay from these crops to livestock. Do not treat cowpeas or field (feed) peas, since these crops are considered to be grown as livestock feed.

**Root & Tuber Vegetables:**

LABELED CROPS: Arracacha, Arrowroot, Chinese artichoke, Jerusalem artichoke, Beet (garden), Burdock, Canna, Carrot, Cassava (bitter and sweet), Celeriac, Chayote (root), Chervil (turnip-rooted), Chicory, Chufa, Dasheen (taro), Galangal, Ginger, Ginseng, Horseradish, Leren, Kava (turnip-rooted), Parsley (turnip rooted), Parsnip, Potato, Radish, Oriental radish, Rutabaga, Salsify, Black salsify, Spanish salsify, Skirret, Sweet potato, Tanier, Turmeric, Turnip, Wasabi, Yacon, Yam bean, True yam.

**Nonbearing ginseng (Direct Application):**

USE INSTRUCTIONS: This product may be used for weed control in established nonbearing ginseng. Direct applications so that there is no contact of this product with the ginseng plant. Applications may be made with boom equipment, CDA, shielded sprayers, hand-held and high-volume wands, lances, orchard guns or with wiper application equipment.

PRECAUTION: Extreme care must be exercised to avoid contact of herbicide solution, spray drift or mist with foliage or green bark of trunk, branches, suckers, fruit or other parts of desirable plants. Contact of this product with other than matured brown bark can result in serious crop damage.

RESTRICTION: Applications must be made at least one year prior to harvest.

**Rutabagas (Over-the-Top Wiper Application)**

USE INSTRUCTIONS: Wiper applicators maybe used over the top of rutabagas for the control of taller weeds. See additional instructions under "Selective Equipment" in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

PRECAUTIONS: Droplets, mist, foam or splatter of the herbicide solution settling onto desirable vegetation may result in discoloration, stunting or destruction.

RESTRICTION: Allow at least 14 days between application and harvest.

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**Miscellaneous Crops**

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**Labeled crops:** Aloe vera, Asparagus, Bamboo shoots, Globe artichoke, Okra, Peanut (ground nut), Pineapple, Strawberry, Sugar beet (non-Roundup Ready).

**Types of applications:** Those listed in "ANNUAL AND PERENNIAL CROPS" section of this label plus the following: Weed Control, Site Preparation, Spot Treatment (Asparagus), and Post-Harvest (Asparagus).

Use directions for sugar beets containing the Roundup Ready gene are in the "ROUNDUP READY CROPS" section of this label.

USE INSTRUCTIONS: Apply this product during fallow intervals preceding planting, prior to planting or transplanting, at planting, or preemergent to annual and perennial crops listed in the label, except where specifically limited. For any crop NOT listed in this label, applications must be made at least 30 days prior to planting.

Unless otherwise specified weed control applications must be made according to the rates listed in the "ANNUAL WEEDS RATE TABLE", "PERENNIAL WEEDS RATE TABLE", and "WOODY BRUSH AND TREES RATE TABLE" rate tables in this label.

Post-directed hooded sprayers and wiper equipment capable of preventing all crop contact with herbicide solutions may be used in mulched or un-mulched row middles and after crop establishment. Where specifically noted below, wipers may also be used above certain crops to control tall weeds. Refer to the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for essential precautions when using hooded sprayers or wipers to avoid crop injury caused by leakage of spray mists or dripping onto crops. Crop injury is possible with these applications and shall be the sole responsibility of the applicator. RESTRICTIONS: Avoid contact of this product with foliage, green shoots or stems, bark, exposed roots (including those emerging from plastic mulch), or fruit of crops because severe crop injury or destruction may result. When making preemergence and at planting applications, applications must be made before crop emergence to avoid severe crop injury. Apply before seed germination in coarse sandy soils to further minimize the risk of crop injury. In crops with vines, hooded sprayer, shielded sprayer and wiper applications to row middles must be made prior to vine development otherwise severe injury or destruction may result. Unless otherwise specified in this product's labeling, treatments with selective equipment including wipers and hooded sprayers must be made at least 14 days prior to harvest. Post-Harvest or fallow applications must be made at least 30 days prior to planting any crop not listed on this label

**Weed Control, Site Preparation**

This product may be applied for weed control or for site preparation prior to planting or transplanting crops listed in this section.

PRECAUTIONS: When applying this product prior to transplanting or direct-seeding crops into plastic mulch. Care must be taken to remove residues of this product from the plastic prior to transplanting. Residual product can be removed by a single 0.5-inch application of water, either by natural rainfall or by irrigation. Care must be taken to ensure that the wash water flushes off the plastic mulch and does not enter transplant holes. Injury made at emergence will result in injury or death to emerged seedlings.

RESTRICTIONS: Do not apply within a week before the first asparagus spears emerge. Do not feed or graze treated pineapple forage following application.

**Spot Treatment (Asparagus)**

This product may be applied immediately after cutting, but prior to the emergence of new spears.

**RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. Do not harvest within 5 days of treatment.

**Post-Harvest (Asparagus)**

This product may be applied after the last harvest and all spears have been removed. If spears are allowed to regrow, delay application until ferns have developed. Delayed treatments should be applied as a directed or shielded spray in order to avoid contact of the spray with ferns, stems or spears.

Select and use recommended types of spray equipment for post-emergence postharvest applications. A directed spray is any application where the spray pattern is aligned in such a way as to avoid direct contact of the spray with the crop. A shielded spray is any application where a physical barrier is positioned and maintained between the spray and the crop to prevent contact of spray with the crop. See additional instructions under "Selective Equipment" in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**RESTRICTIONS:** Direct contact of the spray with asparagus may result in serious crop injury.

**TREE, VINE AND SHRUB CROPS (Alphabetical)**

**NOTE:** THIS SECTION GIVES DIRECTIONS FOR USE OF THIS PRODUCT THAT APPLY TO ALL CITRUS CROPS, TREE FRUITS, TREE NUTS, VINE AND SHRUB CROPS GROUPED ALPHABETICALLY BELOW. SEE THE INDIVIDUAL CROP SECTIONS FOR INSTRUCTIONS, PREHARVEST INTERVALS, PRECAUTIONS AND RESTRICTIONS FOR SPECIFIC CROPS.

**TYPES OF APPLICATIONS:** Preplant (site preparation) broadcast sprays, middles (between rows of trees, vines or bushes), strips (within rows of trees, vines or bushes), selective equipment such as shielded sprayers and wiper treatments (except kiwi), perennial grass suppression, directed sprays, spot treatments, cut stump.

Applications may be made with boom equipment, CDA equipment, shielded sprayers, hand-held and high-volume wands, lances, orchard guns or with wiper applicator equipment, except as directed.

**USE INSTRUCTIONS:**

This product may be applied in middles, strips or for weed control in established citrus groves, tree fruit and tree nut groves, orchards, berries and vineyards. It may also be used for site preparation prior to planting or transplanting of these crops. Apply 12 to 120 fluid ounces per acre according to the "ANNUAL WEEDS RATE TABLE" and "PERENNIAL WEEDS RATE TABLE" sections of this label. Utilize rates at the higher end of the specified rate range when weeds are stressed, growing in dense populations or are greater than 12 inches tall. Repeat applications may be made up to a maximum of 254.4 fluid ounces (7.95 quarts) per acre per year.

The maximum use rates stated throughout this product's labeling apply to this product combined with the use of all other herbicides containing glyphosate or sulfosate as the active ingredient, whether applied as mixtures or separately. Calculate the application rates and ensure that the total use of this and other glyphosate or sulfosate containing products does not exceed stated maximum use rate.

**PRECAUTIONS:**

- Extreme care must be exercised to avoid contact of herbicide solution, spray, drift or mist with foliage or green bark of trunk, branches, suckers, fruit or other parts of trees, canes and vines.
- Avoid applications when recent pruning wounds or other mechanical injury has occurred.
- Contact of this product with other than matured brown bark can result in serious crop damage or destruction.
- For applications in strips (within rows of trees), only selective equipment (directed sprays, hooded sprayers, shielded applicators, or wipers) should be used to minimize the potential for leakage or drift of herbicide sprays onto crops.
- Only shielded or directed sprayers may be used in crops with potential for crop contact, and then only where there is sufficient clearance.
- For berry crops, hooded or shielded sprayers must be fully enclosed including top, sides, front and back.
- Only wiper or shielded applicators capable of preventing all contact with crop may be used.

See "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional directions and precautions.

**RESTRICTION:** Allow a minimum of 3 days between application and transplanting.

**Middles (between rows)**

**USE INSTRUCTIONS:** This product will control or suppress annual and perennial weeds and ground covers growing between the rows of labeled tree and vine crops. If weeds are under drought stress, irrigate prior to application. Reduced control may result if weeds have been mowed prior to application.

**TANK MIXTURES:** A tank mixture of this product plus a oxyfluorfen product may be used for annual weeds in middles between rows of citrus crops, tree fruits, tree nuts and vine crops. This mixture is recommended when weeds are stressed or growing in dense populations. 12 to 24 fl. oz/A of this product plus 3 to 12 oz/A of a oxyfluorfen product will control annual weeds with a maximum height or diameter of 6 inches, including crabgrass, common groundsel, junglerice, common lambsquarters, redroot pigweed, London rocket, common ryegrass, shepherd's purse, annual sowthistle, filaree (suppression), horseweed/marestail (*Coryza canadensis*), stinging nettle and common purslane

(suppression). 12 to 24 fl. oz/A of this product plus 3 to 12 oz/A of a oxyfluorfen product will control common cheeseweed (malva) or hairy fleabane (*Conyza bonariensis*) with a maximum height or diameter of 3 inches.

**Strips (in rows)**

**USE INSTRUCTIONS:** This product may be applied in rows of tree or vine crops and may also be tank mixed with appropriately labeled products containing the following active ingredients:

NAPROPAMIDE	SIMAZINE
DIURON	NORFLURAZON
OXYFLUORFEN	ORYZALIN
BROMACIL and DIURON	PENDIMETHALIN

**RESTRICTION:** Do not apply these tank mixtures in Puerto Rico.

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

**Perennial Grass Suppression**

This product will suppress perennial grasses such as bahiagrass, bermudagrass, tall fescue, orchardgrass, Kentucky bluegrass, and quackgrass that are grown as ground covers in tree and vine crops.

For suppression of tall fescue, fine fescue, orchardgrass and quackgrass, apply 6 fluid ounces of this product in 10 to 20 gallons of water per acre.

For suppression of Kentucky bluegrass covers, apply 4.5 fluid ounces of this product per acre. Do not add ammonium sulfate.

For best results, mow cool season grass covers in the spring to even their height and apply this product 3 to 4 days after mowing.

For suppression of vegetative growth and seedhead inhibition of bahiagrass for approximately 45 days, apply 4.5 fluid ounces of this product in 10 to 25 gallons of water per acre. Apply 1 to 2 weeks after full green-up or after mowing to a uniform height of 3 to 4 inches. This application must be made prior to seedhead emergence.

For suppression up to 120 days, apply 3 fluid ounces of this product per acre, followed by an application of 1.5 to 3 fluid ounces per acre about 45 days later. Make no more than 2 applications per year.

For burndown of bermudagrass, apply 24 to 48 fluid ounces (1.5 to 3 pts.) of this product in 3 to 20 gallons of water per acre. Use this treatment only if reduction of the bermudagrass stand can be tolerated. When burndown is required prior to harvest, allow at least 21 days to ensure sufficient time for burndown to occur.

For suppression of bermudagrass, apply 4.5 to 12 fluid ounces of this product per acre east of the Rocky Mountains and 12 fluid ounces of this product to the west of the Rocky Mountains. Apply in a total spray volume of 3 to 20 gallons per acre, no sooner than 1 to 2 weeks after full green-up. If the bermudagrass is mowed prior to application, maintain a minimum of 3 inches in height. Sequential applications may be made when regrowth occurs and bermudagrass injury and stand reduction can be tolerated. East of the Rocky Mountains, use rates of 4.5 to 7.5 fluid ounces per acre in shaded conditions or where lesser degree of suppression is desired.

**Cut Stump (tree crops)**

**USE INSTRUCTIONS:** Cut stump applications of this product may be made during site preparation or site renovation, prior to transplanting tree crops. This product will control regrowth of cut stumps and resprouts of many types of tree species, some of which are listed below.

**Citrus trees:** Calamondin, chironja, citron, citrus hybrids, grapefruit, kumquat, lemon, lime, mandarin (tangerine), orange (all), pummelo, tangelo, tangor.

**Fruit trees:** Apple, apricot, cherry (sweet, sour), crabapple, loquat, mayhaw, nectarine, olive, peach, pear, plum / prune (all), quince.

**Nut trees:** Almond, beechnut, Brazil nut, butternut, cashew, chestnut, chinquapin, filbert (hazelnut), hickory nut, macadamia, pecan, pistachio, walnut (black, English).

Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut trees or resprouts close to the soil surface. Apply a 50 to 100% solution of this product to the freshly cut surface immediately after cutting. Delays in application may result in reduced performance. For best results, applications should be made during periods of active growth and full leaf expansion.

**PRECAUTIONS:** DO NOT MAKE CUT STUMP APPLICATIONS WHEN THE ROOTS OF ADJACENT DESIRABLE TREES MAY BE GRAFTED TO THE ROOTS OF THE CUT STUMP. INJURY RESULTING FROM ROOT GRAFTING MAY OCCUR IN ADJACENT TREES. Some sprouts, stems, or trees may share the same root system. Adjacent trees having a similar age, height and spacing may signal shared roots. Whether grafted or shared, injury is likely to occur to non-treated stems/trees when one or more trees sharing common roots are treated.



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### Berry Crops

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**Labeled crops:** Blackberry (including bingleberry, black satin berry, boysenberry, Cherokee blackberry, chesterberry, Cheyenne blackberry, coryberry, darrowberry, dewberry, Dirksen thornless berry, Himalayaberry, hullberry, juneberry, lavacaberry, lowberry, lucretiaberry, marionberry, nectarberry, olallieberry, Oregon evergreen berry, phenomenalberry, rangeberry, ravenberry, rossberry, Shawnee blackberry, and youngberry), Blueberry, Cranberry, Currant, Elderberry, Gooseberry, Huckleberry, Loganberry, Salal (Optional Crop: Raspberry (black, red)).

**PRECAUTION:** To avoid damage, herbicide sprays must not be allowed to contact desirable vegetation, including green shoots, canes or foliage.

**RESTRICTIONS:** Allow a minimum of 30 days between last application and harvest of cranberries. Allow a minimum of 14 days between last application and harvest of other berry crops. Do not make directed sprays within cranberry bush areas prior to berry harvest.

#### Spot Treatment in Cranberry Production

**USE INSTRUCTIONS:** Spot treatments may be used to control weeds growing in dry ditches (interior and perimeter) of cranberry production areas. Hand-held sprayer or other appropriate application equipment listed under "APPLICATION EQUIPMENT AND TECHNIQUES" in this label may be used. Drop water level to remove standing water in ditches prior to application. In hand-held sprayers, use 1 to 2% solution of this product. Spray to wet vegetation, not to run-off.

For treatments after draw down of water in dry ditches, allow 2 or more days after treatment before reintroduction of water to achieve maximum weed control.

Apply this product within 1 day after draw down to ensure application to actively growing weeds.

Use nozzles that emit medium to large-sized droplets to minimize drift in order to avoid crop injury.

**RESTRICTIONS:** Allow a minimum of 30 days between last application and harvest of cranberries. Do not apply this material through the irrigation system. Do not make applications by air. Do not apply directly to water.

#### Postharvest Treatments in Cranberry Production

**USE INSTRUCTIONS:** Application of this product may be made after the harvest of cranberries to control weeds growing within the field. Best results will be obtained if applications are made to vines that appear dormant (after they have turned red). Hand-held sprayers, wipers, or other appropriate application equipment listed under "APPLICATION EQUIPMENT AND TECHNIQUES" in this label may be used. If using hand-held sprayers, use a 0.375 to 0.75% solution of this product. Spray to wet vegetation, not to run-off. If using hand-held boom sprayers, apply 48 to 96 fluid ounces (3 to 6 pts.) of this product per acre.

**PRECAUTION:** Even though vines appear dormant, contact of the herbicide solution with desirable vegetation may result in damage or severe plant injury. Cranberry plants that are directly sprayed may be killed.

**RESTRICTIONS:** Make applications only after cranberries have been harvested. Do not treat more than 10% of the total bog. Allow a minimum of 6 months after last application and next harvest of cranberries. Do not apply this product through the irrigation system. Do not make applications by air. Do not apply directly to water.

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### Citrus Crops

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**Labeled crops:** Calamondin, chironja, citron, citrus hybrids, grapefruit, kumquat, lemon, lime, mandarin (tangerine), orange (all), pummelo, Satsuma mandarin, tangelo (ugli), tangor.

**Florida and Texas only:** For burndown or control of the weeds listed below, apply the specified rates of this product in 3 to 30 gallons of water per acre. Where weed foliage is dense, use 10 to 30 gallons of water per acre.

For goatweed, apply 48 to 72 fluid ounces (3 to 4.5 pts.) of this product per acre. Apply in 20 to 30 gallons of water per acre when plants are actively growing. Use 48 fluid ounces (3 pts.) per acre when plants are less than 8 inches tall and 72 fluid ounces (4.5 pts.) when plants are greater than 8 inches tall. If goatweed is greater than 8 inches tall, the addition of Krovar® II or Karmex® may improve control. Refer to the individual product labels for specific crops, rates, geographic restrictions and precautionary statements.

### Perennial Weeds

S = Suppression B = Burndown  
PC = Partial Control C = Control

Weed Species		Glyphosate 54 Rate per Acre			
		24 FL. OZ. (1.5 PT.)	48 FL. OZ. (3 PT.)	72 FL. OZ. (4.5 PT.)	120 FL. OZ. (7.5 PT.)
Bermudagrass		B	—	PC	C
Guineagrass	Texas & Florida Ridge	B	C	C	C
	Florida Flatwoods	—	B	C	C
Paragrass		B	C	C	C
Torpedograss		S	—	PC	C

**RESTRICTIONS:** Allow a minimum of 1 day between last application and harvest in citrus crops. In citron groves, apply as directed sprays only.

### Miscellaneous Tree Food Crops

**Labeled crops:** Cactus (fruit and pads), Palm (heart, leaves), Palm (oil).

#### Types of Applications

Those listed in "TREES, VINE AND SHRUB CROPS" section of this label.

### Christmas Trees and Other Non-Food Tree Crops

**Labeled crops:** Pine, poplar, eucalyptus, Christmas trees, and other non-food tree crops.

#### Types of Applications

Those listed in "TREES, VINE AND SHRUB CROPS" section of this label.

NOTE: unless otherwise directed, this product is not specified for use as an over-the-top broadcast spray in plantations or other labeled tree crops.

#### Post-directed, Spot Treatment, Wipers

**USE INSTRUCTIONS:** This product may be used as a post-directed spray and spot treatment around established poplar, eucalyptus, Christmas trees and other non-food tree crops.

**PRECAUTIONS:** Care must be exercised to avoid contact of spray, drift or mist with foliage or green bark of established Christmas trees and other pine trees. Desirable plants may be protected from the spray solution by using shields or coverings made of cardboard or other impermeable material.

UNLESS OTHERWISE DIRECTED, THIS PRODUCT IS NOT RECOMMENDED FOR USE AS AN OVER-THE-TOP BROADCAST SPRAY IN CHRISTMAS TREES AND OTHER PINE TREES.

#### Site Preparation

**USE INSTRUCTIONS:** This product may be used prior to planting Christmas trees. Take precautions to protect nontarget plants during site preparation applications.

### Pome Fruit

**Labeled crops:** Apple, crabapple, loquat, mayhaw, pear (including oriental pear), quince.

**RESTRICTIONS:** Allow a minimum of 1 day between last application and harvest in pome crops.

### Stone Fruit

**Labeled crops:** Apricot, cherry (sweet, sour), nectarine, olive, peach, plum/prune (all types), plumcot.

**RESTRICTIONS:** Allow a minimum of 17 days between last application and harvest in stone fruit crops. For olive groves, apply as directed sprays only.

#### Restrictions on Application Equipment

For cherries, any application equipment listed above in the "TREE, VINE AND SHRUB CROPS" section under "TYPES OF APPLICATIONS" may be used in all states.

Any application equipment listed in the section referenced above may be used in apricots, nectarines, peaches and plums/prunes growing in Arizona, California, Colorado, Idaho, Kansas, Kentucky, New Jersey, North Dakota, Oklahoma, Oregon, Texas, Utah and Washington, except for peaches grown in the states specified in the following paragraph. In all other states use wiper equipment only.

For peaches grown in Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina and Tennessee only, apply with a shielded boom sprayer or shielded wiper applicator, which prevents any contact of this product with the foliage or bark of trees. Apply no later than 90 days after first bloom. Applications made after this time may result in severe damage. Remove suckers and low-hanging limbs at least 10 days prior to application. Avoid applications near trees with recent pruning wounds or other mechanical injury. Apply only near trees that have been planted in the orchard for 2 or more years.

EXTREME CARE MUST BE TAKEN TO ENSURE NO PART OF THE PEACH TREE IS CONTACTED.

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#### Tree Nuts

**Labeled crops:** Almond, beechnut, betelnut, Brazil nut, butternut, cashew, chestnut, chinquapin, coconut, filbert (hazelnut), hickory nut, macadamia, pecan, pine nut, pistachio, walnut (black, English).

**RESTRICTIONS:** Allow a minimum of 3 days between last application and harvest of tree nuts, except coconuts. Allow 14 days between application and harvest in coconut.

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#### Tropical and Subtropical Trees and Fruit

**Labeled crops:** Ambarella, Atemoya, Avocado, Banana, Barbados cherry (acerola), Biriba, Blimbe, Breadfruit, Cacao (cocoa) bean, Canistel, Carambola (starfruit), Cherimoya, Coffee, Custard apple, Dates, Durian, Feijoa, Figs, Governor's plum, Guava, Ilima, Imbe, Imbu, Jaboticaba, Jackfruit, Longan, Lychee, Mamey apple, Mango, Mangosteen, Marmaladebox (genip), Mountain papaya, Papaya, Pawpaw, Plantain, Persimmon, Pomegranate, Pulasan, Rambutan, Rose apple, Sapodilla, Sapote (black, mamey, white), Spanish lime, Soursop, Star apple, Sugar apple, Surinam cherry, Tamarind, Tea, Ti (roots and leaves), Wax jambu.

**RESTRICTIONS:** Allow a minimum of 1 day between last application and harvest in banana, guava, papaya and plantain crops. Allow a minimum of 14 days between last application and harvest for any tropical or subtropical tree fruit. Allow a minimum of 28 days between last application and harvest in coffee crops. In coffee and banana, delay applications 3 months after transplanting to allow the new coffee or banana plant to become established.

#### Bananacide (banana only)

**USE INSTRUCTIONS:** This product may be used to destroy banana plants infected with the Banana Bunchy Top Virus as well as non-infected banana plants to establish disease free buffers around plantations. Remove all fruit from the plants within the treatment area prior to treatment. Inject 0.04 fluid ounce (1 mL) of this product's concentrate per 2 to 3 inches of pseudostem diameter. Make the injection at least one foot above the ground, except for very small plants, which should be injected vertically into the top. Any subsequent regrowth must also be destroyed. All plants and mats (or units) adjacent (within a 4 foot radius) to a treated mat shall be mechanically destroyed.

For control of the banana bunchy top virus, it is critical that the grower follow a strict control program involving monitoring for diseased plants, spraying to control the aphid vector, and destruction of all infected mats (or units). An infected plant may not show symptoms of the banana bunchy top virus for up to 125 days; therefore, it is critical that the entire mat (or unit) containing the diseased plant be destroyed immediately.

**RESTRICTIONS:** Do not apply more than 0.5 fluid ounce (15 mL) of this product's concentrate per mat (or unit). Remove all fruit from plants and mats (or units) following injection. Do not allow livestock to consume treated plant materials. Following transplant of new banana plants into treated areas, allow plants to become established for 3 months before applying this product for weed control.

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#### Vine Crops

**Labeled crops:** Grapes (raisin, table, wine), hops, kiwi fruit, passion fruit.

**USE INSTRUCTIONS:** Apply this product for weed control only when green shoots, canes or foliage are not in the spray zone.

In the Northeast and Great Lakes regions, applications must be made prior to the end of bloom stage of grapes to avoid injury, or make applications with shielded sprayers or wiper equipment.

**RESTRICTIONS:** Allow a minimum of 14 days between last application and harvest in vine crops. Do not use selective equipment in kiwi.

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#### PASTURE GRASSES, FORAGE LEGUMES AND RANGELANDS

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##### Alfalfa, Clover, and Other Forage Legumes

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**Labeled crops:** Alfalfa, clover, kenaf, kudzu, lespedeza, leucaena, lupin, sainfoin, trefoil, velvet bean, vetch (all types).

**Types of applications:** Dormant (alfalfa only), preplant, pre-emergence, at-planting, spot treatment, wiper applications, renovation, preharvest.

For Roundup Ready alfalfa, see the "ROUNDUP READY CROPS" section of this label.

**Dormant (alfalfa only)**

**USE INSTRUCTIONS:** This product will control or suppress many weeds including quackgrass, downy brome, and cheatgrass in dormant alfalfa. Apply 6 to 9 fl. oz. per acre of this product. Apply in spring to alfalfa that is dormant. Apply after spring temperatures have warmed enough to encourage resumption of weed growth, but prior to initiation of trifoliolate leaf expansion of the alfalfa. Applications made after expansion of the first trifoliolate leaf of the alfalfa will cause growth reduction and reduced crop yield.

**PRECAUTION:** Application of this product can cause crop injury. Any such crop injury is the responsibility of the applicator. Do not use this product where a slight yield reduction in the first cutting of alfalfa cannot be tolerated. Slight discoloration of the alfalfa may occur, but the alfalfa will regreen and regrow under moist soil conditions as effects of this product wear off.

**RESTRICTIONS:** Do not use ammonium sulfate when spraying dormant alfalfa with **Glyphosate 54**. Do not make more than one application per year. Allow 36 hours after application before grazing livestock or harvesting.

**Preplant, Pre-emergence, and At-planting**

**USE INSTRUCTIONS:** This product may be applied before, during or after planting crops listed in this section. Applications must be made prior to emergence of the crop.

**RESTRICTIONS:** Remove domestic livestock before application. The crop may be fed or grazed as soon as it reaches sufficient maturity.

**Preharvest (except kenaf and leucaena)**

**USE INSTRUCTIONS:** This product may be used in declining stands or any stand where crop injury or destruction is acceptable. This product will control annual and perennial weeds, including quackgrass, when applied prior to harvest. Applications may be made at any time of the year. For control of quackgrass apply in the spring, late summer or fall when quackgrass is actively growing. Treatments for quackgrass must be followed by deep tillage for complete control.

**PRECAUTIONS:** This application may destroy an alfalfa stand and may severely injure or destroy other labeled crops such as clover. Preharvest application is not recommended for alfalfa grown for seed, as a reduction in germination or vigor may occur.

**RESTRICTIONS:** Make only one application to an existing crop stand per year. The treated crop and weeds can be harvested and fed to livestock according to the intervals below.

	<b>Maximum Single Application Rate</b>	<b>Minimum Interval Between Application and Harvest / Grazing</b>
Alfalfa	48 fluid ounces (3 pints) per acre	36 hours
All other labeled legumes above	36 fluid ounces (2.25 pints) per acre	3 days

**Spot Treatment or Wiper Applications Over-the-top**

**USE INSTRUCTIONS:** This product may be applied as a spot treatment or with wiper applicators. For additional information on wiper applicators, see the "SELECTIVE EQUIPMENT" section of this label.

Applications may be made in the same area at 30-day intervals.

**RESTRICTIONS:** For spot treatment and wiper applications, apply in areas where the movement of domestic livestock can be controlled. No more than 10% of the total field may be treated at one time.

Remove domestic livestock before application and wait 3 days after application before grazing livestock or harvesting.

**Renovation**

**USE INSTRUCTIONS:** This product may be applied as a broadcast spray to renovate existing stands of alfalfa, clover, and other labeled forage legumes. If the crop is to be grazed or harvested for feed, use up to 48 fluid ounces (3 pts.) per acre in alfalfa and up to 36 fluid ounces (2.25 pints) per acre in other labeled legumes. For complete removal of established stands of clover it may be necessary to use the higher treatment rates listed in the "PERENNIAL WEEDS RATE TABLE" in this label.

**RESTRICTIONS:** When treatment rates of 48 fluid ounces (3 pts.) per acre for alfalfa or 36 fluid ounces (2.25 pints) per acre for other forage legumes are used, remove domestic livestock before application and wait 3 days after application before reintroduction. If treatment rates above these levels are necessary, do not graze or harvest treated foliage for livestock feed. Crops listed for treatment in this label may be planted into the treated area at any time; for other crops, wait 30 days between application and planting.

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### Conservation Reserve Program (CRP)

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**Types of applications:** Renovation (rotating out of CRP), site preparation, postemergence weed control in dormant CRP grasses, wiper applications over-the-top.

**Renovation (Rotating out of CRP), Site Preparation**

**USE INSTRUCTIONS:** This product may be used to prepare CRP land for crop production. Refer to Federal, state or local use guides for CRP renovation recommendations. For any crop not listed for treatment in this label, applications must be made at least 30 days prior to planting.

**Postemergence Weed Control in Dormant CRP Grasses, Wiper Applications Over-the-Top**

**USE INSTRUCTIONS:** This product may be used to suppress competitive growth and seed production of undesirable vegetation in CRP acres. Such applications may be made with wiper application equipment or as a broadcast or spot treatment to dormant CRP grasses. For selective applications with broadcast spray equipment, apply 9 to 12 fl. oz. of this product per acre in early spring before desirable CRP grasses, such as crested and tall wheatgrass, break dormancy and initiate green growth. Late fall applications can be made after desirable grasses have reached dormancy.

**PRECAUTION:** Some stunting of CRP perennial grasses will occur if broadcast applications are made when plants are not dormant.

**RESTRICTIONS:** No waiting period is required between application and grazing or harvesting for feed. Do not apply more than 72 fluid ounces (4.5 pts.) per acre per year onto CRP grasses.

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### Grass Seed or Sod Production

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**Labeled crops:** Any grass (*Graminea* family) except corn, sorghum, sugarcane and those listed in this label under "Cereal and Grain Crops".

**Types of applications:** Preplant, pre-emergence, at-planting, renovation, site preparation, shielded sprayers, wiper applications over-the-top, spot treatments, creating rows in annual ryegrass.

**USE INSTRUCTIONS:** This product controls most existing vegetation prior to renovating turf or forage grass areas or establishing turf grass grown for sod. Do not disturb soil or underground plant parts before treatment. Tillage or renovation techniques such as vertical mowing, coring or slicing should be delayed for 7 days after application to allow proper translocation into underground plant parts. Make applications before, during, or after planting or for renovation.

For maximum control of existing vegetation, delay planting to determine if any regrowth from escaped underground plant parts occurs. Where existing vegetation is growing under mowed turfgrass management, apply this product after omitting at least one regular mowing to allow sufficient growth for good interception of the spray. Where repeat treatments are necessary, sufficient regrowth must be attained prior to application. For warm-season grasses, such as bermudagrass, summer or fall applications provide best control. Broadcast equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested.

**PRECAUTION:** Applications must be made prior to the emergence of the crop to avoid crop injury.

**RESTRICTIONS:** If application rates total 72 fluid ounces (4.5 pts.) per acre or less, no waiting period between treatment and feeding or livestock grazing is required. If the rate is greater than 72 fluid ounces (4.5 pts.) per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting. For any crop not listed for treatment in this label, applications must be made at least 30 days prior to planting.

**Shielded Sprayers**

**USE INSTRUCTIONS:** Apply 24 to 72 fluid ounces (1.5 to 4.5 pts.) of this product in 10 to 20 gallons of water per acre to control weeds between grass seed rows. Uniform planting in straight rows aid in shielded sprayer applications. Best results are obtained when the grass seed crop is small enough to easily pass by the protective shields.

For additional instructions, see "Shielded and Hooded Applicators" in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**PRECAUTION:** Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage. Such damage shall be the sole responsibility of the applicator.

**Wiper Applications Over-the-Top**

**USE INSTRUCTIONS:** Applicators should be adjusted so that the wiper contact point is at least 2 inches above the desirable vegetation. Weeds should be a minimum of 6 inches above the desirable vegetation. Better results may be obtained when more of the weed is exposed to the herbicide solution. Weeds not contacted by the herbicide solution will not be affected. This may occur in dense clumps, severe infestations, or when height of weeds varies so that not all weeds are contacted. In these instances, repeat treatments may be necessary. For additional instructions, see "Wiper Applicators" in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**PRECAUTION:** Contact of the herbicide solution with desirable vegetation may result in damage or destruction.

### Spot Treatments

**USE INSTRUCTIONS:** Use a 1.0 to 2.0% solution. Apply this product prior to heading of grasses grown for seed. Hand-held equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested.

**PRECAUTION:** The crop receiving the spray in the treated area will be killed. Take care to avoid drift or spray outside the target area for the same reason.

### Creating Rows in Annual Ryegrass

**USE INSTRUCTIONS:** Use 12 to 24 fluid ounces (0.75 to 1.5 pints) of this product per acre. Use the higher rate when the ryegrass is greater than 6 inches tall. Best results are obtained when applications are made before the ryegrass reaches 6 inches in height.

**PRECAUTIONS:** Set nozzle heights to allow the establishment of the desired row spacing while preventing spray droplets, spray fines, or drift to contact the ryegrass plants not treated. Use of low-pressure nozzles, or drop nozzles designed to target the application over a narrow band are recommended.

**Grower assumes all responsibility for crop losses from misapplication.**

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### Pasture Grasses

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**Labeled crops:** Any grass (*Gramineae* family) except corn, sorghum, sugarcane and those listed in this label under "Cereal and Grain Crops". Grasses that may be treated include bahiagrass, bermudagrass, bluegrass, brome, fescue, guineagrass, kikuyu grass, orchardgrass, pangola grass, ryegrass, timothy, wheatgrass.

**Types of applications:** Preplant, pre-emergence, spot treatment, wiper applications over-the-top, pasture renovation, postemergent weed control (broadcast treatments).

#### Preplant, Pre-emergence and Pasture Renovation

**USE INSTRUCTIONS:** This product may be applied prior to planting or emergence of forage grasses. In addition, this product may be used to control perennial pasture species listed on this label prior to replanting.

**RESTRICTIONS:** If application rates total 72 fluid ounces (4.5 pts.) per acre or less, no waiting period between treatment and feeding or livestock grazing is required. If the rate is greater than 72 fluid ounces (4.5 pts.) per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting. Crops listed for treatment in this label may be planted into the treated area at any time; for other crops, wait 30 days between application and planting.

#### Spot Treatment and Wiper Applications Over-the-Top

**USE INSTRUCTIONS:** This product may be applied as a spot treatment or with wiper applicators in pastures. To achieve maximum performance, remove domestic livestock before application and wait 7 days after application before grazing livestock or harvesting. Applications may be made in the same area at 30-day intervals.

**RESTRICTIONS:** For spot treatments or wiper application methods using rates of 72 fluid ounces (4.5 pts.) per acre or less, the entire field or any portion of it may be treated. When spot treatments or wiper application are made using rates above 72 fluid ounces (4.5 pts.) per acre, no more than 10% of the total pasture may be treated at any one time.

#### Postemergent Weed Control (Broadcast Treatments)

**USE INSTRUCTIONS:** This product may be used to suppress competitive growth and seed production of annual weeds and undesirable vegetation in pastures. For selective applications with broadcast spray equipment, apply 9 to 12 fl. oz. of this product per acre in early spring before desirable perennial grasses break dormancy and initiate green growth. Late fall applications can be made after desirable perennial grasses have reached dormancy.

**PRECAUTIONS:** Some stunting of perennial grasses will occur if broadcast applications are made when plants are not dormant. Use of higher application rates will cause stand reductions.

**RESTRICTIONS:** Do not apply more than 72 fluid ounces (4.5 pts.) per acre per year onto pasture grasses except for renovation uses (see instructions above). If replanting is needed due to severe stand reduction, applications must be made at least 30 days prior to planting any crop not listed for treatment in this label. No waiting period is required between application and grazing or harvesting for feed.

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### Rangelands

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**Types of applications:** Postemergence.

This product will control or suppress many annual weeds growing in perennial cool and warm-season grass rangelands. Preventing viable seed production is key to the successful control and invasion of annual grassy weeds in rangelands. Follow-up applications in sequential years should eliminate most of the viable seeds. Grazing of treated areas should be delayed to encourage growth of desirable perennials. Allowing desirable perennials to flower and reseed in the treated area will encourage successful transition.

**USE INSTRUCTIONS:** Apply 9 to 12 fl. oz. of this product per acre to control or suppress many weeds, including downy brome, cheatgrass, cereal rye and jointed goatgrass in rangelands. Apply when most brome plants are in early flower and before the plants, including seedheads, turn color. Allowing for secondary weed flushes to occur in the spring following rain events further depletes the seed reserve and encourages perennial grass conversion on weedy sites. Fall applications are possible, and recommended, where spring moisture is usually limited and fall germination allows for good weed growth.

For medusahead, apply 12 fl. oz. of this product per acre at the 3-leaf stage. Delaying applications beyond this stage will result in reduced or unacceptable control. Controlled burning may be useful in eliminating the thatch layer produced by slow decaying culms prior to application. Allow new growth to occur before spraying after a burn. Repeat applications in subsequent years may be necessary to eliminate the seedbank before reestablishing desirable perennial grasses in medusahead-dominated rangelands.

Slight discoloration of the desirable grasses may occur, but they will regreen and regrow under moist soil conditions as effects of this product wear off.

**RESTRICTIONS:** Do not use ammonium sulfate when spraying rangeland grasses with this product. No waiting period between treatment and feeding or grazing of livestock is required. Do not apply more than 72 fluid ounces (4.5 pts.) per acre per year.

#### ROUNDUP® READY CROPS

The following instructions include all applications which can be made onto the specified Roundup Ready crops during the complete cropping season. Do NOT combine these instructions with other instructions made for crop varieties that do not contain the Roundup Ready gene, in the "ANNUAL AND PERENNIAL CROPS" section of this label.

USE THIS PRODUCT FOR POSTEMERGENCE APPLICATION ONLY ON CROP VARIETIES DESIGNATED AS CONTAINING THE ROUNDUP READY GENE.

Applying this product to crop varieties that are not designated as Roundup Ready will result in severe crop injury and yield loss. Avoid contact with foliage, green stems, or fruit of crops, or any desirable plants that do not contain the Roundup Ready gene, since severe injury or destruction will result.

The Roundup Ready designation indicates that the crop variety contains a patented gene that provides tolerance to glyphosate. Information on Roundup Ready crop varieties may be obtained from your seed supplier. Roundup Ready crop varieties must be purchased from an authorized licensed seed supplier.

**For ground applications** with broadcast equipment, apply this product in 5 to 20 gallons of spray solution per acre. Carefully select proper nozzle and spray pressure to avoid spraying a fine mist. For best results with ground application equipment use flat spray nozzles. Check for even distribution of spray droplets.

**For aerial applications**, apply this product in 3 to 15 gallons of water per acre. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for procedures to avoid spray drift that may cause injury to any vegetation not intended for treatment. Use of appropriate buffer zones will help prevent injury to adjacent vegetation.

**ATTENTION:** AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS WHICH DO NOT CONTAIN THE ROUNDUP READY GENE.

See the "MIXING" and "APPLICATION EQUIPMENT AND TECHNIQUES" sections of this label for additional directions and restrictions on the application of this product.

Tank mixtures with other herbicides, insecticides, fungicides, micronutrients or foliar fertilizers can result in reduced weed control or crop injury when applied as over-the-top applications.

Ammonium sulfate may be mixed with this product for applications to Roundup Ready crops. Refer to the "MIXING" section for use instructions for ammonium sulfate.

Sprayer preparation: It is important that sprayer and mixing equipment be clean and free of pesticide residue before making applications of this product. Follow the cleaning procedures specified on the label of the product(s) previously used. THOROUGHLY CLEAN THE SPRAY TANK AND ALL LINES AND FILTERS TO ELIMINATE POTENTIAL CONTAMINATION FROM OTHER HERBICIDES PRIOR TO MIXING AND APPLYING THIS PRODUCT.

**NOTE:** The following instructions are based on a clean start at planting by using a burndown application or tillage to control existing weeds before crop emergence. In no-till and stale seedbed systems, a preplant burndown treatment of this product is recommended to control existing weeds prior to crop emergence. Some weeds, such as black nightshade, broadleaf signalgrass, sicklepod, Texas panicum, sandbur, annual morningglory, woolly cupgrass, shattercane, wild proso millet, burcucumber, and giant ragweed with multiple germination times or suppressed (stunted) weeds may require a second application of this product for complete control. Make the second application after some regrowth has occurred and at least 10 days after a previous application of this product.

#### Alfalfa with the Roundup Ready Gene

**Types of applications:** Preplant, at-planting, pre-emergence, postemergence

Maximum Allowable Combined Application Quantities Per Season	
Combined total per year for all applications, including preplant during year of establishment	184 fluid ounces (5.75 quarts) per acre
Combined total per year for in-crop applications for newly established and established stands	144 fluid ounces (4.5 quarts) per acre
Total of preplant, at-planting, pre-emergence and postemergence single applications	48 fluid ounces (1.5 quarts) per acre

**USE INSTRUCTIONS:**

This product will control many troublesome emerged weeds with over-the-top applications in Roundup Ready alfalfa.

**Application rates for new stand establishment (seeding year):**

Prior to the first cutting, apply 1.5 quarts of this product per acre from emergence up to 4 trifoliolate leaves. Apply up to 48 fluid ounces (1.5 quarts) of this product per acre from 5 trifoliolate leaves up to 5 days before the first cutting.

After the first cutting, apply up to 48 fluid ounces (1.5 quarts) per acre for an in-crop application, per cutting, up to 5 days before cutting.

**Application rates for established stands (non-seeding year):**

Apply up to 48 fluid ounces (1.5 quarts) per acre for an in-crop application, per cutting, up to 5 days before cutting.

There are no rotation crop restrictions following applications of this product. For any crop NOT listed in the label, applications must be made at least 30 days prior to planting.

**Over-the-top applications:**

This product may be applied post-emergence to Roundup Ready alfalfa from emergence until 5 days prior to cutting. For any single over-the-top application of this product do not exceed 48 fluid ounces (1.5 quarts) per acre.

During stand establishment, due to the biology and breeding constraints of alfalfa, up to 10% of the seedlings may not contain the Roundup Ready gene and will not survive after the first application of this product. To eliminate the undesirable effects of stand gaps created by the loss of plants not containing a Roundup Ready gene, make a single application of at least 24 fluid ounces (0.75 quart) per acre of this product at or before the 3 to 4 trifoliolate growth stage.

In both newly seeded and established stands, in order to maximize yield and quality potential of forage and hay, make applications of this product after weeds have emerged but before alfalfa growth or regrowth interferes with application spray coverage of the target weeds.

**PRECAUTION:** Where Roundup Ready alfalfa is grown with a companion or cover crop, or is over seeded with a second species, over-the-top application of this product will eliminate the non-Roundup Ready species.

**Weeds controlled:** For specific rates of application and instructions for control of various annual and perennial weeds, refer to the "ANNUAL WEEDS RATE TABLE" and the "PERENNIAL WEEDS RATE TABLES" of this label. Some weeds with multiple germination times or suppressed (stunted) weeds may require a second application of this product for complete control. The second application should be made after some re-growth of weeds has occurred.

In addition to those weeds listed in this label, this product will suppress or control the parasitic weed, Dodder (*Cuscuta* spp.) in Roundup Ready alfalfa. Repeat applications may be necessary for complete control.

**RESTRICTIONS:** Do not exceed 48 fluid ounces (1.5 quarts) of this product per acre when making applications by air. Any single over-the-top application of this product must not exceed 48 fluid ounces (1.5 quarts) per acre. Make sequential applications of this product at least 7 days apart. Remove domestic livestock before application and wait a minimum of 5 days after last application before grazing, or cutting and feeding of Roundup Ready alfalfa forage and hay.

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**Roundup Ready Canola (Spring)**

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Roundup Ready spring canola is defined as those Roundup Ready canola varieties that are seeded in the spring and harvested in the fall and do not enter a winter dormancy period.

**Types of Applications:** Preplant, At-Planting, Preemergence, Postemergence (In-crop).

<b>Maximum Application Rates</b>	
The total of all Preplant, At-planting, Preemergence applications	48 fluid ounces per acre
The total of all in-crop application from emergence to 6-leaf stage	24 fluid ounces per acre

See the "PRECAUTIONS" AND "RESTRICTIONS" sections under the "ROUNDUP READY CROPS" heading of this label for instructions for use of this product in Roundup Ready crops. See the "USE INFORMATION" section of this label for more information on "Annual Maximum Application Rates."

**Preplant, At-planting, Preemergence**

This product may be applied before, during or after planting, up to a maximum of 48 fluid ounces per acre.



**Postemergence (In-crop)**

Apply this product postemergence to Roundup Ready spring canola from emergence through the 6-leaf stage of development. Applications made during bolting or flowering may result in crop injury and yield loss. To maximize yield potential, make applications early to eliminate competing weeds.

**Single Application** - Apply 12 to 18 fluid ounces per acre no later than the 6-leaf stage for the control of annual weeds. Avoid overlapping applications that may result in temporary yellowing, delayed flowering, and/or growth reduction. Similar crop injury may result when applications of more than 12 fluid ounces per acre are applied after the 4-leaf stage.

**Sequential Application** - Apply 12 fluid ounces per acre to 1 - to 3-leaf canola followed by a sequential application at a minimum interval of 10 days, but no later than the 6-leaf stage. Sequential applications are specified for early emerging annual weeds and perennial weeds such as Canada thistle and quackgrass, or when multiple application times are needed for adequate weed control.

**RESTRICTIONS:** No more than two in-crop (over-the-top) broadcast applications may be made from crop emergence through the 6-leaf stage of development and the total in-crop application must not exceed 24 fluid ounces per acre. Allow a minimum of 60 days between last application and canola harvest.

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**Roundup Ready Canola (Winter)**


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Roundup Ready Winter Canola is defined as those Roundup Ready canola varieties that are seeded in early fall and harvested the following spring or summer. Winter canola varieties are intended to enter a cold period dormancy in the winter.

**Types of Applications:** Preplant, At-Planting, Preemergence, Postemergence (In-crop).

Maximum Application Rates	
The total of all Preplant, At-planting, Preemergence applications	48 fluid ounces per acre
The total of all In-crop application from emergence to canopy closure or prior to bolting in the spring stage	48 fluid ounces per acre

See the "PRECAUTIONS" AND "RESTRICTIONS" sections under the "ROUNDUP READY CROPS" heading of this label for instructions for use of this product in Roundup Ready crops. See the "USE INFORMATION" section of this label for more information on "Annual Maximum Application Rate."

**Preplant, At-Planting, Preemergence**

This product may be applied before, during or after planting Roundup Ready winter canola.

**Postemergence (In-crop)**

Apply this product to Roundup Ready winter canola varieties from emergence to canopy closure in the fall and prior to bolting in the spring. Applications made during or after bolting may result in crop injury and yield loss. To maximize yield potential, make applications early to eliminate competing weeds.

Some weeds with multiple germination times, or suppressed (stunted) weeds, or weeds that have overwintered may require sequential applications of this product for control. Make second application after some regrowth has occurred and at least 60 days after a previous application of this product.

**Single Application**- Apply 18 to 24 fluid ounces of this product per acre in the fall. Applications in the fall should be made when weeds are small and actively growing. Use the higher rate in the specified range when weed densities are high, when weeds have overwintered or when weeds become large and well established. Applications of greater than 18 fluid ounces per acre prior to the 6-leaf stage may result in reduced crop growth in the fall. Avoid spray overlaps. Spray overlaps may result in temporary yellowing and/or growth reduction.

**Sequential Applications**-Apply 12 to 24 fluid ounces of this product per acre to 2-leaf or larger canola in the fall, followed by a sequential application at the same rate and at a minimum interval of 60 days, but before bolting in the spring. Sequential applications are specified for early emerging annual weeds and winter emerging weeds such as downy brome, jointed goatgrass and ryegrass, and for weeds that have overwintered. This product will control or suppress most perennial weeds. For some perennial weeds, sequential applications may be required to reduce competition with the crop.

**RESTRICTIONS:** No more than two over-the-top broadcast applications may be made from crop emergence up to the onset of bolting, and the total in-crop application must not exceed 48 fluid ounces of this product per acre. Allow a minimum of 60 days between last application and harvest of canola grain. No waiting period is required between application and open grazing of livestock.

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**Corn with the Roundup Ready Gene**


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**1: ROUNDUP READY CORN**

**Do not combine the following instructions with instructions for use on Roundup Ready Corn 2. For Roundup Ready Corn 2, see specific instructions below.**

**Types of applications:** Preplant, at-planting, pre-emergence, postemergence, spot treatment, preharvest, postharvest.

Maximum Allowable Combined Application Quantities Per Season	
Combined total per year for all applications	192 fluid ounces (6 quarts) per acre
Preplant, at-planting, pre-emergence applications	120 fluid ounces (3.75 quarts) per acre
Total in-crop applications from emergence through the V8 stage or 30 inches	48 fluid ounces (1.5 quarts) per acre
Maximum preharvest application rate after maximum kernel fill is complete and the crop is physiologically mature (black layer formation) until 7 days before harvest	24 fluid ounces (0.75 quarts) per acre

See the "ROUNDUP READY CROPS" section of this label for additional precautionary instructions for use in Roundup Ready crops.

**Preplant, Pre-emergence and At-planting**

**USE INSTRUCTIONS:** This product may be applied alone or in a tank mixture before, during or after planting.

**TANK MIXTURES:** This product may be tank mixed with Bullet, Degree, Degree Xtra, Harness, Harness Xtra, Harness Xtra 5.6L, Lariat, Lasso or Micro-Tech at 50 to 100% of labeled rate. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

**NOTE:** For maximum weed control, a postemergence (in-crop) application of this product should be applied following the use of less than labeled rates of the pre-emergence residual products listed above.

**Postemergence (in-crop)**

**USE INSTRUCTIONS:** This product may be applied postemergence to Roundup Ready corn from emergence through the V8 stage (8 leaves with collars) or until corn height reaches 30 inches, whichever comes first.

When applied as directed, this product controls labeled annual grass and broadleaf weeds in Roundup Ready corn. Many perennial grasses and broadleaf weeds will be controlled or suppressed with one or more applications of this product. Make the postemergent application of 18 to 24 fl. oz. per acre of this product before the weeds reach a height and/or density that the weeds become competitive with the crop, generally 4 inch tall weeds or less.

This product may be applied alone as a postemergence in-crop application to provide control of emerged weeds listed on this label. If new flushes of weeds occur, a sequential application of this product at 18 to 24 fl. oz. per acre will control the labeled grasses and broadleaf weeds.

**TANK MIXTURES:** This product may be applied in tank mixture with appropriately labeled acetochlor and acetochlor plus atrazine products at 50 to 100% of labeled rate. This product may be applied in tank mixture with appropriately labeled halosulfuron-methyl and atrazine products at labeled rates. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Tank-mix Partner	Maximum Height of Corn for Application
Acetochlor and Atrazine Acetochlor	11 inches
Halosulfuron-methyl	30 inches
Atrazine	12 inches

**RESTRICTIONS:** Single in-crop applications of this product are not to exceed 24 fluid ounces (1.5 pts.) per acre. Sequential in-crop applications of this product from emergence through the V8 stage or 30 inches must not exceed 48 fluid ounces (3 pts.) per acre per growing season. Allow a minimum of 10 days between in-crop applications of this product. Allow a minimum of 50 days between application of this product and harvest of corn forage.

**Preharvest**

**USE INSTRUCTIONS:** In Roundup Ready corn, up to 24 fluid ounces (1.5 pts.) per acre of this product can be applied preharvest. Make applications at 35 percent grain moisture or less. Ensure that maximum kernel fill is complete and the corn is physiologically mature (black layer formed).

**RESTRICTIONS:** Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation.

**Postharvest**

**USE INSTRUCTIONS:** This product may be applied after harvest of corn. Higher rates may be required for control of large weeds that were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

**RESTRICTIONS:** Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation. Do not apply pre-harvest if more than 48 fluid ounces (3 pts.) per acre has been previously applied in over-the-top or drop nozzle application in crop.

**2. ROUNDUP READY CORN 2**

**The following instructions refer to Roundup Ready Corn 2, and must not be combined with instructions above for Roundup Ready Corn not designated as "2".**

The use of higher in-crop rates described in this section on other than Roundup Ready Corn 2 may cause crop injury and reduce yields.

**TYPES OF APPLICATIONS:** Preplant, At-Planting, Pre-emergence, Postemergence (In-Crop), Spot Treatment Preharvest, Post-Harvest.

<b>Maximum Allowable Combined Application Quantities Per Season</b>	
Combined total per year for all applications	192 fluid ounces (6 quarts) per acre
Preplant, at-planting, pre-emergence applications	120 fluid ounces (3.75 quarts) per acre
Single in-crop application	36 fluid ounces (2.25 pints) per acre
Total in-crop applications from emergence through 48 inch stage	72 fluid ounces (4.5 pints) per acre
Maximum preharvest application rate after maximum kernel fill is complete and the crop is physiologically mature (black layer formation) until 7 days before harvest	24 fluid ounces (1.5 pints) per acre

See the "ROUNDUP READY CROPS" section of this label for additional precautionary instructions for use in Roundup Ready crops.

**Preplant, Pre-emergence, At-Planting**

**USE INSTRUCTIONS:** This product may be applied alone or in a tank mixture before, during or after planting corn.

**TANK MIXTURES:** This product may be tank mixed with appropriately labeledalachlor plus atrazine, acetochlor, and acetochlor plus atrazine products, at 50 to 100 percent of labeled rate. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

**NOTE:** For maximum weed control, a postemergence (in crop) application of this product should be applied following the use of less than labeled rates of the pre-emergence residual products listed above.

**Pre-emergence followed by post-emergence weed control**

Follow directions for pre-emergence applications above, and post-emergence applications below. Make the post emergence application before weeds reach a height or density that is competitive with the corn. Observe limits on total product applied per year.

**Postemergence (In-Crop)**

**USE INSTRUCTIONS:** This product may be applied over-the-top or with drop nozzles to Roundup Ready Corn 2 from emergence through the V8 stage (8 leaves with collars) or until corn reaches 30 inches in height, whichever comes first. When corn reaches 24 to 30 inches tall, drop nozzles are recommended for optimum spray coverage and weed control. When corn reaches 30 to 48 inches tall, apply ONLY with drop nozzles adjusted to avoid spraying into the whorls of the corn plants. Refer to tables above for rates of **Glyphosate 54** and mixtures for the specific weeds to be controlled.

When applied as directed, this product controls labeled annual grass and broadleaf weeds in Roundup Ready corn. Many perennial grasses and broadleaf weeds will be controlled or suppressed with one or more application of this product. Make the postemergent application of 18 to 24 fl. oz. per acre of this product before the weeds reach a height and/or density that the weeds become competitive with the crop, generally 4 inch tall weeds or less.

This product may be applied alone as a postemergence in-crop application to provide control of emerged weeds listed on this label. If new flushes of weeds occur, a sequential application of this product at 18 to 24 fl. oz. per acre will control the labeled grasses and broadleaf weeds.

**TANK MIXTURES:** This product may be applied in tank mixture with appropriately labeled alachlor plus atrazine, acetochlor, and acetochlor plus atrazine products at 50 to 100 percent of labeled rate. This product may be applied in tank mixture with appropriately labeled halosulfuron-methyl and atrazine products at labeled rates. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Tank-mix Partner	Maximum Height of Corn for Application
Alachlor and Atrazine Acetochlor Acetochlor and Atrazine	11 inches
Halosulfuron-methyl	30 inches
Atrazine	12 inches

**RESTRICTIONS:** Single in-crop applications of this product are not to exceed 24 fluid ounces (1.5 pts.) per acre. Sequential in-crop applications of this product from emergence through the V8 stage or 30 inches must not exceed 48 fluid ounces (3 pts.) per acre per growing season. Allow a minimum of 10 days between in-crop applications of this product. Allow a minimum of 50 days between application of this product and harvest of corn forage.

**Preharvest**

**USE INSTRUCTIONS:** In Roundup Ready corn, up to 24 fluid ounces (1.5 pts.) per acre of this product can be applied preharvest. Make applications at 35 percent grain moisture or less. Ensure that maximum kernel fill is complete and the corn is physiologically mature (black layer formed).

**RESTRICTIONS:** Allow a minimum of 7 days between application and harvest, feeding, or grazing. Do not apply pre-harvest if more than 3 pts. per acre has been previously applied in over-the-top or drop nozzle application in crop.

**Post-Harvest**

**USE INSTRUCTIONS:** This product may be applied after harvest of corn. Higher rates may be required for control of large weeds that were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

**RESTRICTIONS:** Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation.

**Cotton with the Roundup Ready Gene**

**The following instructions should not be combined with instructions for use on Roundup Ready Flex Cotton. For Roundup Ready Flex Cotton, see the "Cotton with the Roundup Ready Flex Gene" section of the label.**

**Types of applications:** Preplant, at-planting, pre-emergence, over-the-top, selective equipment, preharvest.

Maximum Allowable Combined Application Quantities Per Season	
Combined total per year for all applications	192 fluid ounces (6 quarts) per acre
Preplant, at-planting, pre-emergence applications	120 fluid ounces (3.75 quarts) per acre
Total in-crop applications from ground cracking to layby	96 fluid ounces (3 quarts) per acre
Maximum preharvest application rate	48 fluid ounces (1.5 quarts) per acre

See the "ROUNDUP READY CROPS" section of this label for additional precautionary instructions for use in Roundup Ready crops.

**RESTRICTIONS:** The combined total application of this product from cotton emergence until harvest must not exceed 144 fluid ounces (4.5 quarts) per acre. NO MORE THAN TWO OVER-THE-TOP BROADCAST APPLICATIONS MAY BE MADE FROM CROP EMERGENCE THROUGH THE 4-LEAF (NODE) STAGE OF DEVELOPMENT. MAKE NO MORE THAN TWO APPLICATIONS FROM THE 5-LEAF STAGE THROUGH LAYBY. SEQUENTIAL IN-CROP OVER-THE-TOP OR POST-DIRECTED APPLICATIONS OF THIS PRODUCT MUST BE AT LEAST 10 DAYS APART AND COTTON MUST HAVE AT LEAST TWO NODES OF INCREMENTAL GROWTH BETWEEN APPLICATIONS. ALLOW A MINIMUM OF 7 DAYS BETWEEN APPLICATION AND HARVEST.

#### **Preplant, At-planting and Pre-emergence**

**USE INSTRUCTIONS:** This product may be applied before, during or after planting cotton.

#### **Over-the-Top**

**USE INSTRUCTIONS:** This product may be applied by aerial or ground application equipment at rates up to 0.75 quart per acre per application postemergence to Roundup Ready cotton from the ground cracking stage until the 4-leaf (node) stage of development (until the fifth true leaf reaches the size of a quarter). Over-the-top applications made after the 4-leaf (node) stage of development may result in boll loss, delayed maturity and/or yield loss.

**PRECAUTION:** The use of additional surfactant in the spray solution may result in crop injury and reduced yield and is not recommended for over-the-top applications of this product to Roundup Ready cotton.

**Salvage treatment:** This treatment may be used after the 4-leaf stage of development and should only be used where weeds threaten to cause the loss of the crop. 24 fluid ounces (0.75 quart) per acre may be applied either as an over-the-top application or as a post-directed treatment sprayed higher on the cotton plants and over the weeds. **NOTE:** SALVAGE TREATMENTS WILL RESULT IN SIGNIFICANT BOLL LOSS, DELAYED MATURITY AND/OR YIELD LOSS. MAKE NO MORE THAN ONE SALVAGE TREATMENT PER GROWING SEASON.

**NOTE:** For specific rates of application and instructions, refer to the "ANNUAL WEEDS RATE TABLE" and "PERENNIAL WEEDS RATE TABLE" in this label.

See the "ROUNDUP READY CROPS" section of this label for additional precautionary instructions for use in Roundup Ready crops.

#### **Selective Equipment**

**USE INSTRUCTIONS:** This product may be applied using precision post-directed or hooded sprayers at rates up to 24 fluid ounces (0.75 quart) per acre per application to Roundup Ready cotton through layby. At this stage, use post-directed equipment which directs the spray to the base of the cotton plants. Contact of the spray with cotton leaves should be avoided to the maximum extent possible. To minimize spray onto the leaves of the cotton plants, place nozzles in a low position directing a horizontal spray pattern under the cotton leaves to contact weeds in the row, and maintain low spray pressure (less than 30 psi). For best results, make applications while weeds are small (less than 3 inches).

See the "SELECTIVE EQUIPMENT" part of the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for information on proper use and calibration of this equipment.

#### **Preharvest**

**USE INSTRUCTIONS:** This product may be applied for preharvest annual and perennial weed control as a broadcast treatment to Roundup Ready cotton after 20 percent boll crack. Up to 48 fluid ounces (1.5 qts.) of this product may be applied using either aerial or ground spray equipment. **NOTE:** This product will not enhance the performance of harvest aids when applied to Roundup Ready cotton.

**RESTRICTIONS:** Allow a minimum of 7 days between application and harvest of cotton. THE USE OF ADDITIVES FOR PREHARVEST APPLICATION OF THIS PRODUCT TO ROUNDUP READY COTTON IS PROHIBITED.

**ATTENTION: USE OF THIS PRODUCT IN ACCORDANCE WITH LABEL DIRECTIONS IS EXPECTED TO RESULT IN NORMAL GROWTH OF ROUNDUP READY COTTON. HOWEVER, VARIOUS ENVIRONMENTAL CONDITIONS, AGRONOMIC PRACTICES AND OTHER FACTORS MAKE IT IMPOSSIBLE TO ELIMINATE ALL RISKS ASSOCIATED WITH THIS PRODUCT, EVEN WHEN APPLICATIONS ARE MADE IN CONFORMANCE WITH THE LABEL SPECIFICATIONS. IN SOME CASES, THESE FACTORS CAN RESULT IN BOLL LOSS, DELAYED MATURITY AND/OR YIELD LOSS.**

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#### **Cotton with the Roundup Ready Flex Gene**

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The directions for use for this product provided in this section are specific to and may only be used with varieties designated as Roundup Ready Flex cotton. The use of over-the-top applications described in this section on cotton varieties other than Roundup Ready Flex cotton will cause crop injury and reduced yields.

DO NOT combine the directions for use in this section with those in the "Cotton with the Roundup Ready Gene" section of this label, or with any other Roundup Ready cotton or Roundup Ready Flex cotton directions for use on labeling for this or other glyphosate-containing products.

Drift of this product from an application made to Roundup Ready Flex cotton onto adjacent fields of post 4-leaf (node) Roundup Ready cotton may cause extensive crop injury, including boll loss, delayed maturity and/or yield loss. **TYPES OF APPLICATION:** Preplant, At-Planting, Pre-emergence, Postemergence (In-crop), Preharvest

<b>Maximum Application Rates</b>	
Combined total per year for all applications	192 fluid ounces (6 quarts) per acre
Total of all Preplant, at-planting, pre-emergence applications	120 fluid ounces (3.75 quarts) per acre
Total of all in-crop applications from cracking to 60 percent open bolls	144 fluid ounces (4.5 quarts) per acre
Total of all in-crop applications between layby and 60 percent open bolls	48 fluid ounces (1.5 quarts) per acre
Total of all in-crop applications from 60 percent open bolls to 7 days prior to harvest	48 fluid ounces (1.5 quarts) per acre
Total of all in-crop applications from emergence through harvest	144 fluid ounces (4.5 quarts) per acre

See the "ROUNDUP READY CROPS" section of the label for additional information regarding the use of this product in Roundup Ready crops. See the "PRODUCT INFORMATION" section of this label for more information on maximum application rates.

When applied in accordance with these label directions **Glyphosate 54** will control labeled annual grasses and broadleaf weeds in Roundup Ready Flex cotton. Many perennial weeds will be controlled or suppressed with one or more applications of this product. To maximize yield potential, eliminate competing weeds early. For specific rates of application and additional instructions for control of various annual and perennial weeds, refer to the "ANNUAL WEEDS RATE TABLE" and the "PERENNIAL WEEDS RATE TABLES" sections of the label.

**Preplant, At-Planting, Pre-emergence**

**USE INSTRUCTIONS:** This product may be applied before, during or after planting Roundup Ready Flex cotton.

**RESTRICTIONS:** The maximum quantity of this product that may be applied for all preplant, at-planting and pre-emergence applications combined is 120 fluid ounces (3.75 quarts) per acre per season.

**Postemergence (In-crop)**

**USE INSTRUCTIONS:** Use an initial application rate of 24 fluid ounces (0.75 quarts) per acre to control or suppress 1 to 3 inch tall annual grasses and broadleaf weeds. This product may be applied postemergence to Roundup Ready Flex cotton using ground application equipment at rates up to 36 fluid ounces (1.125 quarts) per acre per application. In addition to broadcast application, post-directed spray equipment may be used to achieve more thorough weed coverage.

**PRECAUTIONS:** In-crop application rates above 24 fluid ounces (0.75 quarts) per acre made alone or with the addition of other crop chemical products containing surfactant may cause a crop response including leaf speckling or leaf necrosis.

**DO NOT EXCEED A SURFACTANT CONCENTRATION 0.5% BY WEIGHT (2 QUARTS PER 100 GALLONS OF SPRAY SOLUTION) WHEN MAKING AN OVER-THE-TOP IN-CROP APPLICATION TO ROUNDUP READY FLEX COTTON.**

**RESTRICTIONS:** The maximum single, in-crop application rate of this product to Roundup Ready Flex cotton using ground application equipment is 36 fluid ounces (1.125 quarts) per acre. Do not exceed a maximum rate of 24 fluid ounces (0.75 quarts) of this product per acre when using aerial application equipment. Between layby and 60 percent open bolls, the maximum combined total application rate of this product is 48 fluid ounces (1.5 quarts) per acre. The maximum combined total of all applications of this product made from crop emergence to 60 percent open bolls must not exceed 144 fluid ounces (4.5 quarts) per acre.

**Preharvest**

**USE INSTRUCTIONS:** Up to 48 fluid ounces (1.5 quarts) of this product per acre may be applied to Roundup Ready Flex cotton for annual and perennial weed control prior to harvest after 60 percent boll crack.

**NOTE:** This product will not enhance the performance of harvest aids when applied to Roundup Ready Flex cotton.

**PRECAUTION:** DO NOT EXCEED A SURFACTANT CONCENTRATION 0.5% BY WEIGHT (2 QUARTS PER 100 GALLONS OF SPRAY SOLUTION) WHEN MAKING AN OVER-THE-TOP IN-CROP APPLICATION TO ROUNDUP READY FLEX COTTON.

**RESTRICTIONS:** Allow a minimum of 7 days between application and harvest of Roundup Ready Flex cotton.

**ATTENTION: USE OF THIS PRODUCT IN ACCORDANCE WITH LABEL DIRECTIONS IS EXPECTED TO RESULT IN NORMAL GROWTH OF ROUNDUP READY FLEX COTTON. HOWEVER, DUE TO THE SENSITIVITY OF COTTON FRUITING TO VARIOUS ENVIRONMENTAL CONDITIONS, AGRONOMIC PRACTICES AND OTHER FACTORS, IT IS IMPOSSIBLE TO ELIMINATE ALL RISKS ASSOCIATED WITH THIS PRODUCT, EVEN WHEN APPLICATIONS ARE MADE IN CONFORMANCE WITH THE LABEL SPECIFICATIONS. IN SOME CASES, THESE FACTORS CAN RESULT IN BOLL LOSS, DELAYED MATURITY AND/OR YIELD LOSS.**

#### Soybeans with the Roundup Ready Gene

**Types of applications:** Preplant, at-planting, pre-emergence, postemergence, preharvest, postharvest.

Maximum Allowable Combined Application Quantities Per Season	
Combined total per year for all applications	192 fluid ounces (6 quarts) per acre
Preplant, at-planting, pre-emergence applications	120 fluid ounces (3.75 quarts) per acre
Total in-crop applications from cracking throughout flowering	72 fluid ounces (4.5 pts.) per acre
Maximum preharvest application rate	24 fluid ounces (1.5 pts.) per acre

See the "ROUNDUP READY CROPS" section of this label for additional precautionary instructions for use in Roundup Ready crops.

#### Preplant, Pre-emergence and At-planting

**USE INSTRUCTIONS:** This product may be applied before, during or after planting soybeans.

#### Postemergence

**USE INSTRUCTIONS:** When applied as directed, this product will control labeled annual grasses and broadleaf weeds in Roundup Ready soybeans. Applications of this product can be made in Roundup Ready soybeans from emergence (cracking) throughout flowering. Refer to the "ANNUAL WEEDS RATE TABLE" in this label for application rates for specific annual weeds. An initial application of 24 fluid ounces (1.5 pts.) per acre will control or suppress most 2 to 8-inch-tall weeds. Weeds will generally be 2 to 8 inches tall, 2 to 5 weeks after planting. If the initial application is delayed and weeds are larger, apply a higher rate of this product. This product may be used up to 48 fluid ounces (3 pts.) per acre in any single in-crop application for control of annual weeds and where heavy weed densities exist.

A 24 to 38 fluid ounces (1.5 to 3 pts.) per acre rate (single or multiple applications) of this product will control or suppress perennial weeds such as: Bermudagrass, Canada thistle, common milkweed, field bindweed, hemp dogbane, horsenettle, maretail (horseweed), nutsedge, quackgrass, rhizome johnsongrass, redvine, trumpetcreeper, swamp smartweed and wirestem muhly. For best results, allow perennial weed species to achieve at least 6 inches of growth before spraying with this product.

Under adverse growing conditions such as drought, hail, wind damage or a poor soybean stand that slows or delays canopy closure, a sequential application of this product may be necessary to control late flushes of weeds. IN THE SOUTHERN STATES, A SEQUENTIAL APPLICATION OF THIS PRODUCT WILL BE REQUIRED TO CONTROL NEW FLUSHES OF WEEDS IN THE ROUNDUP READY SOYBEAN CROP. To control giant ragweed apply 1.5 pts. per acre of this product when the weed is 8 to 12 inches tall to increase control and possibly avoid the need for a sequential application.

**NOTE:** The use of this product for in-crop applications over Roundup Ready soybeans is not registered in California.

**RESTRICTIONS:** The combined total application from crop emergence through harvest must not exceed 72 fluid ounces (4.5 pts.) per acre. The maximum rate for any single in-crop application is 48 fluid ounces (3 pts.) per acre. The maximum combined total of this product that can be applied during flowering is 48 fluid ounces (3 pts.) per acre.

#### Preharvest

**USE INSTRUCTIONS:** This product provides weed control when applied prior to harvest of soybeans. Up to 24 fluid ounces (1.5 pts.) per acre of this product can be applied by aerial or ground application.

**PRECAUTION:** Care should be taken to avoid excessive seed shatter loss due to ground application equipment.

**RESTRICTION:** Allow a minimum of 14 days between final application and harvest of soybeans or feeding of soybeans, forage or hay.

**Postharvest**

**USE INSTRUCTIONS:** This product may be applied after harvest of Roundup Ready soybeans. Higher rates may be required for control of large weeds that were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

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**Sugar Beet with the Roundup Ready Gene\***

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**TYPES OF APPLICATIONS:** Preplant, At-Planting, Preemergence, Postemergence (In-crop)

<b>Annual Maximum Allowable Application Rates</b>	
Combined total per year for all applications	192 fluid ounces (6 quarts) per acre
Preplant, Pre-emergence applications	120 fluid ounces (3.75 quarts) per acre
Emergence to 8-leaf stage	60 fluid ounces (1.875 quarts) per acre
Between 8-leaf stage and canopy closure	48 fluid ounces (1.5 quarts) per acre

See the "ROUNDUP READY CROPS" section of this label for additional precautionary instructions for use in Roundup Ready crops. Tank mixtures of this product with herbicides, insecticides or fungicides may result in crop injury or reduced weed control.

**Preplant, At-Planting, Preemergence**

**USE INSTRUCTIONS:** This product may be applied before, during or after planting of Roundup Ready sugar beets.

**RESTRICTION:** The maximum quantity of this product that may be applied for all preplant, at-planting and preemergence applications combined is 120 fluid ounces (3.75 quarts) per acre per season.

**Postemergence (In-crop)**

**USE INSTRUCTIONS:** This product may be applied over the top of Roundup Ready sugar beets for control of annual grasses and broadleaf weeds from emergence to 30 days prior to harvest. To maximize yield potential, spray sugar beets early to eliminate competing weeds. Up to 4 sequential applications of this product may be made with at least 10 days between applications. This product will control or suppress most perennial weeds. For some perennial weeds, repeat applications may be required to eliminate crop competition throughout the growing season.

**RESTRICTIONS:** Follow all precautionary instructions for use in Roundup Ready crops.

- The combined total application from crop emergence through harvest must not exceed 108 fluid ounces (3.375 quarts) per acre.
- The maximum rate for any single application between emergence to the 8 leaf stage is 36 fluid ounces (2.25 pts.) per acre.
- The maximum rate for any single application between the 8 leaf stage and canopy closure is 24 fluid ounces (1.5 pts.) per acre.
- Allow a minimum of 30 days between last application and sugar beet harvest.
- For any crop NOT listed on this label, applications must be at least 30 days prior to planting.

**\*This product is not registered by California for use on sugar beet.**

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**NONCROP USES AROUND THE FARMSTEAD**

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**Types of applications:** Non-selective weed control, trim-and-edge, greenhouse / shade house, chemical mowing, cut stumps, habitat management.

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**Weed Control and Trim-and-Edge**

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**USE INSTRUCTIONS:** This product may be used to control annual weeds, perennial weeds and woody brush which are found in any part of the farmstead, including building foundations, along and in fences, in dry ditches and canals, along ditchbanks, farm roads, shelterbelts, prior to landscape plantings and equipment storage areas.

**TANK MIXTURES:** This product may be tank mixed with the following products. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing.



Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

For annual weeds, use 24 fluid ounces (1.5 pts.) per acre of this product when weeds are less than 6 inches tall, 36 fluid ounces (2.25 pts.) per acre when weeds are 6 to 12 inches tall and 48 fluid ounces (3 pts.) per acre when weeds are greater than 12 inches tall. For perennial weeds, apply 48 to 120 fluid ounces (3 to 7.5 pts.) per acre in these tank mixes. For tank mixtures with these products through backpack sprayers, handguns or other high-volume spray-to-wet applications, see the "ANNUAL WEEDS – HANDHELD OR HIGH VOLUME EQUIPMENT" section of this label for specified rates.

IMAZAPYR	IMAZAPIC-AMMONIUM
DICAMBA	SIMAZINE
PRODIAMINE	OXADIAZONE
DIURON	DIURON and IMAZAPYR
METSULFURON	SIMAZINE
BROMACIL and DIURON	ORYZALIN
SULFOMETURON	CHLORSULFURON
PEDIMETHALIN	2,4-D

This product plus dicamba tank mixtures may not be applied by air in California.

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#### Greenhouse / Shade House

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This product may be used to control weeds in and around greenhouses and shade houses. Desirable vegetation must not be present during application and air circulation fans must be turned off.

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#### Chemical Mowing

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**USE INSTRUCTIONS:** This product will suppress perennial grasses listed in this section to serve as a substitute for mowing. Use 4.5 fl. oz. of this product per acre when treating Kentucky bluegrass. Use 6 fl. oz. of this product per acre when treating tall fescue, fine fescue, orchardgrass, bahiagrass or quackgrass covers. Use 12 fl. oz. of this product per acre when treating bermudagrass. Use 48 fl. oz. of this product per acre when treating torpedograss or paragrass. Apply treatments in 10 to 20 gallons of spray solution per acre. Chemical mowing applications may be made along farm ditches and other parts of farmsteads.

**PRECAUTION:** Use only in areas where some temporary injury or discoloration of perennial grasses can be tolerated.

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#### Cut Stumps

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**Types of application:** Treating cut stumps in any noncrop site listed on this label.

**USE INSTRUCTIONS:** This product will control regrowth of cut stumps and resprouts of many types of woody brush and tree species, some of which are listed below. Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut trees or resprouts close to the soil surface. Apply a 50 to 100% solution of this product to the freshly cut surface immediately after cutting. Delays in application may result in reduced performance. For best results, applications should be made during periods of active growth and full leaf expansion.

Alder	Reed, giant
Eucalyptus	Saltcedar
Madrone	Sweetgum
Oak	Tanoak
Pepper, Brazilian	Willow
Pine, Austrian	

**PRECAUTION:** Some sprouts, stems or trees may share the same root system. Adjacent trees having a similar age, height and spacing may signal shared roots. Whether grafted or shared, injury is likely to occur to non-treated stems / trees when one or more trees sharing common roots are treated.

**RESTRICTIONS:** Do not make cut stump applications when the roots of desirable woody brush or trees may be grafted to the roots of the cut stump.

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#### Habitat Management

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**Types of uses:** Habitat restoration and maintenance, wildlife food plots.

### Habitat Restoration and Maintenance

**USE INSTRUCTIONS:** This product may be used to control exotic and other undesirable vegetation in habitat management areas. Applications can be made to allow recovery of native plant species, prior to planting desirable native species, and for similar broad-spectrum vegetation control requirements in habitat management areas. Spot treatments can be made to selectively remove unwanted plants for habitat maintenance and enhancement. The tank mixtures listed in this "NONCROP USES AROUND THE FARMSTEAD" section of this label may be used for habitat restoration and maintenance.

### Wildlife Food Plots

**USE INSTRUCTIONS:** This product may be used as a site preparation treatment to control annual and perennial weeds prior to planting wildlife food plots. Any wildlife food species may be planted after applying this product, or native species may be allowed to repopulate the area. If tillage is needed to prepare a seedbed, wait 7 days after application before tillage.

### ANNUAL WEEDS RATE TABLE (Alphabetically by Species)

**WATER CARRIER VOLUMES OF 3 TO 10 GALLONS PER ACRE FOR GROUND APPLICATIONS AND 3 TO 5 GALLONS PER ACRE FOR AERIAL APPLICATIONS ARE RECOMMENDED.**

Apply to actively growing annual weeds. Annual weeds are generally easiest to control when they are small.

Older, mature (hardened) annual weed species may require higher rates even if they meet the size requirements.

Do not tank mix with soil residual herbicides when using these rates unless otherwise specified.

For weeds that have been mowed, grazed or cut, allow regrowth to occur prior to treatment.

This product may be used up to 36 fl. oz. per acre where heavy weed densities exist.

WEED SPECIES	Glyphosate 54 Rate – Fluid Ounces per Acre				
	12	18	24	30	36
	Maximum Height / Length (in inches)				
Ammannia, purple	3"	6"	12"	-	18"
Annoda, spurred	-	2"	3"	5"	8"
Barley	18"	18"+	-	-	-
Barnyardgrass	-	3"	6"	7"	9"
Bassia, fivehook	-	-	6"	-	-
Beggarweed, Florida	-	5"	8"	-	-
Bittercress	12"	20"	-	-	-
Bluegrass, annual	10"	-	-	-	-
Bluegrass, bulbous	6"	-	-	-	-
Brome, downy <sup>1,2</sup>	6"	12"	-	-	-
Brome, Japanese	6"	12"	24"	-	-
Browntop panicum	6"	8"	12"	-	24"
Buckwheat, wild <sup>3</sup>	-	1"	2"	-	-
Burcucumber	-	6"	12"	-	18"
Buttercup	12"	20"	-	-	-
Carolina geranium	-	-	4"	-	9"
Carpetweed	-	6"	12"	-	-
Cheat <sup>2</sup>	6"	20"	-	-	-
Chervil	20"	-	-	-	-

WEED SPECIES	Glyphosate 54 Rate – Fluid Ounces per Acre				
	12	18	24	30	36
	Maximum Height / Length (in inches)				
Chickweed	-	12"	18"	-	-
Cocklebur	12"	18"	24"	-	36"
Copperleaf, hophornbeam	-	2"	4"	-	6"
Copperleaf, Virginia	-	2"	4"	-	6"
Coreopsis, plains	-	6"	12"	-	18"
Corn, volunteer	6"	12"	20"	-	-
Corn speedwell	12"	-	-	-	-
Crabgrass	3"	6"	12"	-	-
Crowfootgrass	-	-	6"	-	12"
Cutleaf, evening primrose	-	-	3"	-	6"
Devilsclaw (unicorn plant)	-	3"	6"	-	-
Dwarf dandelion	12"	-	-	-	-
Eastern mannagrass	8"	12"	-	-	-
Eclipta	-	4"	8"	12"	-
Fall panicum	4"	-	6"	-	12"
Falsedandelion	-	20"	-	-	-
Falseflax, small seed	12"	-	-	-	-
Fiddleneck	-	6"	12"	-	-
Field pennycress	6"	12"	-	-	-
Filaree	-	-	6"	-	12"
Fleabane, annual	6"	20"	-	-	-
Fleabane, hairy ( <i>Conyza bonariensis</i> )	-	-	6"	-	10"
Fleabane, rough	3"	6"	12"	-	-
Florida pusley	-	-	4"	-	6"
Foxtail: giant, bristly, yellow	6"	12"	20"	-	-
Foxtail, Carolina	10"	-	-	-	-
Foxtail, green	12"	-	-	-	-
Goatgrass, jointed	6"	12"	-	-	-
Goosegrass	-	3"	6"	-	12"
Grain sorghum (milo)	6"	12"	20"	-	-
Groundcherry	-	3"	6"	-	9"
Groundsel, common	-	6"	10"	-	-
Hemp sesbania	-	2"	4"	6"	8"
Henbit	-	-	6"	-	12"
Horseweed / Marestalk ( <i>Conyza canadensis</i> )	-	6"	12"	-	18"

WEED SPECIES	Glyphosate 54 Rate – Fluid Ounces per Acre				
	12	18	24	30	36
	Maximum Height / Length (in inches)				
Itchgrass	6"	8"	12"	-	18"
Jimsonweed	-	-	12"	-	18"
Johnsongrass, seedling	6"	12"	18"	-	24"
Junglerice	-	3"	6"	7"	9"
Knotweed	-	-	6"	-	12"
Kochia <sup>1</sup>	-	3 – 6"	12"	-	-
Lambsquarters	-	6"	12"	-	20"
Little barley	6"	12"	-	-	-
London rocket	6"	-	24"	-	-
Mayweed	-	2"	6"	12"	18"
Morningglory, annual ( <i>Ipomoea</i> spp.)	-	-	3"	-	6"
Mustard, blue	6"	12"	18"	-	-
Mustard, tansy	6"	12"	18"	-	-
Mustard, tumble	6"	12"	18"	-	-
Mustard, wild	6"	12"	18"	-	-
Nightshade, black	-	4"	6"	-	12"
Nightshade, hairy	-	4"	6"	-	12"
Oats	3"	6"	18"	-	-
Pigweed species	-	12"	18"	24"	-
Prickly lettuce	-	6"	12"	-	-
Purslane	-	-	3"	-	6"
Ragweed, common	-	6"	12"	-	18"
Ragweed, giant	-	6"	12"	-	18"
Red rice	-	-	4"	-	-
Russian thistle	-	6"	12"	-	-
Rye, volunteer / cereal <sup>2</sup>	6"	18"	18"+	-	-
Ryegrass	-	-	6"	-	12"
Sandbur, field	6"	12"	-	-	-
Sandbur, longspine	6"	12"	-	-	-
Shattercane	6"	12"	20"	-	-
Shepherd's purse	6"	12"	-	-	-
Sicklepod	-	2"	4"	-	8"
Signalgrass, broadleaf	-	3"	6"	7"	9"
Smartweed, ladysthumb	-	-	6"	-	9"
Smartweed, Pennsylvania	-	-	6"	-	9"

WEED SPECIES	Glyphosate 54 Rate – Fluid Ounces per Acre				
	12	18	24	30	36
	Maximum Height / Length (in inches)				
Sowthistle, annual	-	-	6"	-	12"
Spanishneedles	-	-	6"	-	12"
Speedwell, purslane	12"	-	-	-	-
Sprangletop	6"	12"	20"	-	-
Spurge, prostrate	-	6"	12"	-	-
Spurge, spotted	-	6"	12"	-	-
Spurry, umbrella	6"	-	-	-	-
Stinkgrass	-	12"	-	-	-
Sunflower	12"	18"	-	-	-
Swinecress	-	5"	12"	-	-
Teaweed / Prickly sida	-	2"	4"	-	6"
Texas panicum	6"	8"	12"	-	24"
Thistle, Russian <sup>5</sup>	-	6"	12"	-	-
Velvetleaf	-	-	6"	-	12"
Virginia pepperweed	-	18"	-	-	-
Waterhemp	-	-	6"	-	12"
Wheat <sup>2</sup>	6"	12"	18"	-	-
Wheat (overwintered)	-	6"	12"	-	18"
Wild oats	3"	6"	18"	-	-
Wild proso millet	-	6"	12"	-	18"
Witchgrass	-	12"	-	-	-
Woolly cupgrass	-	6"	12"	-	-
Yellow rocket	-	12"	20"	-	-

<sup>1</sup> For control of downy brome in no-till systems, use 12 fl. oz. per acre.

<sup>2</sup> Performance is better if application is made before this weed reaches the boot stage of growth.

<sup>3</sup> Use 18 fl. oz. per acre of this product to control wild buckwheat in the cotyledon to 2-leaf stage. Use 24 fl. oz. per acre to control 2- to 4-leaf wild buckwheat. For improved control of wild buckwheat over 2 inches in size, use sequential treatments of 24 fl. oz. followed by 24 fl. oz. of this product per acre.

<sup>4</sup> Do not treat kochia in the button stage.

<sup>5</sup> Control of Russian thistle may vary based on environmental conditions and spray coverage. Whenever possible, a tank mixture with 2,4-D as described below may improve control.

<sup>6</sup> For control of glyphosate resistant horseweed / marestalk in cotton, corn and soybeans refer to "CONTROL AND MANAGEMENT OF GLYPHOSATE RESISTANT HORSEWEED (MARESTAIL, *Conyza canadensis*) IN CORN, COTTON AND SOYBEANS" section below.

#### Annual Weeds – Rates for 10 to 40 Gallons of Spray Solution per Acre

Apply 24 to 36 fluid ounces (1.5 to 2.25 pts.) of this product per acre. Use 24 fluid ounces (1.5 pts.) per acre if weeds are less than 6 inches tall, and 36 fluid ounces (2.25 pts.) per acre if weeds are over 6 to 12 inches tall. These rates will provide control of weeds listed in the "ANNUAL WEEDS RATE TABLE" when water carrier volumes are 10 to 40 gallons per acre for ground applications. Older, mature (hardened) annual weed species may require higher rates even if they meet the size requirements.

#### **Annual Weeds – Tank Mixtures with 2,4-D, Dicamba or Picloram**

9 to 12 fl. oz. of this product plus 0.25 pound a.i. of dicamba or 0.5 pound a.i. of 2,4-D or 1 to 2 fluid ounces of picloram per acre will control the following weeds with maximum height or length indicated: 6" - prickly lettuce, marestail / horseweed (*Conyza canadensis*), morningglory (*Ipomoea* spp.), kochia (dicamba only), wild buckwheat (picloram only); 12" - cocklebur, lambsquarters, pigweed, Russian thistle (2,4-D only).

12 fl. oz. of this product plus 0.5 pound a.i. of 2,4-D per acre will control the following weeds when they are the maximum height or length of 6 inches: common ragweed, giant ragweed, Pennsylvania smartweed, and velvetleaf.

Some crop injury may occur if dicamba or picloram is applied within 45 days of planting.

DO NOT APPLY DICAMBA OR 2,4-D TANK MIXTURES BY AIR IN CALIFORNIA.

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture. Refer to the specific product labels for crop rotation restrictions of all products used in tank mixtures.

#### **Annual Weeds – Hand-Held or High-Volume Equipment**

For control of weeds listed in the "ANNUAL WEEDS RATE TABLE", apply a 0.375% solution of this product to weeds less than 6 inches in height or runner length. Apply prior to seedhead formation in grass or bud formation in broadleaf weeds. For annual weeds over 6 inches tall, or unless otherwise specified, use a 0.75% solution.

For best results, use a 1.5% solution on harder-to-control perennials, such as bermudagrass, dock, field bindweed, hemp dogbane, milkweed and Canada thistle.

When using application methods that result in less than complete coverage, use a 3.6% solution for annual and perennial weeds and a 3.6 to 7.5% solution for woody brush and trees.

#### **Annual Weeds – Tank Mixtures with Atrazine for Fallow and Reduced Tillage Systems**

For use only in Colorado, Kansas, Nebraska, Oklahoma, Oregon, South Dakota and Washington – In Oregon and Washington, do not exceed 1 pound of atrazine per acre.

18 to 21 fl. oz. of this product plus 1 to 2 pounds of atrazine per acre will control the following weeds: Barnyardgrass (requires 21 fl. oz. for control), downy brome, green foxtail, lambsquarters, prickly lettuce, tansy mustard, pigweed, field sandbur, stinkgrass, Russian thistle, volunteer wheat, witchgrass and kochia (add 0.20 pound a.i. of dicamba for control).

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#### **Control and Management of Glyphosate Resistant Horseweed (Marestail, *Conyza canadensis*) in Corn, Cotton and Soybeans**

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For ground applications, use 10 to 20 gallons of water per acre. For aerial applications, use 3 to 15 gallons of water per acre.

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

#### **CORN**

**Preplant, at-planting, pre-emergence:** Apply a tank mixture of this product (24 fl. oz. per acre) plus 2,4-D (0.5 pounds of a.i. per acre) before horseweed exceeds 6 inches in height. See the 2,4-D product label for time intervals that are required between application and planting.

Atrazine (1 to 2 pounds of a.i. per acre) may be included in the tank mixture to provide residual control. Refer to the atrazine product label for specific use instructions.

**In-crop (Roundup Ready Corn hybrids only):** For in-crop Roundup Ready corn, apply a tank mixture of this product (24 fl. oz. per acre) plus dicamba (8 to 16 fl. oz. per acre) or 2,4-D (0.5 to 1.0 pounds a.i. per acre). Apply between corn emergence and the 5-leaf stage of growth (approximately 8 inches tall).

#### **COTTON**

**Preplant:** For control of horseweed, apply this product (24 fl. oz. per acre) in a tank mix with dicamba (8 fl. oz. per acre). This application must be made 21 to 35 days before planting and before horseweed reaches 6 inches in height. In order to avoid crop injury, a minimum interval of 21 days during which there is at least 1 inch of cumulative rainfall must be observed between Clarity application and planting of cotton.

**Post-directed (Roundup Ready Cotton varieties only):** Management of early season weed competition and the development of a crop height differential between cotton and the horseweed is often achieved by a combination of preplant burndown and postemergent over-the-top and/or directed applications of Glyphosate 54. These measures enhance the development of a height differential that is necessary to successfully make post-directed treatments. In-crop post-directed applications of MSMA (2 pounds a.i. per acre) tank mixed with diuron (0.5 to 0.75 pounds a.i. per acre) should be made when the temperature is 80°F or higher.

## SOYBEANS

**Preplant:** Apply a tank mixture of this product (24 fl. oz. per acre) with 2,4-D (0.5 pounds a.i. per acre) before horseweed exceeds 6 inches in height. See the 2,4-D product label for time intervals that are required between application and planting. For areas where 2,4-D product cannot be applied due to application restrictions or proximity to a sensitive crop, contact your local retailer or RedEagle International, LLC representative.

### PERENNIAL WEEDS RATE TABLE (Alphabetically by Species)

Apply to actively growing perennial weeds.

**NOTE:** If weeds have been mowed or tilled, do not treat until plants have resumed active growth and have reached the stages specified.

Repeat treatments may be necessary to control weeds regenerating from underground parts or seed.

Repeat treatments must be made prior to crop emergence.

Unless otherwise stated, allow 7 or more days after application before tillage.

Best results are obtained when soil moisture is adequate for active growth.

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Weeds Species	Glyphosate 54 Rate (Fl. Oz./A)	Water Volume (GPA)	Hand-Held % Solution	COMMENTS
Alfalfa	24 - 48	3 - 10	1.5%	Make applications after the last hay cutting in the fall. Allow alfalfa to regrow to a height of 6 to 8 inches or more prior to treatment. Follow applications with deep tillage at least 7 days after treatment, but before soil freeze-up.
Alligatorweed	96	3 - 20	1.25%	Partial control. Apply when most of the plants are in bloom. Repeat applications will be required to maintain control.
Anise (fennel)	–	–	0.75 – 1.5%	Apply as a spray-to-wet treatment. Optimum results are obtained when plants are treated at the bud to full-bloom stage of growth.
Bahigrass	72 - 120	3 - 20	1.5%	Apply when most plants have reached the early head stage.
Bentgrass	36	10 - 20	1.5%	For suppression in grass seed production areas. For ground applications only. Ensure entire crown area has resumed growth prior to a fall application. Bentgrass should have at least 3 inches of growth. Tillage prior to treatment should be avoided. Tillage 7 to 10 days after application provides best results.
Bermudagrass	72 - 120	3 - 20	1.5%	For control, apply 120 fluid ounces (7.5 pts.) of this product per acre. For partial control, apply 72 fluid ounces (4.5 pts.) per acre. Treat when bermudagrass is actively growing and seedheads are present. Retreatment may be necessary to maintain control.
Bermudagrass, water (knotgrass)	24 - 36	5 - 10	1.5%	Apply 36 fluid ounces (2.25 pts.) of this product in 5 to 10 gallons of water per acre. Apply when water bermudagrass is 12 to 18 inches in length. Allow 7 or more days before tilling, flushing or flooding the field. Fall applications only: Apply 24 fluid ounces (1.5 pts.) of this product in 5 to 10 gallons of water per acre. Fallow fields should be tilled prior to application. Apply prior to frost on water bermudagrass that is 12 to 18 inches in length. This product is not registered in California for use on water bermudagrass

Weeds Species	Glyphosate 54 Rate (Fl. Oz./A)	Water Volume (GPA)	Hand-Held % Solution	COMMENTS
Bindweed, field	12 - 120	3 - 20	1.5%	<p>Do not treat when weeds are under drought stress as good soil moisture is necessary for active growth.</p> <p>For control, apply 96 to 120 fluid ounces (6 to 7.5 pts.) of this product per acre west of the Mississippi River and 72 to 96 fluid ounces (4.5 to 6 pts.) east of the Mississippi River. Apply when weeds are at or beyond full bloom. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost.</p> <p>Also for control, apply 48 ounces (3 pts.) of this product plus 0.5 pound a.i. of dicamba in 10 to 20 gallons of water per acre. Do not apply by air.</p> <p>For suppression on irrigated agricultural land, apply 24 to 48 fluid ounces (1.5 to 3 pts.) of this product plus 1 pound a.i. of 2,4-D in 10 to 20 gallons of water per acre with ground equipment only. Applications should be made following harvest or in fall fallow ground when the bindweed is actively growing and the majority of runners are 12 inches or more in length. The use of at least one irrigation will promote active bindweed growth.</p> <p>For suppression, apply 12 fl. oz. of this product plus 0.5 pound a.i. of 2,4-D in 3 to 10 gallons of water per acre for ground applications and 3 to 5 gallons of water per acre for aerial applications. Apply by air in fallow and reduced tillage systems only. Applications should be delayed until maximum emergence has occurred and when vines are between 6 to 18 inches in length.</p> <p><b>In California only</b>, apply 24 to 120 fluid ounces (1.5 to 7.5 pts.) of this product per acre. Actual rate needed for suppression or control will vary within this range depending on local conditions. For suppression on irrigated land where annual tillage is performed, apply 24 fluid ounces (1.5 pts.) of this product in 3 to 10 gallons of water per acre. Apply to bindweed that has reached a length of 12 inches or greater. Allow a maximum weed emergence and runner growth. Allow 3 or more days after application before tillage.</p>
Bluegrass, Kentucky	24 – 48	3 - 40	1.5%	<p>Apply 48 fluid ounces (3 pts.) of this product in 10 to 40 gallons of water per acre when most plants have reached boot to early seedhead development. For partial control in pasture or hay crop renovation, apply 24 to 36 fluid ounces (1.5 to 2.25 pts.) of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.</p>
Blueweed, Texas	72 - 120	3 - 40	1.5%	<p>Apply 96 to 120 fluid ounces (6 to 7.5 pts.) of this product per acre west of the Mississippi River and 72 to 96 (4.5 to 6 pts.) per acre east of the Mississippi River. Apply when plants are at or beyond full bloom. New leaf development indicates active growth. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost.</p>
Brackenfern	72 - 96	3 - 40	0.75 – 1.25%	<p>Apply to fully expanded fronds which are least 18 inches long</p>



Weeds Species	Glyphosate 54 Rate (Fl. Oz./A)	Water Volume (GPA)	Hand-Held % Solution	COMMENTS
Bromegrass, smooth	24 – 48	3 - 40	1.5%	Apply 48 fluid ounces (3 pts.) of this product in 10 to 40 gallons of water per acre when most plants have reached boot to early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 24 to 36 fluid ounces (1.5 to 2.25 pts.) of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.
Bursage, woollyleaf	–	3 - 20	1.5%	For control, apply 48 fluid ounces (3 pts.) of this product plus 0.5 pound a.i. of dicamba per acre. For partial control, apply 24 fluid ounces (1.5 pts.) of this product plus 0.5 pound a.i. of dicamba per acre. Apply when plants are producing new active growth which has been initiated by moisture for at least 2 weeks and when plants are at or beyond flowering.
Canarygrass, reed	48 - 72	3 - 40	1.5%	For best results, apply when most plants have reached the boot to head stage of growth.
Cattail	72 – 120	3 - 40	1.5%	Apply when most plants have reached the early head stage.
Clover; red, white	72 - 120	3 - 20	1.5%	Apply when most plants have reached the early bud stage. Also for control, apply 12 to 24 fl. oz. of this product plus 0.5 to 1 pound a.i. of 2,4-D in 3 to 10 gallons of water per acre.
Cogongrass	72 - 120	10 - 40	1.5%	Apply when cogongrass is at least 18 inches tall in late summer or fall. Due to uneven stages of growth and the dense nature of vegetation preventing good spray coverage, repeat treatments may be necessary to maintain control.
Dallisgrass	72 - 120	3 - 20	1.5%	Apply when most plants have reached the early head stage.
Dandelion	72 - 120	3 - 40	1.5%	Apply when most plants have reached the early bud stage. Also for control, apply 12 fluid ounces of this product plus 0.5 pound a.i. of 2,4-D in 3 to 10 gallons of water per acre.
Dock, curly	72 - 120	3 - 40	1.5%	Apply when most plants have reached the early bud stage of growth. Also for control, apply 12 to 24 fl. oz. of this product plus 0.5 to 1 pound a.i. of 2,4-D in 3 to 10 gallons of water per acre.
Dogbane, hemp	96	3 - 40	1.5%	Apply when most plants have reached the late bud to flower stage of growth. Following crop harvest or mowing, allow weeds to regrow to a mature stage prior to treatment. For best results, apply in late summer or fall. For suppression, apply 12 fl. oz. of this product plus 0.5 pound a.i. of 2,4-D in 3 to 10 gallons of water per acre for ground applications and 3 to 5 gallons of water per acre for aerial applications. Delay applications until maximum emergence of dogbane has occurred.
Fescue (except tall)	72 - 120	3 - 20	1.5%	Apply when most plants have reached the early head stage

Weeds Species	Glyphosate 54 Rate (Fl. Oz./A)	Water Volume (GPA)	Hand-Held % Solution	COMMENTS
Fescue, tall	24 - 72	3 - 40	1.5%	Apply 72 fluid ounces (4.5 pts.) of this product per acre when most plants have reached boot to early seedhead stage of development.  Fall applications only: Apply 24 fluid ounces (1.5 pts.) of this product in 3 to 10 gallons of water per acre. Apply to fescue in the fall when plants have 6 to 12 inches of new growth. A sequential application of 12 fluid ounces (0.75 pint) per acre of this product will improve long-term control and control of seedlings germinating after fall treatments or the following spring.
Guineagrass	48 - 72	3 - 40	0.75%	Apply when most plants have reached at least the 7-leaf stage of growth. Ensure thorough coverage when using hand-held equipment. In Texas and the ridge of Florida, use 48 fluid ounces (3 pts.) for control. In the flatwoods region of Florida, 72 fluid ounces (4.5 pts.) is required.
Horsenettle	72 - 120	3 - 20	1.5%	Apply when most plants have reached the early bud stage.
Horseradish	96	3 - 40	1.5%	Apply when most plants have reached the late bud to flower stage of growth. For best results, apply in late summer or fall.
Iceplant	–	–	1.25 – 1.5%	Iceplant should be at or beyond the early bud stage of growth. Thorough coverage is necessary for best control.
Jerusalem artichoke	72 - 120	3 - 20	1.5%	Apply when most plants are in the early bud stage.
Johnsongrass	12 - 72	3 - 40	0.75%	In annual cropping systems apply 24 to 48 fluid ounces (1.5 to 3 pts.) of this product per acre. Apply 24 fluid ounces (1.5 pts.) of this product in 3 to 10 gallons of water per acre. Use 48 fluid ounces (3 pts.) of this product when applying 10 to 40 gallons of water per acre. In noncrop, or areas where annual tillage (no-till) is not practiced, apply 48 to 72 fluid ounces (3 to 4.5 pts.) of this product in 10 to 40 gallons of water per acre.  For best results, apply when most plants have reached boot to head stage of growth or in the fall prior to frost. Allow 7 or more days after application before tillage. Do not tank mix with residual herbicides when using 24 fluid ounces (1.5 pts.) per acre.  For burndown of Johnsongrass, apply 12 fluid ounces (0.75 pint) of this product in 3 to 10 gallons of water per acre before the plants reach a height of 12 inches. For this use, allow at least 3 days after treatment before tillage.  Spot treatment (partial control or suppression) – Apply a 0.75% solution of this product when Johnsongrass is 12 to 18 inches in height. Coverage should be uniform and complete.
Kikuyugrass	48 - 72	3 - 40	1.5%	Spray when most kikuyugrass is at least 8 inches in height (3- or 4-leaf stage of growth). Allow 3 or more days after application before tillage.
Knapweed	96	3 - 40	1.5%	Apply when most plants have reached the late bud to flower stage of growth. For best results, apply in late summer or fall.
Lantana	–	–	0.75 – 1%	Apply at or beyond the bloom stage of growth. Use the higher application rate for plants that have reached the woody stage of growth.

Weeds Species	Glyphosate 54 Rate (Fl. Oz./A)	Water Volume (GPA)	Hand-Held % Solution	COMMENTS
Lespedeza	72 - 120	3 - 20	1.5%	Apply when most plants have reached the early bud stage.
Milkweed (common)	72	3 - 40	1.5%	Apply when most plants have reached the late bud to flower stage of growth.
Muhly, wirestem	24 -48	3 - 40	1.5%	Use 24 fluid ounces (1.5 pts.) of this product in 3 to 10 gallons of water per acre. Use 48 fluid ounces (3 pts.) of this product when applying 10 to 40 gallons of water per acre or in pasture, sod or noncrop areas. Spray when the wirestem muhly is 8 inches or more in height. Do not till between harvest and fall applications or in the fall or spring or prior to spring applications. Allow 3 or more days after application before tillage.
Mullein, common	72 - 120	3 - 20	1.5%	Apply when most plants are in the early bud stage.
Napiergrass	72 - 120	3 - 20	1.5%	Apply when most plants are in the early bud stage.
Nightshade, silverleaf	48	3 - 10	1.5%	Applications should be made when at least 60% of the plants have berries. Fall treatments must be applied before a killing frost.
Nutsedge; purple, yellow	12 - 72	3 - 40	0.75 – 1.5%	Apply 72 fluid ounces (4.5 pts.) of this product per acre or apply a 0.75 to 1.5% solution for control of nutsedge plants and immature nutlets attached to treated plants. Treat when plants are in flower or when new nutlets can be found at rhizome tips. Nutlets which have not germinated will not be controlled and may germinate after treatment. Repeat treatments will be required for long-term control of ungerminated tubers.  Sequential applications: 24 to 48 fluid ounces (1.5 to 3 pts.) of this product in 3 to 10 gallons of water per acre will also provide control. Make applications when a majority of the plants are in the 3- to 5-leaf stage (less than 6 inches tall). Repeat this application, as necessary, when newly emerging plants reach the 3- to 5-leaf stage. Subsequent applications will be necessary for long-term control.  For partial control of existing plants, apply 12 . to 48 fluid ounces (0.75 to 3 pts.) of this product in 3 to 40 gallons of water per acre. Treat when plants have 3 to 5 leaves and most are less than 6 inches tall. Repeat treatments will be required to control subsequent emerging plants or regrowth of existing plants.
Orchardgrass	24 - 48	3 - 40	1.5%	Apply 48 fluid ounces (3 pts.) of this product in 10 to 40 gallons of water per acre when most plants have reached boot to early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 24 to 36 fluid ounces (1.5 to 2.25 pts.) of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.  Orchardgrass sods going to no-till corn: Apply 24 to 40 fluid ounces (1.5 to 2.5 pts.) of this product in 3 to 10 gallons of water per acre. Apply to orchardgrass that is a minimum of 12 inches tall for spring applications and 6 inches tall for fall applications. Allow at least 3 days following application before planting. A sequential application of atrazine will be necessary for optimum results.

Weeds Species	Glyphosate 54 Rate (Fl. Oz./A)	Water Volume (GPA)	Hand-Held % Solution	COMMENTS
Pampasgrass	–	–	1.25 – 1.5%	Pampasgrass should be at or beyond the boot stage of growth. Thorough coverage is necessary for best control.
Paragrass	72 - 120	3 - 20	1.5%	Apply when most plants are in the early head stage.
Phragmites	72 - 120	10 - 40	0.75 – 1.5%	For partial control. For best results, treat during late summer or fall when plants are actively growing and in full bloom. Treatment before or after this stage may lead to reduced control. Due to the dense nature of the vegetation, which may prevent good spray coverage or uneven stages of growth, repeat treatments may be necessary to maintain control. Visible control symptoms will be slow to develop.
Poison hemlock	–	–	0.75 – 1.5%	Apply as a spray-to-wet treatment. Optimum results are obtained when plants are treated at the bud to full-bloom stage of growth.
Pokeweed, common	24	3 - 40	1.5%	Apply to actively growing plants up to 24 inches tall.
Quackgrass	24 - 72	3 - 40	1.5%	In annual cropping systems, or in pastures and sods followed by deep tillage: Apply 24 fluid ounces (1.5 pts.) of this product in 3 to 10 gallons of water per acre. For 10 to 40 gallons of water per acre, apply 48 fluid ounces (3 pts.) of this product. Do not tank mix with residual herbicides when using 24 fluid ounces (1.5 pt.) rate. Spray when quackgrass is 6 to 8 inches in height. Do not till between harvest and fall applications or in fall or spring prior to spring application. Allow 3 or more days after application before tillage. In pastures or sods, use a moldboard plow for best results.  In pastures, sods or noncrop areas where deep tillage does not follow application: Apply 48 to 72 fluid ounces (3 to 4.5 pts.) of this product in 10 to 40 gallons of water per acre when quackgrass is greater than 8 inches tall.
Redvine	20 – 48	5 - 10	1.5%	For suppression, apply 18 fl. oz. of this product per acre at each of two applications 7 to 14 days apart or a single application of 48 fluid ounces (3 pts.) per acre. Apply specified rates in 5 to 10 gallons of water per acre. Apply in late September or early October to plants that are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.
Reed, giant	–	–	1.5%	Best results are obtained when applications are made in the late summer to fall.
Ryegrass, perennial	24 - 72	3 - 40	0.75%	In annual cropping systems apply 24 to 48 fluid ounces (1.5 to 3 pts.) of this product per acre. Apply 24 fluid ounces (1.5 pts.) of this product in 3 to 10 gallons of water per acre. Use 48 fluid ounces (3 pts.) of this product in 10 to 40 gallons of water per acre. In noncrop, or areas where annual tillage is not practiced (no-till), apply 48 to 72 fluid ounces (3 to 4.5 pts.) of this product in 10 to 40 gallons of water per acre.  For best results, apply when most plants have reached the boot to head stage of growth or in the fall prior to frost. Do not tank mix with residual herbicides when using 24 fluid ounces (1.5 pt.) per acre rate.

Weeds Species	Glyphosate 54 Rate (Fl. Oz./A)	Water Volume (GPA)	Hand-Held % Solution	COMMENTS
Smartweed, swamp	72 - 120	3 - 40	1.5%	Apply when most plants have reached the early bud stage of growth. Also for control, apply 12 fl. oz. of this product plus 0.5 pound a.i. of 2,4-D in 3 to 10 gallons of water per acre in the late summer or fall.
Sowthistle, perennial	48 - 72	3 - 40	1.5%	Apply when most plants are at or beyond the bud stage of growth. After harvest, mowing or tillage in the late summer or fall, allow at least 4 weeks for initiation of active growth and rosette development prior to application of this product. Fall treatments must be applied before a killing frost. Allow 3 or more days after application before tillage.
Spurge, leafy	–	3 - 10	1.5%	For suppression, apply 12 fl. oz. of this product plus 0.5 pound a.i. of 2,4-D in 3 to 10 gallons of water per acre in the late summer or fall. If mowing has occurred prior to treatment, apply when most of the plants are 12 inches tall.
Starthistle, yellow	48	10 - 40	1.5%	Best results are obtained when applications are made during the rosette, bolting and early flower stages.
Sweet potato, wild	–	–	1.5%	Partial control. Apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.
Thistle, artichoke	–	–	1.5%	Partial control. Apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.
Thistle, Canada	48 - 72	3 - 40	1.5%	Apply when most plants are at or beyond the bud stage of growth. After harvest, mowing or tillage in the late summer or fall, allow at least 4 weeks for initiation of active regrowth and rosette development prior to the application of this product. Fall treatments must be applied before a killing frost. Allow 3 or more days after application before tillage.  For suppression in spring, apply 24 fluid ounces (1.5 pts.) of this product, or 12 fl. oz. of this product plus 0.5 pound a.i. of 2,4-D, in 3 to 10 gallons of water per acre. Allow rosette regrowth to a minimum of 6 inches in diameter before treating. Applications can be made as long as leaves are still green and plants are actively growing at the time of application. Allow 3 or more days after application before tillage.
Timothy	48 - 72	3 - 40	1.5%	For best results, apply when most plants have reached the boot to head stage of growth.
Torpedograss	96 - 120	3 - 40	1.5%	For partial control. Apply when most plants are at or beyond the seedhead stage of growth. Repeat applications will be required to maintain control. Fall treatments must be applied before frost.
Trumpet creeper	48	5 - 10	1.5%	Partial control. Apply in late September or October, to plants that are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.
Vaseygrass	72 - 120	3 - 20	1.5%	Apply when most plants are in the early head stage.
Velvetgrass	72 - 120	3 - 20	1.5%	Apply when most plants are in the early head stage.
Wheatgrass, western	48 - 72	3 - 40	1.5%	For best results, apply when most plants have reached the boot to head stage of growth.

**WOODY BRUSH AND TREES RATE TABLE**

Apply this product after full leaf expansion, unless otherwise directed. Use higher rate for larger plants and/or dense areas of growth. On vines, use the higher rate for plants that have reached the woody stage of growth. Best results are obtained when application is made in late summer or fall after fruit formation.

In arid areas, best results are obtained when applications are made in the spring to early summer when brush species are at high moisture content and are flowering.

Ensure thorough coverage when using hand-held equipment. Symptoms may not appear prior to frost or senescence with fall treatments.

Allow 7 or more days after application before tillage, mowing or removal. Repeat treatments may be necessary to control plants regenerating from underground parts or seed. Some autumn colors on undesirable deciduous species are acceptable provided no major leaf drop has occurred. Reduced performance may result if fall treatments are made following a frost.

Weeds Species	Glyphosate 54 Rate (Fl. Oz./A)	Water Volume (GPA)	Hand-Held % Solution	COMMENTS
Alder	72 - 96	3 - 40	0.75 - 1.2%	For control
Ash	48 - 120	3 - 40	0.75 - 1.5%	Partial control
Aspen, quaking	48 - 72	3 - 40	0.75 - 1.2%	For control
Bearmat (Bearclover)	48 - 120	3 - 40	0.75 - 1.5%	Partial control
Beech	48 - 120	3 - 40	0.75 - 1.5%	Partial control
Birch	48 - 72	3 - 40	0.75 - 1.2%	For control
Blackberry	72 - 96	10 - 40	0.75 - 1.2%	For control. Make applications after plants have reached full leaf maturity. Best results are obtained when applications are made in late summer or fall. Applications may also be made after leaf drop and until a killing frost or as long as stems are green. After berries have set or dropped in late fall, blackberry can be controlled by applying a 3/4% solution of this product. For control of blackberries after leaf drop and until killing frost or as long as stems are green, apply 3 to 4 quarts of this product in 10 to 40 gallons of water per acre.
Blackgum	48 - 120	3 - 40	0.75 - 1.5%	For control
Bracken	48 - 120	3 - 40	0.75 - 1.5%	For control
Broom: French, Scotch	-	-	1.125 - 1.5%	For control
Buckwheat, California	-	-	0.75 - 1.5%	For partial control. Thorough coverage of foliage is necessary for best results.
Cascara	48 - 120	3 - 40	0.75 - 1.5%	Partial control
Catsclaw	-	-	0.75 - 1.2%	Partial control
Ceanothus	48 - 120	3 - 40	0.75 - 1.5%	Partial control
Chamise	-	-	0.75%	For control. Thorough coverage of foliage is necessary for best results.
Cherry: bitter, black, pin	48 - 72	3 - 40	0.75 - 1.2%	For control
Coyote brush	-	-	1.125 - 1.5%	For control. Apply when at least 50% of the new leaves are fully developed.
Dogwood	48 - 120	3 - 40	0.75 - 1.5%	Partial control
Elderberry	48 - 72	3 - 40	0.75 - 1.2%	For control
Elm	48 - 120	3 - 40	0.75 - 1.5%	Partial control

Weeds Species	Glyphosate 54 Rate (Fl. Oz./A)	Water Volume (GPA)	Hand-Held % Solution	COMMENTS
Eucalyptus	–	–	1.5%	For control of eucalyptus resprouts, apply when resprouts are 6 to 12 feet tall. Ensure complete coverage. Avoid application to drought-stressed plants.
Florida holly (Brazilian peppertree)	48 - 120	3 - 40	0.75 - 1.5%	Partial control
Gorse	48 - 120	3 - 40	0.75 - 1.5%	Partial control
Hazardia	–	–	0.75 - 1.5%	Partial control. Thorough coverage of foliage is necessary for best results.
Hawthorn	48 - 72	3 - 40	0.75 - 1.2%	For control
Hazel	48 - 72	3 - 40	0.75 - 1.2%	For control
Hickory	48 - 120	3 - 40	0.75 - 1.5%	Partial control
Honeysuckle	72 - 96	3 - 40	0.75 - 1.2%	For control
Hornbeam, American	48 - 120	3 - 40	0.75 - 1.5%	Partial control
Kudzu	96 - 120	3 - 40	1.5%	For control. Repeat applications may be required to maintain control.
Locust, black	48 - 96	3 - 40	0.75 - 1.5%	Partial control
Madrone resprouts	–	–	1.5%	Partial control. Apply to resprouts that are 3 to 6 feet tall. Best results are obtained with spring or early summer treatments.
Manzanita	48 - 120	3 - 40	0.75 - 1.5%	Partial control
Maple, red	48 - 96	3 - 40	0.75 - 1.2%	For control, apply a 0.75 to 1.2% solution when at least 50% of the new leaves are fully developed. For partial control, apply 32 – 64 fluid ounces (2 to 4 pints) of this product per acre.
Maple, sugar	–	–	0.75 - 1.2%	For control. Apply when at least 50% of the new leaves are fully developed.
Monkey flower	–	–	0.75 - 1.5%	Partial control. Thorough coverage of foliage is necessary for best results.
Oak; black, white	48 - 96	3 - 40	0.75 - 1.5%	Partial control
Oak, post	72 - 96	3 - 40	0.75 - 1.2%	For control
Oak; northern, pin	–	–	0.75 - 1.2%	For control. Apply when at least 50% of the new pin leaves are fully developed.
Oak, southern red	48 - 72	3 - 40	0.75 - 1.2%	For control
Persimmon	48 - 120	3 - 40	0.75 - 1.5%	Partial control
Pine	48 - 120	3 - 40	0.75 - 1.5%	For control
Poison ivy / Poison oak	96 - 120	3 - 40	1.5%	For control. Repeat applications may be required to maintain control. Fall treatments must be applied before leaves lose green color.
Poplar, yellow	48 - 120	3 - 40	0.75 - 1.5%	Partial control
Redbud, eastern	48 - 120	3 - 40	0.75 - 1.5%	For control
Rose, multiflora	48	3 - 40	0.75%	For control. Treatments should be made prior to leaf deterioration by leaf-eating insects.

Weeds Species	Glyphosate 54 Rate (Fl. Oz./A)	Water Volume (GPA)	Hand-Held % Solution	COMMENTS
Russian olive	48 - 120	3 - 40	0.75 - 1.5%	Partial control
Sage, black	—	—	0.75%	For control. Thorough coverage of foliage is necessary for best results.
Sage, white	48 - 120	3 - 40	0.75 - 1.5%	Partial control
Sagebrush, California	—	—	0.75%	For control. Thorough coverage of foliage is necessary for best results.
Salmonberry	48 - 72	3 - 40	0.75 - 1.2%	For control
Saltcedar	48 - 120	3 - 40	0.75 - 1.5%	For control
Sassafras	48 - 120	3 - 40	0.75 - 1.5%	Partial control
Sourwood	48 - 120	3 - 40	0.75 - 1.5%	Partial control
Sumac; poison, smooth, winged	48 - 96	3 - 40	0.75 - 1.5%	Partial control
Sweetgum	48 - 72	3 - 40	0.75 - 1.2%	For control
Swortfern	48 - 120	3 - 40	0.75 - 1.5%	Partial control
Tallowtree, Chinese	—	—	0.75%	For control. Thorough coverage of foliage is necessary for best results.
Tanoak resprouts	—	—	1.5%	For partial control. Apply to resprouts that are less than 3 to 6 feet tall. Best results are obtained with fall applications.
Thimbleberry	48 - 72	3 - 40	0.75 - 1.2%	For control
Tobacco, tree	—	—	0.75 - 1.5%	Partial control.
Trumpet creeper	48 - 72	3 - 40	0.75 - 1.2%	For control
Vine maple	48 - 120	3 - 40	0.75 - 1.5%	Partial control
Virginia creeper	48 - 72	3 - 40	0.75 - 1.5%	For control
Waxmyrtle, southern	48 - 120	3 - 40	0.75 - 1.5%	Partial control
Willow	72 - 96	3 - 40	0.75 - 1.2%	For control

#### **INDUSTRIAL, TURF AND ORNAMENTAL SITES**

Unless otherwise specified, applications may be made to control any weeds listed in the "WEEDS CONTROLLED" section of this label. Refer to the "APPLICATION EQUIPMENT AND TECHNIQUES" section for detailed instructions on different application methods.

#### **Non-agricultural Areas, Industrial Sites**

Use in areas including airports, apartment complexes commercial sites, Conservation Reserve Program (CRP) areas, ditch banks, driveways, dry ditches, dry canals, fencerows, golf courses, greenhouses, industrial sites, landscape areas, lumber yards, manufacturing sites, municipal sites, natural areas, office complexes, ornamentals, parks, parking areas, pastures, petroleum tank farms and pumping installations, plant nurseries, public areas, railroads, rangeland, rights-of-way, roadsides, shadehouses, sod or turf seed farms, storage areas, sports complexes, substations, turfgrass areas, utility sites, warehouse areas, and wildlife management areas.

#### **Weed Control, Trim-and-Edge, Bare Ground**

This product may be used in general non-agricultural areas. It may be applied with any application equipment described in this label. This product may be used to trim-and-edge around objects in non-agricultural sites, for spot treatment of unwanted vegetation and to eliminate unwanted weeds growing in established shrub beds or ornamental plantings. This product may be used prior to planting an area to ornamentals, flowers, turfgrass (sod or seed), or prior to laying asphalt or beginning construction projects.

Repeated applications of this product may be used, as weeds emerge, to maintain bare ground.

Tank Mixtures: This product may be tank mixed with appropriately labeled products containing the following active ingredients, provided that the specific product is registered for use on such non-agricultural sites. Refer to these products' labels for approved non-agricultural sites and application rates.



2,4-D	oxyfluorfen	diuron and imzapyr
imazapyr	oxadiazon	simazine
atrazine	bromacil and diuron	oryzalin
prodimamine	pendimethalin	chlorsulfuron
2,4-D and triclopyr	aminopyralid-tripromine	clopyralid
dicamba	metsulfuron and sulfometuron	dicamba, diglycolamine salt
diuron	sulfometuron	hexazinone
metsulfuron	sulfosulfuron	triclopyr
isoxaben	imazapic-ammonium	sethoxydim

This product plus dicamba tank mixtures may not be applied by air in California.

When applied as a tank mixture for bare ground, this product provides control of the emerged annual weeds and control or partial control of emerged perennial weeds, woody brush and trees.

For control or partial control of the following perennial weeds, apply 24 to 48 fluid ounces (0.75 to 1.5 quarts) of this product plus the labeled amount of sulfometuron per acre.

Bahiagrass	Johnsongrass
Bermudagrass	Poorjoe
Broomsedge	Quackgrass
Dallisgrass	Vaseygrass
Dock, curly	Vervain, blue Dogfennel
Fescue, tall	

#### **Chemical Mowing - Perennials**

This product will suppress perennial grasses listed in this section to serve as a substitute for mowing. Use 6 fluid ounces of this product per acre when treating tall fescue, fine fescue, orchardgrass, quackgrass or reed canarygrass covers. Use 5 fluid ounces of this product per acre when treating Kentucky bluegrass. Apply treatments in 10 to 40 gallons of spray solution per acre.

Use only in areas where some temporary injury or discoloration of perennial grasses can be tolerated.

#### **Chemical Mowing - Annuals**

For growth suppression of some annual grasses, such as annual ryegrass, wild barley and wild oats growing in coarse turf on roadsides or other industrial areas, apply 3 to 4 fluid ounces of this product in 10 to 40 gallons of spray solution per acre.

Applications should be made when annual grasses are actively growing and before the seedheads are in the boot stage of development. Treatments may cause injury to the desired grasses.

#### **Dormant Turfgrass**

This product may be used to control or suppress many winter annual weeds and tall fescue for effective release of dormant Bermudagrass and bahiagrass turf. Treat only when turf is dormant and prior to spring greenup.

Apply 6 to 48 fluid ounces of this product per acre. Apply the specified rates in 10 to 40 gallons of water per acre. Use only in areas where Bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated.

Treatments in excess of 12 fluid ounces per acre may result in injury or delayed greenup in highly maintained areas, such as golf courses and lawns. DO NOT apply tank mixtures of this product plus Oust in highly maintained turfgrass areas. For further uses, refer to the "ROADSIDES" section of this label, which gives rates for dormant Bermudagrass and bahiagrass treatments.

#### **Actively Growing Bermudagrass**

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing Bermudagrass. DO NOT apply more than 12 fluid ounces of this product per acre in highly maintained turfgrass areas. DO NOT apply tank mixtures of this product plus sulfometuron in highly maintained turfgrass areas. For further uses, refer to the "ROADSIDES" section of this label, which gives rates for actively growing Bermudagrass treatments. Use only in areas where some temporary injury or discoloration can be tolerated.

### **Turfgrass Renovation, Seed, or Sod Production**

This product controls most existing vegetation prior to renovating turfgrass areas or establishing turfgrass grown for seed or sod. For maximum control of existing vegetation, delay planting or sodding to determine if any regrowth from escaped underground plant parts occurs. Where repeat treatments are necessary, sufficient regrowth must be attained prior to application. For warm-season grasses such as Bermudagrass, summer or fall applications provide the best control. Where existing vegetation is growing under mowed turfgrass management, apply this product after omitting at least one regular mowing to allow sufficient growth for good interception of the spray. Desirable turfgrasses may be planted following the above procedures.

Hand-held equipment may be used for spot treatment of unwanted vegetation growing in existing turfgrass. Broadcast or hand-held equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested.

**RESTRICTIONS:** Do not disturb soil or underground plant parts before treatment. Tillage or renovation techniques such as vertical mowing, coring or slicing should be delayed for 7 days after application to allow translocation into underground plant parts. Do not feed or graze turfgrass grown for seed or sod production for 8 weeks following application.

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### **Railroads**

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All of the methods of application described in the "NON-AGRICULTURAL AREAS AND INDUSTRIAL SITES" section may be utilized along railroads.

#### **Bare Ground, Ballast and Shoulders, Crossings, Spot Treatment**

This product may be used to maintain bare ground on railroad ballast and shoulders. Repeat applications of this product may be used, as weeds emerge, to maintain bare ground. This product may be used to control tall-growing weeds to improve line-of-sight at railroad crossings and reduce the need for mowing along rights-of-way. For crossing applications, up to 80 gallons of spray solution per acre may be used.

**Tank Mixtures:** This product may be tank mixed with appropriately labeled products containing the following active ingredients for ballast, shoulder, spot, bare ground and crossing treatments, provided that the specific product is registered for use on such non-agricultural sites:

imazapyr  
atrazine  
dicamba  
diuron  
metsulfuron  
triclopyr  
bromacil  
bromacil and diuron  
sulfometuron  
sulfosulfuron  
diuron and imazapyr  
simazine  
tebuthiuron  
chlorsulfuron  
clopyralid  
hexazinone  
2,4-D

#### **Brush Control**

This product may be used to control woody brush and trees on railroad rights-of-way. Apply 96 to 256 fluid ounces (3 to 8 quarts) of this product per acre as a broadcast spray, using boom-type or boomless nozzles. Up to 80 gallons of spray solution per acre maybe used. Apply a 0.75- to 1.5-percent solution of this product when using low volume directed sprays for spot treatment.

**Tank Mixtures:** This product may be mixed with the products listed above in this section for enhanced control of woody brush and trees along railroads, provided that the specific product is registered for use on such non-agricultural sites.

### **Bermudagrass Release**

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing Bermudagrass. Apply 12 to 36 fluid ounces of this product in up to 80 gallons of spray solution per acre. Use the lower rate when treating annual weeds below 6 inches in height (or runner length). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation. These rates will also provide partial control of the following perennial species:

Bahiagrass	Johnsongrass
Bluestem, silver	Trumpetcreeper
Fescue, tall	Vaseygrass

This product may be tank-mixed with sulfometuron. If tank-mixed, use no more than 12 to 36 fluid ounces of this product with the labeled amount of sulfometuron product per acre. Use the lower rates of each product to control annual weeds less than 6 inches in height (or runner length) that are listed in this label and the sulfometuron product label. Use the higher rates as annual weeds increase in size and approach the flower or seedhead stages. These rates will also provide partial control of the following perennial weeds:

Bahiagrass	Fescue, tall
Bluestem, silver	Johnsongrass
Broomsedge	Poorjoe
Dallisgrass	Trumpetcreeper
Dock, curly	Vaseygrass
Dogfennel	Vervain, blue

Use only on well-established Bermudagrass. Bermudagrass injury may result from the treatment, but regrowth will occur under moist conditions. Repeat applications in the same season are not specified, since severe injury may occur.

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### **Roadsides**

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All of the methods of application described in the "NON-AGRICULTURAL AREAS AND INDUSTRIAL SITES" section may be utilized along roadsides.

### **Shoulder Treatments**

This product may be used on road shoulders. It may be applied with boom sprayers, shielded boom sprayers, high-volume off-center nozzles, hand-held equipment, and similar equipment.

### **Guardrails, Other Obstacles to Mowing**

This product may be used to control weeds growing under guardrails and around signposts and other objects along the roadside.

### **Spot Treatment**

This product may be used as a spot treatment to control unwanted vegetation growing along roadsides.

**Tank Mixtures:** This product may be tank-mixed with appropriately labeled products that contain the following active ingredients for shoulder, guardrail, spot and bare ground treatments:

atrazine	sulfosulfuron
dicamba	pendimethalin
2,4-D and triclopyr	chlorsulfuron
imazapic-ammonium	2,4-D
diuron	oxadiazon
proflaminate	diuron and imazapyr
chlorsulfuron and sulfometuron	metasulfuron
isoxaben	simazine
bromacil and diuron	oryzalin
sulfometuron	

See the "MIXING" section of this label for general instructions for tank mixing.

## Release of Bermudagrass or Bahiagrass

### Dormant Applications

This product may be used to control or partially control many winter annual weeds and tall fescue for effective release of dormant Bermudagrass or bahiagrass. Treat only when turf is dormant and prior to spring greenup.

For best results on winter annuals, treat when plants are in an early growth stage (below 6 inches in height) after most have germinated. For best results on tall fescue, treat when fescue is at or beyond the 4- to 6-leaf stage.

Tank Mixtures: This product may also be tank-mixed with appropriately labeled sulfosulfuron or sulfometuron products for residual control. These tank mixtures may delay greenup.

Apply 6 to 24 fluid ounces of this product in a tank mix with the labeled amount of sulfosulfuron product per acre. Read and follow all label directions for the tank-mix partner. This product can be tank-mixed with an appropriately labeled sulfometuron product. If tank-mixed, use no more than 12 to 24 fluid ounces of this product with the labeled rate of sulfometuron product per acre. Use the lower rates of each product to control annual weeds less than 6 inches in height (or runner length) that are listed in this label and the tank-mix partner label. Use the higher labeled rates as annual weeds increase in size and approach the flower or seedhead stages.

### Actively Growing Bermudagrass

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing Bermudagrass. Apply 12 to 36 fluid ounces of this product in 10 to 40 gallons of water per acre. Use the lower rate when treating annual weeds below 6 inches in height (or runner length). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation. These rates will also provide partial control of the following perennial species:

Bahiagrass	Johnsongrass
Bluestem, silver	Trumpetcreeper
Fescue, tall	Vaseygrass

Tank Mixtures: This product may be tank-mixed with appropriately labeled sulfosulfuron products for control or partial control of Johnsongrass and other weeds listed in the sulfosulfuron label. Use 6 to 24 fluid ounces of this product with the label specified rate of sulfosulfuron per acre. Use the higher rates of both products for control of perennial weeds or annual weeds greater than 6 inches in height.

This product can be tank-mixed with appropriately labeled sulfometuron products. If tank-mixed, use no more than 12 to 24 fluid ounces of this product with the labeled rate of sulfometuron per acre. Use the lower rates of each product to control annual weeds less than 6 inches in height (or runner length) that are listed in this label and the sulfometuron label. Use the higher labeled rates as annual weeds increase in size and approach the flower or seedhead stages. These rates will also provide partial control of the following perennial weeds:

Bahiagrass	Fescue, tall
Bluestem, silver	Johnsongrass
Broomsedge	Poorjoe
Dallisgrass	Trumpetcreeper
Dock, curly	Vaseygrass
Dogfennel	Vervain, blue

Use only on well-established Bermudagrass. Bermudagrass injury may result from the treatment, but regrowth will occur under moist conditions. Severe injury may occur with repeat applications of the tank-mix in the same season.

### Actively Growing Bahiagrass

For suppression of vegetative growth and seedhead inhibition of bahiagrass for approximately 45 days, apply 4 fluid ounces of this product in 10 to 40 gallons of water per acre. Apply 1 to 2 weeks after full greenup or after mowing to a uniform height of 3 to 4 inches. This application must be made prior to seedhead emergence.

For suppression up to 120 days, apply 3 fluid ounces of this product per acre, followed by an application of 2 to 3 fluid ounces per acre about 45 days later. Make no more than 2 applications per year.

Tank Mixtures: This product may be tank-mixed with appropriately labeled sulfosulfuron products for control or partial control of Johnsongrass and other weeds listed in the sulfosulfuron label. Use 1.5 to 3.5 fluid ounces of this product with the label specified rate of sulfosulfuron per acre. Use the higher rates of both products for control of perennial weeds or annual weeds greater than 6 inches in height. Use only on well-established bahiagrass.

A tank mixture of this product plus sulfometuron may be used. Apply 4 fluid ounces of this product plus the label specified rate of sulfometuron per acre 1 to 2 weeks following an initial spring mowing. Make only one application per year. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

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#### **Forestry Site Preparation**

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This product is specified for the control or partial control of woody brush, trees and herbaceous weeds in forestry. This product is also specified for use in preparing or establishing wildlife openings within these sites and maintaining logging roads.

Use this product in site preparation prior to planting any tree species, including Christmas trees, eucalyptus, hybrid tree cultivars and silvicultural nursery sites.

Use higher rates of this product within the specified range for control or partial control of woody brush, trees and hard-to-control perennial herbaceous weeds. For best results, apply to actively growing woody brush and trees after full leaf expansion and before fall color and leaf drop. Increase rates within the specified range for control of perennial herbaceous weeds any time after emergence and before seedheads, flowers or berries appear.

Use the lower rates of this product within the specified range for control of annual herbaceous weeds and actively growing perennial herbaceous weeds after seedheads, flowers or berries appear. Apply to the foliage of actively growing annual herbaceous weeds any time after emergence.

Tank Mixtures: Tank mixtures of this product may be used to increase the spectrum of vegetation controlled. When tank mixing, read and carefully observe the label claims, cautionary statements and all information on the labels of all products used. Use according to the most restrictive precautionary statements for each product in the mixture.

**For forestry site preparation, make sure the tank-mix product is approved for use prior to planting the desired species. Observe planting interval restrictions.**

Any specified rate of this product may be used in a tank mix with appropriately labeled products containing the following active ingredients for forestry site preparation.

- imazapyr
- metsulfuron
- triclopyr, triethylamine salt
- triclopyr, butoxyethyl ester
- sulfometuron

For control of herbaceous weeds, use the lower specified tank mixture rates. For control of dense stands or tough-to-control woody brush and trees, use the higher specified rates.

Do not apply this product as an over-the-top broadcast spray for forestry conifer or hardwood release, unless otherwise specified on this label.

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#### **Pastures**

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This product may be applied to any pasture grass (Gramineae family), including bahiagrass, Bermudagrass, bluegrass, brome, fescue, guineagrass, kikuyugrass, orchardgrass, pangola grass, ryegrass, timothy, and wheatgrass. Application can be made as a spot treatment, wiper application, preplant, preemergence, pasture renovation, or postemergent broadcast.

#### **Preplant, Preemergence, Pasture Renovation**

This product may be applied for weed control prior to planting or emergence of forage grasses. This product may also be applied to control perennial pasture species listed on this label prior to replanting.

If application rates total 72 fluid ounces (4.5 pints) per acre or less, no waiting period between treatment and feeding or livestock grazing is required. If the rate is greater than 72 fluid ounces (4.5 pints) per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

#### **Spot Treatment, Wiper Application**

This product may be applied in pastures as a spot treatment, or over the top of desirable grasses using wiper applicators to control tall weeds. Applications may be repeated in the same area at 30-day intervals.

For spot treatments or wiper application methods using rates of 72 fluid ounces (4.5 pints) per acre of this product per acre or less, the entire field or any portion of it may be treated. When spot treatments or wiper application are made using rates above 72 fluid ounces (4.5 pints) of this product per acre, no more than 10 percent of the total pasture may be treated at any one time. To achieve maximum performance, remove domestic livestock before application and wait 7 days after application before grazing livestock or harvesting for feed.

### **Postemergent Weed Control (Broadcast Treatments)**

This product may be applied to pastures to suppress competitive growth and seed production of annual weeds and undesirable vegetation in pastures. For selective applications with broadcast spray equipment, apply 9 to 12 fluid ounces of this product per acre in early spring before desirable perennial grasses break dormancy and initiate green growth. Late fall applications can be made after desirable perennial grasses have reached dormancy.

Some stunting of perennial grasses will occur if broadcast applications are made when plants are not dormant. Use of higher application rates will cause stand reductions. No waiting period is required between application and grazing or harvesting for feed. Do not apply more than 72 fluid ounces (4.5 pints) of this product per acre per year onto pasture grasses except for renovation uses as described previously in this section.

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### **Rangelands**

This product will control or suppress many annual weeds growing in perennial cool and warm-season grass rangelands, pastures, and industrial sites. Preventing weed seed production is critical to the successful control of annual grassy weeds invading these perennial grass sites. Follow-up applications in sequential years should eliminate most of the viable seeds. Grazing of treated areas should be delayed to encourage growth of desirable perennials. Allowing desirable perennials to flower and reseed in the treated area will encourage successful transition.

**Bromus:** This product may be used to control or suppress downy brome (*Bromus tectorum*), Japanese brome (*Bromus japonicus*), soft chess (*Bromus mollis*), cheatgrass (*Bromus secalinus*), cereal rye and jointed goatgrass found in rangelands pastures and industrial sites. Apply 9 to 12 fluid ounces of this product per acre on a broadcast basis.

For best results, treatment should coincide with early seedhead emergence of the most mature plants. Delaying the application until this growth stage will maximize the emergence of other weedy grass flushes. Applications should be made to the same site each year until seed banks are depleted and the desirable perennial grasses can become reestablished on the site.

**Medusahead:** To control or suppress medusahead, apply 12 fluid ounces of this product per acre at the 3-leaf stage when plants are actively growing. Delaying applications beyond this stage will result in reduced or unacceptable control. Repeat applications in subsequent years may be necessary to eliminate the seedbank before reestablishing desirable perennial grasses. Applications may be made in the fall or spring.

Applications may be made using ground or aerial equipment. Aerial applications for these uses may be made using fixed wing or helicopter equipment. For aerial applications, apply in 2 to 10 gallons of water per acre. For applications using ground equipment, apply in 10 to 20 gallons of water per acre.

### **Spot Treatment, Wiper Application**

This product may be applied in rangeland, pastures or industrial sites as a spot treatment, or over the top of desirable grasses using wiper applicators to control tall weeds. Applications may be repeated in the same area at 30-day intervals.

For spot treatments or wiper application methods using rates of 72 fluid ounces (4.5 pints) of this product per acre or less, the entire site or any portion of it may be treated. When spot treatments or wiper applications are made using rates above 72 fluid ounces (4.5 pints) of this product per acre, no more than 10 percent of the total site may be treated at any one time. To achieve maximum performance, remove domestic livestock before application and wait 7 days after application before grazing livestock or harvesting for feed.

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### **Conservation Reserve Program (CRP)**

This product may be used for renovation (rotating out of CRP), site preparation, postemergence weed control in dormant CRP grasses, or wiper application on CRP land.

### **Renovation (Rotating out of CRP), Site Preparation**

This product may be used to prepare CRP land for crop production. Refer to Federal, State or local use guides for CRP renovation recommendations.

### **Postemergence Weed Control in Dormant CRP Grasses, Wiper Application**

Apply this product to suppress competitive growth and seed production of undesirable vegetation on CRP land. Applications may be made using wiper applicators to control tall weeds, or as a broadcast or spot treatment to dormant CRP grasses. For selective applications with broadcast spray equipment, apply 6 to 9 fluid ounces of this product per acre in early spring before desirable CRP grasses, such as crested and tall wheatgrass, break dormancy and initiate green growth. Late fall applications can be made after desirable perennial grasses have reached dormancy.

Some stunting of CRP perennial grasses will occur if broadcast applications are made when plants are not dormant. No waiting period is required between application and grazing or harvesting for feed. Do not apply more than 72 fluid ounces (4.5 pints) per acre of this product per year onto CRP land.

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### **Habitat Management**

### **Habitat Restoration and Management**

This product may be used to control exotic and other undesirable vegetation in habitat management and natural areas, including rangeland and wildlife refuges. Applications can

be made to allow recovery of native plant species, prior to planting desirable native species, and for similar broad-spectrum vegetation control requirements. Spot treatments can be made to selectively remove unwanted plants for habitat management and enhancement.

#### **Wildlife Food Plots**

This product may be used as a site preparation treatment prior to planting wildlife food plots. Any wildlife food species may be planted after applying this product, or native species may be allowed to repopulate the area. If tillage is needed to prepare a seedbed, wait 7 days after application before tillage to allow translocation into underground plant parts.

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#### **Hollow Stem Injection**

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This product may be applied through hand-held injection devices that deliver specified amounts of this product into targeted hollow-stem plants growing in any non-agricultural site specified on this label.

For control of the following hollow-stem plants, follow the use instructions below:

**Japanese Knotweed**, *Polygonum cuspidatum*

Inject 0.17 fluid ounce (5 mL) per stem of this product between second and third internode.

**Bohemian Knotweed**, *Polygonum bohemicum*

Inject 0.17 fluid ounce (5 mL) per stem of this product between the second and third internode.

**Giant Hogweed**, *Heracleum mantegazzianum*

Inject one leaf cane per plant 12 inches above the root crown with 0.17 fluid ounce (5 mL) of a 5% v/v solution of this product.

**Poison Hemlock**, *Conium maculatum*

Inject one leaf cane per plant 10 to 12 inches above the root crown with 0.17 fluid ounce (5 mL) of a 5% v/v solution of this product.

**Field horsetail**, *Equisetum arvense*

Inject one segment above the root crown with 0.02 fluid ounce (0.5 mL) per stem of this product. Use a small syringe that calibrates to this rate.

**Canada Thistle**, *Cirsium arvense*

Cut 8 to 9 of the tallest plants at bud stage in a clump with clippers. Use a cavity needle that is pushed into the stem center and then slowly remove as 0.02 fluid ounce (0.5 mL) per stem of this product is injected into the stem.

Note: The combined total for all treatments must not exceed 256 fluid ounces (8 quarts) of this product per acre. At 0.17 fluid ounce (5 mL) per stem, 256 fluid ounces (8 quarts) should treat approximately 1500 stems per acre.

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#### **Ornamentals, Nurseries (Plants and Trees), and Christmas Trees**

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This product may be used for weed control prior to planting or around established ornamentals, or any woody tree, shrub, or vine species, including arborvitae, azalea, boxwood, crabapple, eucalyptus, euonymus, fir, Douglas fir, jojoba, hollies, lilac, magnolia, maple, oak, poplar, privet, pine, spruce or yew, in any production site.

UNLESS OTHERWISE DIRECTED, DO NOT USE THIS PRODUCT AS AN OVER-THE-TOP BROADCAST SPRAY IN ORNAMENTALS AND CHRISTMAS TREES. Care must be taken to avoid contact of spray, drift or mist with foliage or green bark of desirable species.

This product may be used to control weeds growing in and around greenhouses and shadehouses. Desirable vegetation must not be present during application and air circulation fans must be turned off.

**Types of Applications:** Site Preparation, Post-directed, Trim-and-edge, Wiper Application

#### **Site Preparation**

This product may be used prior to planting any tree, shrub, or vine in an ornamental, nursery, or production setting, including Christmas tree species.

#### **Post-directed, Trim-and-edge**

This product may be used as a post-directed spray around established woody species, or to trim and edge around trees, buildings, sidewalks and roads, potted plants and other objects in a production setting.

Desirable plants may be protected from the spray solution by using shields or coverings made of cardboard or other impermeable material.

### **Wiper Application**

This product may be used through wick or other suitable wiper applicators to control or partially control undesirable vegetation around established trees, shrubs, or vines. See the "SELECTIVE EQUIPMENT" section of this label for further information about the proper use of wiper applicators.

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### **Silviculture Sites and Rights-of-Way**

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#### **NOTE: DO NOT USE USE AS AN OVER-THE-TOP BROADCAST SPRAY IN SILVICULTURAL NURSERIES**

When applied as directed for "NONCROP USES" under conditions described, this product controls undesirable vegetation listed on this label.

For specific rates of application and instructions for control of various brush, annual and perennial weeds, see the "WEEDS CONTROLLED" section of this label.

Do not exceed 256 fluid ounces (8 quarts) of this product per acre per year.

Aerial Application - This product may be applied using aerial spray equipment for silviculture site preparation, and rights-of-way treatments. See the "APPLICATION EQUIPMENT and TECHNIQUES" part of the "MIXING, ADDITIVES and APPLICATION INSTRUCTIONS" section of this label for information on how to apply this product by air.

DO NOT APPLY THIS PRODUCT BY AIR TO RIGHTS-OF-WAY SITES IN THE STATE OF CALIFORNIA.

**Site Preparation:** Following preplant applications of this product, any silvicultural species may be planted.

**Postdirected Spray:** In established silvicultural sites, use as a spray on the foliage of undesirable vegetation. Avoid contact of spray, drift or mist with foliage or green bark of desirable species.

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### **Cut Stumps**

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Cut stump treatments may be made on any site listed on this label. This product will control many types of woody brush and tree species, some of which are listed below. Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut trees or resprouts close to the soil surface. Apply a 50- to 100-percent solution of this product to the freshly-cut surface immediately after cutting. Delays in application may result in reduced performance. For best results, applications should be made during periods of active growth and full leaf expansion.

Alder	Reed, giant
Eucalyptus	Saltcedar
Madrone	Sweetgum
Oak	Tan oak Willow
Pepper, Brazilian	
Pine, Austrian	

DO NOT MAKE CUT STUMP APPLICATIONS WHEN THE ROOTS OF DESIRABLE WOODY BRUSH OR TREES MAY BE GRAFTED TO THE ROOTS OF THE CUT STUMP. Some sprouts, stems, or trees may share the same root system. Adjacent trees having a similar age, height and spacing may signal shared roots. Whether grafted or shared, injury is likely to occur to non-treated stems/trees when one or more trees sharing common roots are treated.

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### **Injection and Frill (Woody Brush and Trees)**

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This product may be used to control woody brush and trees by injection or frill applications. Apply this product using suitable equipment that must penetrate into the living tissue. Apply the equivalent of 0.04 fluid ounce (1 mL) of this product per each 2 to 3 inches of trunk diameter at breast height (DBH). This is best achieved by applying a 50- to 100-percent concentration of this product either to a continuous frill around the tree or as cuts evenly spaced around the tree below all branches. As tree diameter increases in size, better results are achieved by applying diluted material to a continuous frill or more closely spaced cuttings. Avoid application techniques that allow runoff to occur from frilled or cut areas in species that exude sap freely. In species such as this, make the frill or cuts at an oblique angle to produce a cupping effect and use a 100-percent concentration of this product. For best results, application should be made during periods of active growth and after full leaf expansion. This product will control many species, some of which are listed below:

#### **Control**

Oak  
Poplar  
Sweetgum  
Sycamore

#### **Partial Control**

Black gum  
Dogwood  
Hickory  
Maple, red



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### Utility Sites

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In utilities, this product may be used along electrical power, pipeline and telephone rights-of-way, and in other sites associated with these rights-of-way, including substations, roadsides, railroads or similar rights-of-way that run in conjunction with utilities.

This product may be used in utility sites and substations for bare ground, trim-and-edge around objects, spot treatment of unwanted vegetation and to eliminate unwanted weeds growing in established shrub beds or ornamental plantings. This product may be used prior to planting a utility site to ornamentals, flowers, turfgrass (sod or seed), or beginning construction projects.

Repeated applications of this product may be used, as weeds emerge, to maintain bare ground.

This product is also specified for use in preparing or establishing wildlife openings within these sites, maintaining access roads and for side trimming along utility rights-of-way.

For control of herbaceous weeds, use the lower specified tank mixture rates. For control of dense stands or tough-to-control woody brush and trees, use the higher specified rates.

#### **Bare Ground, Trim-and-Edge**

This product may be used in utility sites and substations for bare ground, trim-and-edge around objects, spot treatment of unwanted vegetation and to eliminate unwanted weeds growing in established shrub beds or ornamental plantings. This product may be used prior to planting a utility site to ornamentals, flowers, turfgrass (sod or seed), or beginning construction projects.

Repeated applications of this product may be used, as weeds emerge, to maintain bare ground.

Tank Mixtures: This product may be tank mixed with appropriately labeled products containing the following active ingredients provided that the specific product used is registered for application on these sites. Refer to the individual product's labels for approved sites and application rates.

2,4-D	sulfosulfuron
imazapyr	pendimethalin
atrazine	imazapic-ammonium
proflaminate	oxadiazon
dicamba	simazine
diuron	chlorsulfuron
proflaminate	clopyralid
oryzalin	hexazinone
metsulfuron	fosamine
triclopyr, triethylamine salt	bromacil and diuron
triclopyr, butoxyethyl ester	sulfometuron

Ensure that products containing triclopyr, triethylamine salt are thoroughly mixed with water according to label directions before adding this product. Have spray mixture agitating at the time this product is added to avoid spray incompatibility problems. For side trimming treatments, it is specified that this product be used alone or in a tank mixture with products containing triclopyr, butoxyethyl ester.

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### Grass Seed or Sod Production

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This product may be used in grass seed and sod production for preplant, at-planting, preemergence, removal of established stands, renovation, site preparation, shielded spraying, wiper application, spot treatment, and creating rows in annual ryegrass.

#### **Preplant, Preemergence, At-Planting, Removal of Established Stands, Renovation, Site Preparation**

This product controls most existing vegetation for purposes of renovating turf or forage grass seed areas or for establishing turfgrass grown for sod. It may also be used to destroy remaining undesired grass vegetation when production fields are converted to alternate species or crops. Make applications before, during, or after planting, or for renovation purposes. For maximum control of existing vegetation, delay planting to determine if any regrowth from escaped underground plant parts occurs. Where existing vegetation is growing under mowed turfgrass management, apply this product after omitting at least one regular mowing to allow sufficient growth for good interception of the herbicide spray. Where repeat treatments are necessary, sufficient regrowth must be attained prior to application. For warm-season grasses, such as Bermudagrass, summer or fall applications provide best control. Broadcast equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested. Application rates up to 120 fluid ounces (3.75 quarts) per acre may be used to totally remove established stands of tough to kill grass species.

Do not disturb soil or underground plant parts before treatment. Tillage or renovation techniques such as vertical mowing, coring or slicing should be delayed for 7 days after application to allow proper translocation into underground plant parts. If application rates total 72 fluid ounces (4.5 pints) per acre or less, no waiting period between treatment and feeding or livestock grazing is required. If the rate is greater than 72 fluid ounces (4.5 pints) per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting. Applications must be made prior to crop emergence in order to avoid crop injury.

#### **Shielded Sprayers**

Apply 24 to 72 fluid ounces (1.5 to 4.5 pints) of this product in 10 to 20 gallons of water per acre to control weeds between grass seed rows. Uniform planting in straight rows aids in shielded sprayer applications. Best results are obtained when the grass seed crop is small enough to easily pass by the protective shields.

Contact of this product in any manner with desirable vegetation may result in discoloration, stunting or destruction. Such damage shall be the sole responsibility of the applicator.

#### **Wiper Application**

This product may be applied over the top of desirable grasses using wiper applicators for the control of tall weeds.

Contact of this product in any manner with desirable vegetation may result in discoloration, stunting or destruction. Such damage shall be the sole responsibility of the applicator.

#### **Spot Treatment**

Apply a 1.0-percent solution of this product using hand-held spray equipment to control weeds within established vegetation prior to heading of grasses grown for seed. Hand-held equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested.

The crop sprayed in the treated area will be killed. Take care not to spray or allow spray to drift outside the target area in order to avoid unwanted crop destruction.

#### **Creating Rows in Annual Ryegrass**

Apply 12 to 24 fluid ounces of this product per acre. Best results are obtained when applications are made before the ryegrass reaches 6 inches in height. Use the higher rate within the specified range when ryegrass is greater than 6 inches in height.

Set nozzle heights to allow the establishment of the desired row spacing. Use of low-pressure nozzles, or drop nozzles designed to target the application over a narrow band are specified.

Take care not to spray or allow spray to drift outside target area in order to avoid unwanted crop destruction.

**To the extent consistent with applicable law, grower assumes all responsibility for crop losses resulting from misapplication of this product.**

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#### **WEEDS CONTROLLED**

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

Reduced results may occur when treating weeds heavily covered with dust. For weeds that have been mowed, grazed or cut, allow regrowth to occur prior to treatment.

Refer to the following label sections for specified rates for the control of annual and perennial weeds and woody brush and trees. For difficult to control perennial weeds and woody brush and trees, where plants are growing under stressed conditions, or where infestations are dense, this product may be used at 4.5 to 8 quarts per acre for enhanced results.

#### **Annual Weeds**

Use 24 fluid ounces (1.5 pints) per acre if weeds are less than 6 inches in height or runner length and 32 to 128 fluid ounces (1 to 4 quarts) per acre if weeds are over 6 inches in height or runner length or when weeds are growing under stressed conditions. Use the higher rate for tough-to-control species regardless of the weed size at application. Treat tough-to-control weeds early when they are relatively small. This product may be tank mixed provided the tank-mix product is registered for use on the target site. Refer to the individual product labels for approved sites and application rates.

For spray-to-wet applications, apply a 0.5-percent solution of this product to weeds less than 6 inches in height or runner length. For annual weeds over 6 inches tall, or for smaller weeds growing under stressed conditions, use a 0.75 to 1.5 percent solution. Use the higher rate for tough-to-control species or for weeds over 24 inches tall.

Apply prior to seedhead formation in grass or bud formation in broadleaf weeds.

## **WEED SPECIES**

Anoda, spurred	Fleabane, hairy ( <i>Conyza bonariensis</i> )*	Red rice
Barley*	Fleabane, rough*	Russian thistle
Barnyardgrass*	Florida pusley	Rye*
Bittercress*	Foxtail*	Ryegrass*
Bassia, fivehook	Goatgrass, jointed*	Sandbur, field*
Black nightshade*	Goosegrass	Shattercane*
Bluegrass, annual*	Grain sorghum (milo)*	Shepherdspurse*
Bluegrass, bulbous*	Groundsel, common*	Sicklepod
Brome, downy*	Hemp sesbania	Signalgrass, broadleaf*
Brome, Japanese*	Henbit	Smartweed, ladysthumb*
Browntop panicum*	Horseweed/Marestail ( <i>Conyza canadensis</i> )	Smartweed, Pennsylvania*
Buttercup*	Itchgrass*	Sowthistle, annual
Carolina foxtail*	Johnsongrass, seedling	Spanishneedles
Carolina geranium	Junglerice	Speedwell, purslane*
Castor bean	Knotweed	Sprangletop*
Cheatgrass*	Kochia	Spurge, annual
Cheeseweed ( <i>Malva parviflora</i> )	Lambsquarters*	Spurge, prostrate*
Chervil*	Little barley*	Spurge, spotted*
Chickweed*	London rocket*	Spurry, umbrella*
Cocklebur*	Mayweed	Starthistle, yellow
Copperleaf, hophornbean	Medusahead*	Stinkgrass *
Corn*	Morningglory ( <i>Ipomoea</i> spp.)	Sunflower*
Corn speedwell*	Mustard, blue*	Teaweed/ Prickly sida
Crabgrass*	Mustard, tansy*	Texas panicum*
Dwarf dandelion*	Mustard, tumble*	Velvetleaf
Eastern manna grass*	Mustard, wild*	Virginia copperleaf
Eclipta*	Oats	Virginia pepperweed*
Fall panicum*	Pigweed*	Wheat*
Falsedandelion*	Plains/Tickseed coreopsis*	Wild oats*
Falsesaxifrage, smallseed*	Prickly lettuce*	Witchgrass*
Fiddleneck	Puncturevine	Woolly cupgrass*
Field pennycress*	Purslane, common	Yellow rocket
Filaree	Ragweed, common*	
Fleabane, annual*	Ragweed, giant	

\*When using field broadcast equipment (aerial applications or boom sprayers using flat-fan nozzles) these species will be controlled or partially controlled using 12 fluid ounces of this product per acre. Applications must be made using 3 to 10 gallons of carrier volume per acre. Use nozzles that ensure thorough coverage of foliage and treat when weeds are in an early growth stage.

## **Perennial Weeds**

Best results are obtained when perennial weeds are treated after they reach the reproductive stage of growth (seedhead initiation in grasses and bud formation in broadleaves). For non-flowering plants, best results are obtained when the plants reach a mature stage of growth. In many situations, treatments are required prior to these growth stages. Under these conditions, use the higher application rate within the specified range.

Ensure thorough coverage when using spray-to-wet treatments with hand-held equipment. For best results, use a 1.2 percent solution on harder-to-control perennials such as Bermudagrass, dock, field bindweed, hemp dogbane, milkweed and Canada thistle.

For low volume directed spray applications, use a 4- to 8-percent solution of this product. Spray coverage should be uniform with at least 50 percent of the foliage contacted. Coverage of the top one half of the plant is important for best results. To ensure adequate spray coverage, spray both sides of large or tall weeds when foliage is thick and dense or where there are multiple sprouts.

Allow 7 or more days after application before tillage.

<b>WEED SPECIES</b>	<b>Rate (FL. OZ./A)</b>	<b>Hand-Held % Solution</b>
Alfalfa*	22.4	1.5
Alligatorweed*	96	1.3
Anise (fennel)	48-96	1-1.5
Bahiagrass	73.6-120	1.5
Beachgrass, European ( <i>Ammophila arenaria</i> )	--	3.5
Bentgrass*	32	1.5
Bermudagrass	128	1.5
Bermudagrass, water (knotgrass)	32	1.5
Bindweed, field	73.6-120	1.5
Bluegrass, Kentucky	48 - 73.6	0.75
Blueweed, Texas	73.6-120	1.5
Brackenfern	73.6 - 96	0.75-1
Bromegrass, smooth	48 - 73.6	0.75
Bursage, woolly-leaf	--	1.5
Canarygrass, reed	48-73.6	0.75
Cattail	73.6-120	0.75
Clover; red, white	73.6-120	1.5
Cogongrass	73.6 - 120	1.5
Dallisgrass	73.6 - 120	1.5
Dandelion	73.6 - 120	1.5
Dock, curly	73.6 - 120	1.5
Dogbane, hemp	96	1.5
Fescue (except tall)	73.6 - 120	1.5
Fescue, tall	73.6	1
German ivy	48-73.6	0.75-1.5
Guineagrass	73.6	0.75
Horsenettle	73.6-120	1.5
Horseradish	96	1.5
Iceplant	48	1.5
Jerusalem artichoke	73.6-120	1.5
Johnsongrass	48-73.6	0.75
Kikuyugrass	48-73.6	0.75

<b>WEED SPECIES</b>	<b>Rate (FL. OZ./A)</b>	<b>Hand-Held % Solution</b>
Knapweed	96	1.5
Lantana	--	0.75-1
Lespedeza	73.6-120	1.5
Milkweed, common	73.6	1.5
Muhly, wirestem	48 - 73.6	0.75
Mullein, common	73.6-120	1.5
Napiergrass	73.6-120	1.5
Nightshade, silverleaf	73.6 - 120	1.5
Nutsedge; purple, yellow	73.6	0.75
Orchardgrass	48 - 73.6	0.75
Pampasgrass	73.6-120	0.75
Paragrass	96	0.75
Pepperweed, perennial	96	1.5
Phragmites*	64-120	0.75-1.5
Poison hemlock	48-96	0.75-1.5
Quackgrass	48-73.6	0.75
Redvine*	48	1.5
Reed, giant	96-120	1.5
Ryegrass, perennial	48-73.6	0.75
Smartweed, swamp	73.6-120	1.5
Spurge, leafy*	-	1.5
Sweet potato, wild*	-	1.5
Thistle, artichoke	48-73.6	2
Thistle, Canada	48-73.6	1.5
Timothy	48-73.6	1.5
Torpedograss*	96-120	0.75-1.5
Trumpetcreeper*	48-73.6	1.5
Vaseygrass	73.6-120	1.5
Velvetgrass	73.6-120	1.5
Wheatgrass, western	48-73.6	0.75

\*Partial control

#### **Woody Brush and Trees**

Apply this product after full leaf expansion, unless otherwise directed. Use the higher rate for larger plants and/or dense areas of growth. On vines, use the higher rate for plants that have reached the woody stage of growth. Best results are obtained when application is made in late summer or fall after fruit formation.

In arid areas, best results are obtained when applications are made in the spring to early summer when brush species are at high moisture content and are flowering.

For best results when using hand-held equipment, use a 1.2-percent solution on harder-to-control woody brush and trees. For low volume directed-spray applications, apply a 4- to 8-percent solution of this product. Spray coverage should be uniform with at least 50-percent of the foliage contacted. Coverage of the top one-half of the plant is important for best results. To ensure adequate spray coverage, spray both sides of large or tall woody brush and trees, when foliage is thick and dense, or where there are multiple sprouts.

Symptoms may not appear prior to frost or senescence with fall treatments.

Allow 7 or more days after application before tillage, mowing or removal. Repeat treatments may be necessary to control plants regenerating from underground parts or seed. Some autumn colors on undesirable deciduous species are acceptable provided no major leaf drop has occurred. Reduced performance may result if fall treatments are made following a frost.

WEED SPECIES	Broadcast Rate (FL. OZ./A)	Hand-Held Spray-to-Wet % Solution
Alder	73.6-96	0.75-1.2
Ash*	48-120	0.75-1.5
Aspen, quaking	48-73.6	0.75-1.2
Bearclover (Bearmat)*	48-120	0.75-1.5
Beech*	48-120	0.75-1.5
Birch	48	0.75
Blackberry	73.6-96	0.75-1.2
Blackgum	48-120	0.75-1.5
Bracken	48-120	0.75-1.5
Broom; French, Scotch	48-120	1.2-1.5
Buckwheat, California*	73.6-96	0.75-1.5
Cascara*	48-120	0.75-1.5
Catsclaw*	-	1.2-1.5
Ceanothus*	48-120	0.75-1.5
Chamise*	48-120	0.75
Cherry; bitter, black, pin	48-120	1-1.5
Coyote brush	64-105.6	1.2-1.5
Deerweed	48-120	0.75-1.5
Dogwood*	96-120	1-2
Elderberry	48	0.75
Elm*	48-120	0.75-1.5
Eucalyptus	-	1.5
Gorse*	48-120	0.75-1.5
Hasardia*	48-96	0.75-1.5
Hawthorn	48-73.6	0.75-1.2
Hazel	48	0.75
Hickory*	96-120	1-2
Honeysuckle	73.6-96	0.75-1.2
Hornbeam, American*	48-120	0.75-1.5

<b>WEED SPECIES</b>	<b>Broadcast Rate (FL. OZ./A)</b>	<b>Hand-Held Spray-to-Wet % Solution</b>
Kudzu	96	1.5
Locust, black*	48-96	0.75-1.5
Madrone resprouts*	-	1.5
Manzanita*	48-120	0.75-1.5
Maple, red	32- 120	0.75-1.2
Maple, sugar	--	0.75-1.2
Monkey flower*	48-96	0.75-1.5
Oak; black, white*	48-96	0.75-1.5
Oak, post	73.6-96	0.75-1.2
Oak; northern, pin	48-96	0.75-1.2
Oak, Scrub*	48-96	0.75-1.5
Oak; southern red	48-120	1-1.5
Peppertree, Brazilian (Florida holly)*	48-120	1.5
Persimmon*	48-120	0.75-1.5
Pine	48-120	0.75-1.5
Poison ivy	96-120	1.5
Poison oak	96-120	1.5
Poplar, yellow*	48-120	0.75-1.5
Redbud, eastern	48-120	0.75-1.5
Rose, multiflora	48	0.75
Russian olive*	48-120	0.75-1.5
Sage, black	48-96	0.75
Sage, white*	48-96	0.75-1.5
Sage brush, California	48-96	0.75
Salmonberry	48	0.75
Saltcedar*	96-120	0.75-1.5
Sassafras*	48-120	0.75-1.5
Sourwood*	48-120	0.75-1.5
Sumac; laurel, poison, smooth, sugarbush, winged*	48-96	0.75-1.5
Sweetgum	48-73.6	0.75-1.5
Swordfern*	48-120	0.75-1.5
Tallowtree, Chinese	-	0.75
Tan oak resprouts*	-	1.5
Thimbleberry	48	0.75
Tobacco, tree*	48-96	0.75-1.5

WEED SPECIES	Broadcast Rate (FL. OZ./A)	Hand-Held Spray-to-Wet % Solution
Toyon*	-	1.5
Trumpet creeper	48-73.6	0.75-1.2
Vine maple*	48-120	0.75-1.5
Virginia creeper	48-120	0.75-1.5
Waxmyrtle, southern*	48-120	1.5
Willow	73.6	0.75
Yerbasanta*	-	1.5

\*Partial control

## STORAGE AND DISPOSAL

Do not contaminate water, foodstuffs, feed or seed by storage or disposal.

**Pesticide Storage:** Store above 10°F (-12°C) to keep product from crystallizing. Crystals will settle to the bottom. If allowed to crystallize, place in a warm room 68°F (20°C) for several days to redissolve and roll or shake container or recirculate in mini-bulk or bulk container to mix well before using.

**Pesticide Disposal:** Wastes resulting from the use of this product that cannot be used or chemically reprocessed must be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, state or local procedures.

Emptied container retains vapor and product residue. Observe all labeled safeguards until container is destroyed.

**Container Handling:** [Use label language appropriate for container size and type.]

**Nonrefillable containers.** Do not reuse or refill this container. Clean container promptly after emptying.

**Nonrefillable container equal to or less than 5 gallons.** Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill or by incineration.

**Nonrefillable container greater than 5 gallons.** Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill or by incineration.

**Refillable container.** Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill or by incineration.



#### **WARRANTY DISCLAIMER**

The directions for use of this product must be followed carefully. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, (1) THE GOODS DELIVERED TO YOU ARE FURNISHED "AS IS" BY MANUFACTURER OR SELLER AND (2) MANUFACTURER AND SELLER MAKE NO WARRANTIES, GUARANTEES, OR REPRESENTATIONS OF ANY KIND TO BUYER OR USER, EITHER EXPRESS OR IMPLIED, OR BY USAGE OF TRADE, STATUTORY OR OTHERWISE, WITH REGARD TO THE PRODUCT SOLD, INCLUDING, BUT NOT LIMITED TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, USE, OR ELIGIBILITY OF THE PRODUCT FOR ANY PARTICULAR TRADE USAGE. UNINTENDED CONSEQUENCES, INCLUDING BUT NOT LIMITED TO INEFFECTIVENESS, MAY RESULT BECAUSE OF SUCH FACTORS AS THE PRESENCE OR ABSENCE OF OTHER MATERIALS USED IN COMBINATION WITH THE GOODS, OR THE MANNER OF USE OR APPLICATION, INCLUDING WEATHER, ALL OF WHICH ARE BEYOND THE CONTROL OF MANUFACTURER OR SELLER AND ASSUMED BY BUYER OR USER. THIS WRITING CONTAINS ALL OF THE REPRESENTATIONS AND AGREEMENTS BETWEEN BUYER, MANUFACTURER AND SELLER, AND NO PERSON OR AGENT OF MANUFACTURER OR SELLER HAS ANY AUTHORITY TO MAKE ANY REPRESENTATION OR WARRANTY OR AGREEMENT RELATING IN ANY WAY TO THESE GOODS.

#### **LIMITATION OF LIABILITY**

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, IN NO EVENT SHALL MANUFACTURER OR SELLER BE LIABLE FOR SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, OR FOR DAMAGES IN THE NATURE OF PENALTIES RELATING TO THE GOODS SOLD, INCLUDING USE, APPLICATION, HANDLING, AND DISPOSAL. MANUFACTURER OR SELLER SHALL NOT BE LIABLE TO BUYER OR USER BY WAY OF INDEMNIFICATION TO BUYER OR TO CUSTOMERS OF BUYER, IF ANY, OR FOR ANY DAMAGES OR SUMS OF MONEY, CLAIMS OR DEMANDS WHATSOEVER, RESULTING FROM OR BY REASON OF, OR ARISING OUT OF THE MISUSE, OR FAILURE TO FOLLOW LABEL WARNINGS OR INSTRUCTIONS FOR USE, OF THE GOODS SOLD BY MANUFACTURER OR SELLER TO BUYER. ALL SUCH RISKS SHALL BE ASSUMED BY THE BUYER, USER, OR ITS CUSTOMERS. BUYER'S OR USER'S EXCLUSIVE REMEDY, AND MANUFACTURER'S OR SELLER'S TOTAL LIABILITY SHALL BE FOR DAMAGES NOT EXCEEDING THE COST OF THE PRODUCT.

If you do not agree with or do not accept any of directions for use, the warranty disclaimers, or limitations of liability, do not use the product, and return it unopened to the Seller, and the purchase price will be refunded.



# Glyphosate 54

GLYPHOSATE | GROUP **9** | HERBICIDE

## ACTIVE INGREDIENT:

\*Glyphosate, N-(phosphonomethyl) glycine, in the form of its isopropylamine salt.....53.8%

**OTHER INGREDIENTS:** .....46.2%

**TOTAL:** .....100.0%

\*Contains 660 grams per liter or 5.5 pounds per U.S. gallon of the active ingredient glyphosate, in the form of its isopropylamine salt. Equivalent to 480 grams per liter or 4 pounds per U.S. gallon of the acid, glyphosate.

## KEEP OUT OF REACH OF CHILDREN CAUTION

See inside label booklet for First Aid, additional Precautionary Statements, and Directions for Use including Storage and Disposal instructions.

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

Read the entire label before using this product. Use only according to label instructions.

Read the "WARRANTY" and "LIABILITY" statements at the end of the label before buying or using. If terms are not acceptable, return at once unopened.

### FIRST AID

#### IF IN EYES:

- Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing.
- Call a poison control center or doctor for treatment advice.

### HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-222-1222 for emergency medical treatment information.

### PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**CAUTION:** Causes moderate eye irritation. Do not get in eyes, on skin, or on clothing. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash clothing before re-use.

**DOMESTIC ANIMALS:** This product is considered to be relatively non-toxic to dogs and other domestic animals; however, ingestion of this product or large amounts of freshly sprayed vegetation may result in temporary gastrointestinal irritation (vomiting, diarrhea,

colic, etc.). If such symptoms are observed, provide the animal with plenty of fluids to prevent dehydration. Call a veterinarian if symptoms persist for more than 24 hours.

## STORAGE AND DISPOSAL

Do not contaminate water, foodstuffs, feed or seed by storage or disposal.

**Pesticide Storage:** Store above 10°F (-12°C) to keep product from crystallizing. Crystals will settle to the bottom. If allowed to crystallize, place in a warm room 68°F (20°C) for several days to redissolve and roll or shake container or recirculate in mini-bulk or bulk container to mix well before using.

**Pesticide Disposal:** Wastes resulting from the use of this product that cannot be used or chemically reprocessed must be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, state or local procedures.

Empty container retains vapor and product residue. Observe all labeled safeguards until container is destroyed.

**Container Handling:** [Use label language appropriate for container size and type.]

**Nonrefillable containers.** Do not reuse or refill this container. Clean container promptly after emptying.

**Nonrefillable container equal to or less than 5 gallons.** Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill or by incineration.

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**Refillable container.** Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill or by incineration.

### Manufactured for:

RedEagle International, LLC  
5143 S. Lakeland Drive  
Suite 4  
Lakeland, FL 33813

EPA Reg. No. 94398-1-85678

Medical Emergency Assistance call 1-800-222-1222  
Chemical Emergency Response call CHEMTREC 1-800-424-9300

**Net Contents: 265 Gallons**

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