

# GLYPHOSATE 5.4

## Specimen Label

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

**ACTIVE INGREDIENT:**

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

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

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

\*Contains 648 grams per litre or 5.4 pounds per U.S. gallon of the active ingredient glyphosate, in the form of its isopropylamine salt. Equivalent to 480 grams per litre or 4 pounds per U.S. gallon of the acid, glyphosate.

EPA Reg. No. 81927-8

### KEEP OUT OF REACH OF CHILDREN

## CAUTION

FIRST AID	
<b>IF INHALED:</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>
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 1-800-424-9300 for emergency medical treatment information.	

**Manufactured for: Alligare, LLC**  
 13 N. 8th Street  
 Opelika, AL 36801

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

**CAUTION:** Harmful if inhaled. Avoid breathing spray mist. Remove and wash contaminated clothing before reuse.

**DOMESTIC ANIMALS:** This product is considered to be relatively nontoxic 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**

**Applicators and other handlers must wear:**

- Long-sleeved shirt and long pants;
- Shoes plus socks

Follow manufacturer's instructions for cleaning/maintaining PPE (Personal Protective Equipment). If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

**ENGINEERING CONTROL STATEMENT**

When handlers use closed systems, 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 thoroughly after handling, and before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**ENVIRONMENTAL HAZARDS**

**For Aquatic Uses:** Do not contaminate water when disposing of equipment washwaters. Treatment of aquatic weeds can result in oxygen depletion or loss due to decomposition of dead plants. This oxygen loss can cause fish suffocation.  
**For Terrestrial Uses:** 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 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.

### 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 regulation.

**AGRICULTURAL USE REQUIREMENTS**

Use this product only in accordance with its labeling and with 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, waterproof gloves, 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 to prevent transfer of this product onto desirable vegetation.

### 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 should 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 cleaned, reconditioned, or destroyed.

**Container Handling:**

**[NONREFILLABLE CONTAINERS]**

Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying.  
 (Nonrefillable container ≤ 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 1/4 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 if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

(Nonrefillable > 5 gallons): Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 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 if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**[REFILLABLE CONTAINERS]**

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 if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Read the entire label before using this product.

Use only according to label instructions.

Not all products listed on this label are registered for use in California. Check the registration status of each product in California before using.

Read the "CONDITIONS OF SALE AND WARRANTY" statement at the end of the label before buying or using. If terms are not acceptable, return at once unopened.

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## RESISTANCE MANAGEMENT

Glyphosate 5.4 is a Group 9 herbicide. Any weed population may contain or develop plants naturally resistant to Glyphosate 5.4 and other Group 9 herbicides. Weed species with acquired resistance to Group 9 may eventually dominate the weed population if Group 9 herbicides are used repeatedly in the same field or in successive years as the primary method of control for targeted species. This may result in partial or total loss of control of those species by Glyphosate 5.4 or other Group 9 herbicides.

To delay herbicide resistance consider:

- Avoiding the consecutive use of Glyphosate 5.4 or other target site of action Group 9 herbicides that might have a similar target site of action, on the same weed species.
- Using tank mixtures or premixes with herbicides from different target site of action Groups as long as the involved products are all registered for the same use, have different sites of action and are both effective at the tank mix or premix rate on the weed(s) of concern.
- Basing herbicide use on a comprehensive Integrated Pest Management (IPM) program.
- Monitoring treated weed populations for loss of field efficacy.
- Contacting 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.

## AQUATIC AND NON-CROP USES

### USE INFORMATION

This product, a water-soluble liquid, mixes readily with water and nonionic surfactant to be applied as a foliar spray for the control or destruction of many herbaceous and woody plants.

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 brush species may not occur for 7 days or more. Extremely cool or cloudy weather following treatment may slow the activity of this product and delay visual effects of control. Visible effects are a gradual wilting and yellowing of the plant which advances to complete browning of above-ground growth and deterioration of underground plant parts.

Unless otherwise directed on this label, delay application until vegetation has emerged and reached the stages described for control of such vegetation under the "Weeds Controlled" section of this label.

Unemerged plants arising from unattached underground rhizomes or root stocks of perennials or brush will not be affected by the spray and will continue to grow. For this reason best control of most perennial weeds or brush is obtained when treatment is made at late growth stages approaching maturity.

Always use the higher rate of this product per acre within the specified range when vegetation is heavy or dense.

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

Reduced control may result when applications are made to any weed or brush species that have been mowed, grazed or cut, and have not been allowed to regrow to the specified stage for treatment.

Rainfall or irrigation occurring within 6 hours after application may reduce effectiveness. Heavy rainfall or irrigation within 2 hours after application may wash the product off the foliage and a repeat treatment may be required.

When this product comes in contact with soil (on the soil surface or as suspended soil or sediment in water) it is bound to soil particles. Under specified use situations, once this product is bound to soil particles, it is not available for plant uptake and will not harm off-site vegetation where roots grow into the treatment area or if the soil is transported off-site. Under specified use conditions, the strong affinity of this product to soil particles prevents this product from leaching out of the soil profile and entering ground water. The affinity between this product and soil particles remains until this product is degraded, which is primarily a biological degradation process carried out under both aerobic and anaerobic conditions by soil microflora.

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

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 application rates and ensure that the total use of this and other glyphosate or sulfosate containing products does not exceed stated maximum use rate.

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 or mixtures of this product or other materials that are not expressly listed in this label. Mixing this product with herbicides or other materials not specified in this label may result in reduced performance.

### ATTENTION

AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.

Do not allow the herbicide solution to mist, drip, drift or splash onto desirable vegetation since minute quantities of this product can cause severe damage or destruction to the crop, plants or other areas on which treatment was not intended. The likelihood of injury

occurring from the use of this product increases when winds are gusty, as wind velocity increases, when wind direction is constantly changing or when there are other meteorological conditions that favor spray drift. When spraying, avoid combinations of pressure and nozzle type that will result in splatter or fine particles (mist) which are likely to drift.

AVOID APPLYING AT EXCESSIVE SPEED OR PRESSURE.

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

### MIXING AND APPLICATION INSTRUCTIONS

APPLY THESE SPRAY SOLUTIONS IN PROPERLY MAINTAINED AND CALIBRATED EQUIPMENT CAPABLE OF DELIVERING DESIRED VOLUMES. HAND-GUN APPLICATIONS SHOULD BE PROPERLY DIRECTED TO AVOID SPRAYING DESIRABLE PLANTS. NOTE: REDUCED RESULTS MAY OCCUR IF WATER CONTAINING SOIL IS USED, SUCH AS WATER FROM PONDS AND UNLINED DITCHES.

### Mixing

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 while adding the required amount of this product (see the "Directions for Use" and "Weeds Controlled" sections of this label). Near the end of the filling process, add the required surfactant and mix well. Remove hose from tank immediately after filling to avoid siphoning back into the water source. During mixing and application, foaming of the spray solution may occur. To prevent or minimize foam, avoid the use of mechanical agitators, place the filling hose below the surface of the spray solution, terminate by-pass and return lines at the bottom of the tank and if needed use an approved anti-foam or defoaming agent.

Keep by-pass line on or near bottom of tank to minimize foaming. Screen size in nozzle or line strainers should be no finer than 50 mesh. Carefully select correct nozzle to avoid spraying a fine mist. For best results with conventional ground application equipment, use flat fan nozzles. Check for even distribution of spray droplets.

When using this product, mix 2 or more quarts of a nonionic surfactant per 100 gallons of spray solution. Use a nonionic surfactant labeled for use with herbicides. The surfactant must contain 50 percent or more active ingredient.

Always read and follow the manufacturer's surfactant label recommendations for best results.

These surfactants should not be used in excess of 1 quart per acre when making broadcast applications.

Colorants or marking dyes approved for use with herbicides may be added to spray mixtures of 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 label recommendations.

Clean sprayer and parts immediately after using this product by thoroughly flushing with water and dispose of rinsate according to labeled use or disposal instructions.

Carefully observe all cautionary statements and other information appearing in the surfactant label.

## APPLICATION EQUIPMENT AND TECHNIQUES

### Aerial Equipment

Use the specified rates of this product and surfactant in 3 to 20 gallons of water per acre as a broadcast spray, unless otherwise specified. See the "Weeds Controlled" section of this label for specific rates. Aerial applications of this product may only be made as specifically directed in this label.

AVOID DRIFT – DO NOT APPLY DURING INVERSION CONDITIONS, WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITION WHICH WILL ALLOW 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.

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

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 in the additive label.

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

Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove residues of this product accumulated during spraying or from spills. PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART. LANDING GEAR ARE MOST SUSCEPTIBLE. The maintenance of an organic coating (paint) which meets aerospace specification MIL-C 38413 may prevent corrosion.

### AERIAL SPRAY DRIFT MANAGEMENT

#### SPRAY DRIFT MANAGEMENT

AVOIDING SPRAY DRIFT AT THE APPLICATION SITE IS THE RESPONSIBILITY OF

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THE APPLICATOR. The interaction of many equipment-and-weather-related factors determine the potential for spray drift. The applicator is responsible for considering all these factors when making decisions.

The following drift management requirements must be followed to avoid off-target movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses or to applications using dry formulations.

1. The distance of the outer most nozzles on the boom must not exceed  $\frac{3}{4}$  the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

Where states have more stringent regulations, they should be observed.

The applicator should be familiar with and take into account the information covered in the [Aerial Drift Reduction Advisory](#).

#### Aerial Drift Reduction Advisory

[This section is advisory in nature and does not supersede the mandatory label requirements.]

#### INFORMATION ON DROPLET SIZE

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (See Wind, Temperature and Humidity, and Temperature Inversions).

#### CONTROLLING DROPLET SIZE

- Volume – Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- Pressure – Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- Number of nozzles – Use the minimum number of nozzles that provide uniform coverage.
- Nozzle Orientation – Orienting nozzles so that the spray is released parallel to the air-stream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.
- Nozzle Type – Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

#### BOOM LENGTH

For some use patterns, reducing the effective boom length to less than  $\frac{3}{4}$  of the wingspan or rotor length may further reduce drift without reducing swath width.

#### APPLICATION HEIGHT

Applications must not be made at a height greater than 10 feet above the top of the target plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

#### SWATH ADJUSTMENT

When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase with increasing drift potential (higher wind, smaller drops, etc.)

#### WIND

Drift potential is lowest between wind speeds of 2-10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Do not apply below 2 mph due to variable wind direction and high inversion potential. NOTE: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

#### TEMPERATURE AND HUMIDITY

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

#### TEMPERATURE INVERSIONS

Applications must not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain 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 are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, 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.

#### SENSITIVE AREAS

The pesticide must only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas).

#### For Aerial Application in California Only

##### Aquatic and Other Noncrop Sites:

When applied as directed and under the conditions described in the "Weeds Controlled" section of this label booklet, this product will control or partially control the labeled weeds growing in the following industrial, recreational and public areas or other similar sites.

Aquatic Sites – Including all bodies of fresh and brackish water which may be flowing, nonflowing, or transient. This includes lakes, rivers, streams, ponds, seeps, irrigation and drainage ditches, canals, reservoirs, estuaries, and similar sites.

If aquatic sites are present in the noncrop area and are part of the intended treatment, read and observe the following directions:

There is no restriction on the use of treated water for irrigation, recreation, or domestic purposes.

Consult local state fish and game agency and water control authorities before applying this product to public water. Permit may be required to treat such water.

NOTE: Do not apply this product within  $\frac{1}{2}$  mile upstream of an active potable water intake in flowing water (i.e., river, stream, etc.) or within  $\frac{1}{2}$  mile of an active potable water intake in a standing body of water such as lake, pond, or reservoir. To make aquatic applications around and within  $\frac{1}{2}$  mile of active potable water intakes, the water intake must be turned off for a minimum period of 48 hours after the application. The water intake may be turned on prior to 48 hours if the glyphosate level in the intake water is below 0.7 part per million as determined by laboratory analysis. These aquatic applications may be made ONLY in those cases where there are alternative water sources or holding ponds which would permit the turning off of an active potable water intake for a minimum period of 48 hours after the application.

This product does not control plants which are completely submerged or have a majority of their foliage under water.

##### Aerial Applications:

Aerial applications may be made with helicopters only.

Use the following guidelines when aerial applications are to be made near perennial crops after bud break and before total leaf drop and/or near emerged annual crops.

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

#### For Aerial Application in Fresno County, California Only From February 15 through March 31 Only

##### 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

##### Use Information:

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

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 Recommendations:

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 applicable 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.



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## Boom Equipment

For control of weed or brush species listed in this section using conventional boom equipment – Use the specified rates of this product and surfactant in 3 to 30 gallons of water per acre as a broadcast spray, unless otherwise specified. See the “Weeds Controlled” section of this label for specific rates. As density of vegetation increases, spray volume should be increased within the specified range to ensure complete coverage. Carefully select correct nozzle 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

Use Coarse Sprays Only

For control of weeds listed in this section using knapsack sprayers or high-volume spraying equipment utilizing handguns or other suitable nozzle arrangements – Prepare a ¼ to 2 percent solution of this product in water, add a nonionic surfactant and apply to foliage of vegetation to be controlled. For specific rates of application and instructions for control of various annual and perennial weeds, see the “Weeds Controlled” section of this label.

Applications should be made on a spray-to-wet basis. Spray coverage should be uniform and complete. Do not spray to point of runoff.

This product may be used as a 5 to 8 percent solution for low-volume directed sprays for spot treatment of trees and brush. It is most effective in areas where there is a low density of undesirable trees or brush. If a straight stream nozzle is used, start the application at the top of the targeted vegetation and spray from top to bottom in a lateral zigzag motion. Ensure that at least 50 percent of the leaves are contacted by the spray solution. For flat fan and cone nozzles and with hand-directed mist blowers, mist the application over the foliage of the targeted vegetation. Small, open-branched trees need only be treated from one side. If the foliage is thick or there are multiple root sprouts, applications must be made from several sides to ensure adequate spray coverage.

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

## Spray Solution

Desired Volume	Amount of Glyphosate 5.4					
	3/4%	1%	1 1/4%	1 1/2%	5%	8%
1 Gal	1 oz	1 1/3 oz	2 oz	2 oz	6 1/2 oz	10 1/4 oz
25 Gal	1 1/2 pt	1 qt	1 1/4 qt	1 1/2 qt	5 qt	2 gal
100 Gal	3 qt	1 gal	1 1/4 gal	1 1/2 gal	5 gal	8 gal

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 larger container. Fill sprayer with the mixed solution and add the correct amount of surfactant.

## WEEDS CONTROLLED

### Annual Weeds

Apply to actively growing annual grasses and broadleaf weeds.

Allow at least 3 days after application before disturbing treated vegetation. After this period the weeds may be mowed, tilled or burned. See “Directions for Use,” “Product Information” and “Mixing and Application Instructions” for labeled uses and specific application instructions.

Broadcast Application – Use 1 ½ pints of this product per acre plus 2 or more quarts of a nonionic surfactant per 100 gallons of spray solution if weeds are less than 6 inches tall. If weeds are greater than 6 inches tall, use 2 ½ pints of this product per acre plus 2 or more quarts of an approved nonionic surfactant per 100 gallons of spray solution.

Hand-Held, High-Volume Application – Use a ¼ percent solution of this product in water plus 2 or more quarts of a nonionic surfactant per 100 gallons of spray solution and apply to foliage of vegetation to be controlled.

When applied as directed under the conditions described in this label, this product plus nonionic surfactant WILL CONTROL the following ANNUAL WEEDS:

<b>Balsamapple**</b> <i>Momordica charantia</i>	<b>Foxtail, Carolina</b> <i>Alopecurus carolinianus</i>	<b>Rye</b> <i>Secale cereale</i>
<b>Barley</b> <i>Hordeum vulgare</i>	<b>Groundsel, common</b> <i>Senecio vulgaris</i>	<b>Ryegrass, Italian*</b> <i>Lolium multiflorum</i>
<b>Barnyardgrass</b> <i>Echinochloa crus-galli</i>	<b>Horseweed/Marestail</b> <i>Conyza canadensis</i>	<b>Sandbur, field</b> <i>Cenchrus spp.</i>
<b>Bassia, fivehook</b> <i>Bassia hyssopifolia</i>	<b>Kochia</b> <i>Kochia scoparia</i>	<b>Shattercane</b> <i>Sorghum bicolor</i>
<b>Bluegrass, annual</b> <i>Poa annua</i>	<b>Lambsquarters, common</b> <i>Chenopodium album</i>	<b>Shepherdspurse</b> <i>Capsella bursa-pastoris</i>
<b>Bluegrass, bulbous</b> <i>Poa bulbosa</i>	<b>Lettuce, prickly</b> <i>Lactuca serriola</i>	<b>Signalgrass, broadleaf</b> <i>Brachiaria platyphylla</i>
<b>Brome</b> <i>Bromus spp.</i>	<b>Morningglory</b> <i>Ipomoea spp.</i>	<b>Smartweed, Pennsylvania</b> <i>Polygonum pensylvanicum</i>
<b>Buttercup</b> <i>Ranunculus spp.</i>	<b>Mustard, blue</b> <i>Chorispora tenella</i>	<b>Sowthistle, annual</b> <i>Sonchus oleraceus</i>
<b>Cheat</b> <i>Bromus secalinus</i>	<b>Mustard, tansy</b> <i>Descurainia pinnata</i>	<b>Spanishneedles*</b> <i>Bidens bipinnata</i>
<b>Chickweed, mouseear</b> <i>Cerastium vulgatum</i>	<b>Mustard, tumble</b> <i>Sisymbrium altissimum</i>	<b>Stinkgrass</b> <i>Eragrostis ciliaris</i>
<b>Cocklebur</b> <i>Xanthium strumarium</i>	<b>Mustard, wild</b> <i>Sinapis arvensis</i>	<b>Sunflower</b> <i>Helianthus annuus</i>
<b>Corn, volunteer</b> <i>Zea mays</i>	<b>Oats, wild</b> <i>Avena fatua</i>	<b>Thistle, Russian</b> <i>Salsola kali</i>

## Crabgrass

*Digitaria spp.*

## Dwarfdandelion

*Krigia cespitosa*

## Falseflax, smallseed

*Camelina microcarpa*

## Fiddleneck

*Amsinckia spp.*

## Flaxleaf fleabane

*Conyza bonariensis*

## Fleabane

*Erigeron spp.*

## Foxtail

*Setaria spp.*

## \*Apply 3 pints of this product per acre.

\*\*Apply with hand-held equipment only.

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

## Perennial Weeds

Apply this product as follows to control or destroy most vigorously growing perennial weeds. Unless otherwise directed, allow at least 7 days after application before disturbing vegetation.

Add 2 or more quarts of a nonionic surfactant per 100 gallons of spray solution to the rates of this product given in this list. See the “Product Information,” “Directions for Use” and “Mixing and Application” sections in this label for specific uses and application instructions.

NOTE: If weeds have been mowed or tilled, do not treat until regrowth has reached the specified stages. Fall treatments must be applied before a killing frost.

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

When applied as directed under the conditions described, this product plus surfactant WILL CONTROL the following PERENNIAL WEEDS:

<b>Alfalfa</b> <i>Medicago sativa</i>	<b>Cordgrass</b> <i>Spartina spp.</i>	<b>Lespedeza: common, serices</b> <i>Lespedeza striata</i>
<b>Alligatorweed*</b> <i>Alternanthera philoxeroides</i>	<b>Cutgrass, giant*</b> <i>Zizaniopsis miliacea</i>	<b>Lespedeza: cuneata</b> <i>Lespedeza cuneata</i>
<b>Anise/Fennel</b> <i>Foeniculum vulgare</i>	<b>Dallisgrass</b> <i>Paspalum dilatatum</i>	<b>Loosestrife, purple</b> <i>Lythrum salicaria</i>
<b>Artichoke, Jerusalem</b> <i>Helianthus tuberosus</i>	<b>Dandelion</b> <i>Taraxacum officinale</i>	<b>Lotus, American</b> <i>Nelumbo lutea</i>
<b>Bahiagrass</b> <i>Paspalum notatum</i>	<b>Dock, curly</b> <i>Rumex crispus</i>	<b>Maidencane</b> <i>Panicum hematomum</i>
<b>Beachgrass, European***</b> <i>Ammophila arenaria</i>	<b>Dogbane, hemp</b> <i>Apocynum cannabinum</i>	<b>Milkweed</b> <i>Asclepias spp.</i>
<b>Bermudagrass</b> <i>Cynodon dactylon</i>	<b>Fescue</b> <i>Festuca spp.</i>	<b>Muhly, wirestem</b> <i>Muhlenbergia frondosa</i>
<b>Bindweed, field</b> <i>Convolvulus arvensis</i>	<b>Fescue, tall</b> <i>Festuca arundinacea</i>	<b>Mullein, common</b> <i>Verbascum thapsus</i>
<b>Bluegrass, Kentucky</b> <i>Poa pratensis</i>	<b>Guineagrass</b> <i>Panicum maximum</i>	<b>Napiergrass</b> <i>Pennisetum purpureum</i>
<b>Blueweed, Texas</b> <i>Helianthus ciliaris</i>	<b>Hemlock, poison</b> <i>Conium maculatum</i>	<b>Nightshade, silverleaf</b> <i>Solanum elaeagnifolium</i>
<b>Brackenfern</b> <i>Pteridium spp.</i>	<b>Horsenettle</b> <i>Solanum carolinense</i>	<b>Nutsedge: purple, yellow</b> <i>Cyperus rotundus</i> <i>Cyperus esculentus</i>
<b>Bromegrass, smooth</b> <i>Bromus inermis</i>	<b>Horseradish</b> <i>Armoracia rusticana</i>	<b>Orchardgrass</b> <i>Dactylis glomerata</i>
<b>Canarygrass, reed</b> <i>Phalaris arundinacea</i>	<b>Ice Plant</b> <i>Mesembryanthemum crystallinum</i>	<b>Pampasgrass</b> <i>Cortaderia jubata</i>
<b>Cattail</b> <i>Typha spp.</i>	<b>Johnsongrass</b> <i>Sorghum halepense</i>	<b>Paragrass</b> <i>Brachiaria mutica</i>
<b>Clover, red</b> <i>Trifolium pratense</i>	<b>Kikuyugrass</b> <i>Pennisetum clandestinum</i>	<b>Phragmites**</b> <i>Phragmites spp.</i>
<b>Clover, white</b> <i>Trifolium repens</i>	<b>Knapweed</b> <i>Centaurea repens</i>	
<b>Cogongrass</b> <i>Imperata cylindrica</i>	<b>Lantana</b> <i>Lantana camara</i>	
<b>Quackgrass</b> <i>Agropyron repens</i>	<b>Timothy</b> <i>Phleum pratense</i>	
<b>Reed, giant</b> <i>Arundo donax</i>	<b>Torpedograss*</b> <i>Panicum repens</i>	
<b>Ryegrass, perennial</b> <i>Lolium perenne</i>	<b>Tules, common</b> <i>Scirpus acutus</i>	
<b>Smartweed, swamp</b> <i>Polygonum coccineum</i>	<b>Vaseygrass</b> <i>Paspalum urvillei</i>	
<b>Spatterdock</b> <i>Nuphar luteum</i>	<b>Velvetgrass</b> <i>Holcus spp.</i>	
<b>Starthistle, yellow</b> <i>Centaurea solstitialis</i>	<b>Waterhyacinth</b> <i>Eichornia crassipes</i>	
<b>Sweet potato, wild*</b> <i>Ipomoea pandurata</i>	<b>Waterlettuce</b> <i>Pistia stratiotes</i>	
<b>Thistle, artichoke</b> <i>Cynara cardunculus</i>	<b>Waterprimrose</b> <i>Ludwigia spp.</i>	
<b>Thistle, Canada</b> <i>Cirsium arvense</i>	<b>Wheatgrass, western</b> <i>Agropyron smithii</i>	

\*Partial control.

\*\*Partial control in southeastern states. See specific directions below.

\*\*\*Washington and Oregon only.

# GLYPHOSATE 5.4

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**Alligatorweed** – Apply 6 pints of this product per acre as a broadcast spray or as a 1¼ percent solution with hand-held equipment to provide partial control of alligatorweed. Apply when most of the target plants are in bloom. Repeat applications will be required to maintain such control.

**Beachgrass, European (Washington and Oregon only)** – Best results are obtained when applications are made when European beachgrass is actively growing through the boot to the full heading stages of growth. Applications should be made prior to the loss of more than 50% green leaf color in the fall.

Applications made during any period of plant (drought) stress, or beyond the recommended active growth period in the fall, will likely result in reduced performance.

Repeat applications of Glyphosate 5.4 may be necessary to treat skips. Monitor treated acres prior to reseeding of desirable vegetation.

#### **Spray-to-Wet Applications:**

Apply an 8 percent solution of this product plus 0.5 to 1.5 percent nonionic surfactant on a spray-to-wet basis for control of European beachgrass.

Spray coverage should be uniform and complete but not to the point of runoff.

#### **Wiper Applications:**

For selective control of European beachgrass, apply a 33 1/3 percent solution of this product plus 1 to 2.5 percent nonionic surfactant during active growth. Avoid contact of herbicide solution with desirable vegetation. Wiping the plants in opposite directions may improve performance. Maximizing the amount of individual leaf tissue contacted with the wiping equipment will result in optimal performance.

**Bermudagrass** – Apply 7 ½ pints of this product per acre as a broadcast spray or as a 1½ percent solution with hand-held equipment. Apply when target plants are actively growing and when seed heads appear.

**Bindweed, field/Silverleaf Nightshade/Texas Blueweed** – Apply 6 to 7 ½ pints of this product per acre as a broadcast spray west of the Mississippi River and 4 ½ to 6 pints of this product per acre east of the Mississippi River. With hand-held equipment, use a 1 ½ percent solution. Apply when target plants are actively growing and are at or beyond full bloom. For silverleaf nightshade, best results can be obtained when application is made after berries are formed. Do not treat when weeds are under drought stress. New leaf development indicates active growth. For best results apply in late summer or fall.

**Brackenfern** – Apply 4 ½ to 6 pints of this product per acre as a broadcast spray or as a ¾ to 1 percent solution with hand-held equipment. Apply to fully expanded fronds which are at least 18 inches long.

**Cattail** – Apply 4 ½ to 6 pints of this product per acre as a broadcast spray or as a ¾ percent solution with hand-held equipment. Apply when target plants are actively growing and are at or beyond the early-to-full bloom stage of growth. Best results are achieved when application is made during the summer or fall months.

**Cogongrass** – Apply 4 ½ to 7 ½ pints of this product per acre as a broadcast spray. Apply when cogongrass is at least 18 inches tall and actively growing in late summer or fall. Allow 7 or more days after application before tillage or mowing. Due to uneven stages of growth and the dense nature of vegetation preventing good spray coverage, repeat treatments may be necessary to maintain control.

**Cordgrass** – Broadcast Applications (Air) – Apply 4 to 7 ½ pints of this product in 5-20 gallons of spray solution per acre. Add 1 to 2 quarts of nonionic surfactant per 100 gallons of spray solution.

Broadcast Applications (Ground) – Apply 4 to 7 ½ pints of this product in 10 to 60 gallons of spray solution per acre. For best results, ensure that complete coverage of cordgrass clumps is achieved. Add 1 to 2 quarts of a nonionic surfactant per 100 gallons of spray solution.

Hand-Held and High Volume Equipment - Apply a 2 to 8 percent solution of this product. Ensure that complete coverage of cordgrass clumps is achieved. Do not spray to the point of run-off. Add 1 to 2 quarts of a nonionic surfactant per 100 gallons of spray solution.

Wiper Applications - For wick or wiper applications, mix 1 gallon of this product with 2 gallons of clean water to make a 33 percent solution. Addition of a nonionic surfactant at a rate of 10 percent by volume of the total herbicide solution is recommended.

In heavy stands, a double application in opposite directions may improve results.

Application Conditions - Schedule applications in order to allow 6 hours before treated plants are covered by tidewater. Rainfall or immersion within 6 hours after application may reduce effectiveness.

The presence of debris and silt on the cordgrass plants will reduce performance of this product. It may be necessary to wash targeted plants prior to application to improve uptake of this product into the plant. Where cordgrass has been cut or mowed prior to application with Glyphosate 5.4, ensure adequate regrowth of cordgrass occurs to allow for interception or absorption of the herbicide solution.

**Cutgrass, giant** – Apply 6 pints of this product per acre as a broadcast spray or as a 1 percent solution with hand-held equipment to provide partial control of giant cutgrass. Repeat applications will be required to maintain such control, especially where vegetation is partially submerged in water. Allow for substantial regrowth to the 7 to 10-leaf stage prior to retreatment.

**Dogbane, hemp/Knapweed/Horseradish** – Apply 6 pints of this product per acre as a broadcast spray or as a 1-½ percent solution with hand-held equipment. Apply when target

plants are actively growing and most have reached the late bud-to-flower stage of growth. For best results, apply in late summer or fall.

**Fescue, tall** – Apply 4 ½ pints of this product per acre as a broadcast spray or as a 1 percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached the boot-to-head stage of growth. When applied prior to the boot stage, less desirable control may be obtained.

**Guineagrass** – Apply 4 ½ pints of this product per acre as a broadcast spray or as a ¾ percent solution with hand-held equipment. Apply when target plants are actively growing and when most have reached at least the 7-leaf stage of growth.

**Johnsongrass/Bluegrass, Kentucky/Bromegrass, smooth/Canarygrass, reed/ Orchardgrass/Ryegrass, perennial/Timothy/Wheatgrass, western** – Apply 3 to 4 ½ pints of this product per acre as a broadcast spray or as a ¾ percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached the boot-to-head stage of growth. When applied prior to the boot stage, less desirable control may be obtained. In the fall, apply before plants have turned brown.

**Lantana** – Apply this product as a ¾ to 1 percent solution with hand-held equipment. Apply to actively growing lantana at or beyond the bloom stage of growth. Use the higher application rate for plants that have reached the woody stage of growth.

**Loosestrife, purple** – Apply 4 pints of this product per acre as a broadcast spray or as a ¾ percent solution using hand-held equipment. Treat when plants are actively growing at or beyond the bloom stage of growth. Best results are achieved when application is made during summer or fall months. Fall treatments must be applied before a killing frost.

**Lotus, American** – Apply 4 pints of this product per acre as a broadcast spray or as a ¾ percent solution with hand-held equipment. Treat when plants are actively growing at or beyond the bloom stage of growth. Best results are achieved when application is made during summer or fall months. Fall treatments must be applied before a killing frost. Repeat treatment may be necessary to control regrowth from underground parts and seeds.

**Maidencane/Paragrass** – Apply 6 pints of this product per acre as a broadcast spray or as a ¾ percent solution with hand-held equipment. Repeat treatments will be required, especially to vegetation partially submerged in water. Under these conditions, allow for regrowth to the 7 to 10-leaf stage prior to retreatment.

**Milkweed, common** – Apply 4 ½ pints of this product per acre as a broadcast spray or as a 1-½ percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached the late bud-to-flower stage of growth.

**Nutsedge: purple, yellow** – Apply 4 ½ pints of this product per acre as a broadcast spray, or as a ¾ percent solution with hand-held equipment to control existing nutsedge plants and immature nutlets attached to treated plants. Apply when target 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 following treatment. Repeat treatments will be required for long-term control.

**Pampasgrass** – Apply a 1-½ percent solution of this product with hand-held equipment when plants are actively growing.

**Phragmites** – For partial control of phragmites in Florida and the counties of other states bordering the Gulf of Mexico, apply 7 ½ pints per acre as a broadcast spray or apply a 1-½ percent solution with hand-held equipment. In other areas of the U.S., apply 4 to 6 pints per acre as a broadcast spray or apply a ¾ percent solution with hand-held equipment for partial control. For best results, treat during late summer or fall months when plants are actively growing and in full bloom. Due to the dense nature of the vegetation, which may prevent good spray coverage and uneven stages of growth, repeat treatments may be necessary to maintain control. Visual control symptoms will be slow to develop.

**Quackgrass/Kikuyograss/Muhly, wirestem** – Apply 3 to 4 ½ pints of this product per acre as a broadcast spray or as a ¾ percent solution with hand-held equipment when most quackgrass or wirestem muhly is at least 8 inches in height (3 to 4-leaf stage of growth) and actively growing. Allow 3 or more days after application before tillage.

**Reed, giant/ice plant** – For control of giant reed and ice plant, apply a 1-½ percent solution of this product with hand-held equipment when plants are actively growing. For giant reed, best results are obtained when applications are made in late summer or fall.

**Spatterdock** – Apply 6 pints of this product per acre as a broadcast spray or as a ¾ percent solution with hand-held equipment. Apply when most plants are in full bloom. For best results, apply during the summer or fall months.

**Sweet potato, wild** – Apply this product as a 1-½ percent solution using hand-held equipment. Apply to actively growing weeds that are at or beyond the bloom stage of growth. Repeat applications will be required. Allow the plant to reach the specified stage of growth before retreatment.

**Thistle: Canada, artichoke** – Apply 3 to 4 ½ pints of this product per acre as a broadcast spray or as a 1 ½ percent solution with hand-held equipment for Canada thistle. To control artichoke thistle, apply a 2 percent solution as a spray-to-wet application. Apply when target plants are actively growing and at or beyond the bud stage of growth.

**Torpedograss** – Apply 6 to 7 ½ pints of this product per acre as a broadcast spray or as a ¾ to 1 ½ percent solution with hand-held equipment to provide partial control of torpedograss. Use the lower rates under terrestrial conditions, and the higher rates under partially submerged or a floating mat condition. Repeat treatments will be required to maintain such control.

**Tules, common** – Apply this product as a 1-½ percent solution with hand-held equipment. Apply to actively growing plants at or beyond the seedhead stage of growth. After applica-

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tion, visual symptoms will be slow to appear and may not occur for 3 or more weeks.

**Waterhyacinth** – Apply 5 to 6 pints of this product per acre as a broadcast spray or apply a ¾ to 1 percent solution with hand-held equipment. Apply when target plants are actively growing and at or beyond the early bloom stage of growth. After application, visual symptoms may require 3 or more weeks to appear with complete necrosis and decomposition usually occurring within 60 to 90 days. Use the higher rates when more rapid visual effects are desired.

**Waterlettuce** – For control, apply a ¾ to 1 percent solution of this product with hand-held equipment to actively growing plants. Use higher rates where infestations are heavy. Best results are obtained from mid-summer through winter applications. Spring applications may require retreatment.

**Waterprimrose** – Apply this product as a ¾ percent solution using hand-held equipment. Apply to plants that are actively growing at or beyond the bloom stage of growth, but before fall color changes occur. Thorough coverage is necessary for best control.

**Other perennials listed on this label** – Apply 4 ½ to 7 ½ pints of this product per acre as a broadcast spray or as a ¾ to 1 ½ percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached early head or early bud stage of growth.

## WOODY BRUSH AND TREES

When applied as specified under the conditions described, this product plus surfactant CONTROLS or PARTIALLY CONTROLS the following woody brush plants and trees:

**Alder**  
*Alnus spp.*

**Ash\***  
*Fraxinus spp.*

**Aspen, quaking**  
*Populus tremuloides*

**Bearclover, Bearmat**  
*Chamaebatia foliolosa*

**Birch**  
*Betula spp.*

**Blackberry**  
*Rubus spp.*

**Broom:**

**French**  
*Cytisus monspessulanus*

**Cherry:**

**Bitter**  
*Prunus emarginata*

**Black**  
*Prunus serotina*

**Pin**  
*Prunus pensylvanica*

**Coyote brush**  
*Baccharis consanguinea*

**Creepers, Virginia\***  
*Parthenocissus quinquefolia*

**Dewberry**  
*Rubus trivialis*

**Dogwood**  
*Cornus spp.*

**Elderberry**  
*Sambucus spp.*

**Elm\***  
*Ulmus spp.*

**Eucalyptus, bluegum**  
*Eucalyptus globules*

**Hasardia\***  
*Haplopappus squamosus*

**Hawthorn**  
*Crataegus spp.*

**Hazel**  
*Corylus spp.*

**Hickory**  
*Carya spp.*

**Holly, Florida; Brazilian Peppertree**  
*Schinus terebinthifolius*

**Honeysuckle**  
*Lonicera spp.*

**Hornbeam, American**  
*Carpinus caroliniana*

**Kudzu**  
*Pueraria lobata*

**Locust, black\***  
*Robinia pseudoacacia*

**Manzanita**  
*Arctostaphylos spp.*

**Sage: black, white**  
*Salvia spp.*

**Sagebrush, California**  
*Artemisia californica*

**Salmonberry**  
*Rubus spectabilis*

**Salt cedar\***  
*Tamarix spp.*

**Broom:**

**Scotch**  
*Cytisus scoparius*

**Buckwheat, California\***  
*Eriogonum fasciculatum*

**Cascara\***  
*Rhamnus purshiana*

**Catsclaw\***  
*Acacia greggi*

**Ceanothus**  
*Ceanothus spp.*

**Chamise**  
*Adenostoma fasciculatum*

**Maple:**

**Red\*\***  
*Acer rubrum*

**Sugar**  
*Acer saccharum*

**Vine\***  
*Acer circinatum*

**Monkey Flower\***  
*Mimulus guttatus*

**Oak:**

**Black\***  
*Quercus velutina*

**Northern pine**  
*Quercus palustris*

**Post**  
*Quercus stellata*

**Red**  
*Quercus rubra*

**Southern red**  
*Quercus falcata*

**White\***  
*Quercus alba*

**Persimmon\***  
*Diospyros spp.*

**Poison Ivy**  
*Rhus radicans*

**Poison Oak**  
*Rhus toxicodendron*

**Poplar, yellow\***  
*Liriodendron tulipifera*

**Prunus**  
*Prunus spp.*

**Raspberries**  
*Rubus spp.*

**Redbud, eastern**  
*Cercis canadensis*

**Rose, multiflora**  
*Rosa multiflora*

**Russian-olive**  
*Elaeagnus angustifolia*

**Sweet gum**  
*Liquidambar styraciflua*

**Swordfern\***  
*Polystichum munitum*

**Tallowtree, Chinese**  
*Sapium sebiferum*

**Thimbleberry**  
*Rubus parviflorus*

**Tobacco, tree\***  
*Nicotiana glauca*

**Saltbush, Sea myrtle**  
*Baccharis halimifolia*

**Sassafras**  
*Sassafras albidum*

**Sourwood\***  
*Oxydendrum arboreum*

**Sumac:**

**Poison\***  
*Rhus vernix*

**Smooth\***  
*Rhus glabra*

**Winged\***  
*Rhus copallina*

\*Partial Control

\*\*See below for control or partial control instruction.

**Trumpet creeper**  
*Campsis radicans*

**Waxmyrtle, southern\***  
*Myrica cerifera*

**Willow**  
*Salix spp.*

NOTE: If brush has been mowed or tilled or trees have been cut, do not treat until regrowth has reached the specified stage of growth.

Apply the specified rate of this product plus 2 or more quarts of a nonionic surfactant per 100 gallons of spray solution when plants are actively growing and, unless otherwise directed, after full-leaf expansion. 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 application is made in the spring or 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 treatment.

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.

See the "Directions for Use" and "Mixing and Application Instructions" sections in this label for labeled use and specific application instructions.

Applied as a 5 to 8 percent solution as a directed application as described in the "Hand-Held and High-Volume Equipment" section, this product will control or partially control all species listed in this section of this label. Use the higher rate of application for dense stands and larger woody brush and trees.

Apply the product as follows to control or partially control the following woody brush and trees.

**Alder/Blackberry/Dewberry/Honeysuckle/Oak, Post/Raspberry** – For control, apply 4 ½ to 6 pints per acre as a broadcast spray or as a ¾ to 1 ¼ percent solution with hand-held equipment.

**Aspen, Quaking/Hawthorn/Trumpet creeper** – For control, apply 3 to 4 ¼ pints of this product per acre as a broadcast spray or as a ¾ to 1 ¼ percent solution with hand-held equipment.

**Birch/Elderberry/Hazel/Salmonberry/Thimbleberry** – For control, apply 3 pints per acre of this product as a broadcast spray or as a ¾ percent solution with hand-held equipment.

**Broom: French, Scotch** – For control, apply a 1 ¼ to 1 ½ percent solution with hand-held equipment.

**Buckwheat, California/Hasardia/Monkey Flower/Tobacco, Tree** – For partial control of these species, apply a ¾ to 1 ½ percent solution of this product as a foliar spray with hand-held equipment. Thorough coverage of foliage is necessary for best results.

**Catsclaw** – For partial control, apply a 1 ¼ to 1 ½ percent solution with hand-held equipment when at least 50 percent of the new leaves are fully developed.

**Cherry: Bitter, Black, Pin/Oak, Southern Red/Sweet Gum/Prunus** – For control, apply 3 to 7 ½ pints of this product per acre as a broadcast spray or as a 1 to 1 ½ percent solution with hand-held equipment.

**Coyote brush** – For control, apply a 1 ¼ to 1 ½ percent solution with hand-held equipment when at least 50 percent of the new leaves are fully developed.

**Dogwood/Hickory/Salt cedar** – For partial control, apply a 1 to 2 percent solution of this product with hand-held equipment or 6 to 7 ½ pints per acre as a broadcast spray.

**Eucalyptus, bluegum** – For control of eucalyptus resprouts, apply a 1-½ percent solution of this product with hand-held equipment when resprouts are 6 to 12-feet tall. Ensure complete coverage. Apply when plants are actively growing. Avoid application to drought-stressed plants.

**Holly, Florida (Brazilian peppertree (*Schinus terebinthifolius*))** – For partial control, apply this product as a 1-½ percent solution with hand-held equipment.

Alternatively, when applied as directed, this product with QuikSorb™ Penetrant will control or partially control Brazilian peppertree in areas such as dry drainage ditches and canals, wildlife habitat restoration and management areas, roadsides, railroads, fence rows, and similar non-crop areas.

The recommended application technique is directed spot treatment of Brazilian peppertree

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using hand-held equipment only. Apply this product using backpack, hand-held, handgun or similar equipment. Use flat fan, cone, or similar nozzles that will provide effective spray coverage of target vegetation. Do not apply to Brazilian peppertree growing in water. The use of aerial, boom-type or other broadcast spray equipment is not recommended. These applications are more effective on small brush less than 15 feet in height or 3-inch stem diameter.

### **Basal and Selective Stem Application:**

Apply a solution consisting of 25% v/v of this product and 75% v/v of QuikSorb™ penetrant. Completely cover the lower 18-24 inches of the brush stems or trunks. For larger stems over 3 inches in diameter, treat up to 48 inches or higher from the ground level. For better control of large trees, apply spray solution directly to upper foliage of plant canopy. Spray coverage should be uniform, covering at least 40 to 60% of the upper foliage and stems. Application is best when made to young, actively growing stems, branches and foliage. Spray-to-wet but not to the point of run-off.

Read and carefully observe the label claims, cautionary statements, and all information on the labels of all products used in this tank mixture.

**Kudzu** – For control, apply 6 pints of this product per acre as a broadcast spray or as a 1-½ percent solution with hand-held equipment. Repeat applications will be required to maintain control.

**Maple, Red** – For control, apply as a ¾ to 1 ¼ percent solution with hand-held equipment when leaves are fully developed. For partial control, apply 2 to 7 ½ pints of this product per acre as a broadcast spray.

**Maple, Sugar/Oak: Northern Pin, Red** – For control, apply as a ¾ to 1 ¼ percent solution with hand-held equipment when at least 50 percent of the new leaves are fully developed.

**Poison Ivy/Poison Oak** – For control, apply 6 to 7 ½ pints of this product per acre as a broadcast spray or as a 1-½ percent solution with hand-held equipment. Repeat applications may be required to maintain control. Fall treatments must be applied before leaves lose green color.

**Rose, multiflora** – For control, apply 3 pints of this product per acre as a broadcast spray or as a ¾ percent solution of this product as a foliar spray with hand-held equipment. Thorough coverage of foliage is necessary for best results.

**Sage, black/Sagebrush, California/Chamise/Tallowtree, Chinese** – For control of these species apply as a ¾ percent solution of this product as a foliar spray with hand-held equipment. Thorough coverage of foliage is necessary for best results.

**Saltbush, Sea myrtle** – For control, apply this product as a 1 percent solution with hand-held equipment.

**Waxmyrtle, southern** – For partial control, apply this product as a 1-½ percent solution with hand-held equipment.

**Willow** – For control, apply 4 ½ pints of this product per acre as a broadcast spray or as a ¾ percent solution with hand-held equipment.

**Other woody brush and trees listed in this label** – For partial control, apply 3 to 7 ½ pints of this product per acre as a broadcast spray or as a ¾ to 1 ½ percent solution with hand-held equipment.

### **INDUSTRIAL, RECREATIONAL, PUBLIC AREAS, AQUATIC AND TERRESTRIAL SITES**

When applied as directed and under the conditions described in the "Weeds Controlled" section in this label, this product will control or partially control labeled weeds growing in the following industrial, recreational, public areas, aquatic and terrestrial sites.

**NOTE: When applying this product to water, only use surfactants known to be non-toxic to aquatic species.**

**Aquatic Sites** – This product may be applied to emerged weeds in all bodies of fresh and brackish water which may be flowing, nonflowing or transient. This includes lakes, rivers, streams, ponds, estuaries, rice levees, seeps, irrigation and drainage ditches, canals, reservoirs, wastewater treatment facilities, wildlife habitat restoration and management areas.

If aquatic sites are present in the noncrop area and are part of the intended treatment, read and observe the following directions:

**This product does not control plants which are completely submerged or have a majority of their foliage under water.**

There is no restriction on the use of treated water for irrigation, recreation or domestic purposes.

Consult local state fish and game agency and water control authorities before applying this product to public water. Permits may be required to treat such water.

**NOTE:** Do not apply this product directly to water within ½ mile up-stream of an active potable water intake in flowing water (i.e., river stream, etc.) or within ½ mile of an active potable water intake in a standing body of water such as lake, pond or reservoir. To make aquatic applications around and within ½ mile of active potable water intakes, the water intake must be turned off for a minimum period of 48 hours after application. The water intake may be turned on prior to 48 hours if the glyphosate level in the intake water is below 0.7 parts per million as determined by laboratory analysis. These aquatic applications may be made ONLY in those cases where there are alternative water sources or holding ponds which would permit the turning off of an active potable water intake for a minimum period of 48 hours after the applications. This restriction does not apply to intermittent inadvertent overspray of water in terrestrial use sites.

For treatments after drawdown of water or in dry ditches, allow 7 or more days after treatment before reintroduction of water to achieve maximum weed control. Apply this product within 1 day after drawdown to ensure application to actively growing weeds.

Floating mats of vegetation may require retreatment. Avoid wash-off of sprayed foliage by spray boat or recreational boat backwash or by rainfall within 6 hours of application. Do not re-treat within 24 hours following the initial treatment.

Applications made to moving bodies of water must be made while traveling upstream to prevent concentration of this herbicide in water. When making any bankside applications, do not overlap more than 1 foot into open water. Do not spray in bodies of water where weeds do not exist. The maximum application rate of 7 ½ pints per acre must not be exceeded in any single broadcast application that is being made over water.

When emerged infestations require treatment of the total surface area of impounded water, treating the area in strips may avoid oxygen depletion due to decaying vegetation. Oxygen depletion may result in fish kill.

**Other Noncrop-Type Sites** – This product may be used to control the listed weeds in terrestrial noncrop sites and/or in aquatic sites within these areas.

Airports  
Golf Courses  
Habitat Restoration & Management Areas  
Highways & Roadsides  
Industrial Plant Sites  
Lumberyards  
Parking Areas  
Parks  
Petroleum Tank Farms  
Pipeline, Power, Telephone & Utility Rights-of-Way  
Pumping Installations  
Railroads  
Schools  
Storage Areas  
Similar Sites

### **TANK MIXTURES**

**NOTE:** Read and carefully observe the label directions, cautionary statements and all information on the labels of products used in these tank mixtures before proceeding with these directions. Additional precautionary statements are made in these labels. Use according to the most restrictive label directions for each product in these mixtures. When used in combination as recommended by Alligare, LLC, the liability of Alligare, LLC shall in no manner extend to any damage, loss or injury not directly caused by the inclusion of the Alligare product in such combination use.

### **GLYPHOSATE 5.4 plus GARLON® 4 or Alligare Triclopyr 4**

For burndown and partial control or suppression of woody brush and weeds in industrial sites:

When applied as directed for "Noncrop Uses" under the conditions described, this product, and an approved surfactant plus Garlon® 4 or Alligare Triclopyr 4, provides burndown and partial control or suppression of woody brush and vegetation labeled for this product. Use this tank mixture on rights-of-way (utility, railroad, highway, pipeline), fencerows, roadsides, nonirrigation ditchbanks, wasteland and similar noncrop or industrial sites.

### **Hand-Held and High-Volume Applications:**

Use 3 to 6 pints of Glyphosate 5.4 herbicide and 2 or more quarts of an approved surfactant, plus 1 to 2 quarts of Garlon® 4 or Alligare Triclopyr 4 per 100 gallons of spray solution and apply to foliage of actively growing woody brush and weeds. Applications should be made on a spray to wet basis. Spray coverage should be uniform and complete. Do not spray to point of runoff.

### **Broadcast Applications with Ground Equipment:**

Use 3 to 6 pints of Glyphosate 5.4 plus ½ to 2 quarts of Garlon® 4 or Alligare Triclopyr 4 in sufficient water and make 20 to 100 gallons of total spray per acre. Use 2 to 4 quarts of an approved surfactant per 100 gallons of spray solution with this product.

### **Aerial Application (Helicopter Only):**

Use 3 to 6 pints of Glyphosate 5.4 plus surfactant plus 1 to 2 quarts of Garlon® 4 or Alligare Triclopyr 4 and apply in a total spray volume of 10 to 20 gallons per acre. Aerial sprays should be applied using suitable drift control. Use 2 to 4 quarts of an approved surfactant per 100 gallons of spray solution with this product.

Apply when plants are actively growing and after full leaf expansion of woody brush. Use the higher rates of these products where vegetation is heavy or dense, or where hard-to-control brush species are prevalent. Repeat applications may be necessary to maintain control and to suppress areas where canopying of vegetation prevents good spray coverage and penetrations.

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.

### **GLYPHOSATE 5.4 plus ARSENAL® 2 WSL**

When applied as directed, this tank mixture will control or partially control labeled woody brush, trees and herbaceous weeds in noncrop areas. In addition to the weeds listed on this label, this tank mixture will control arrowweed, salt cedar and yaupon.

### **Hand-Held and High-Volume Applications:**

Use 6 to 12 pints of Glyphosate 5.4 plus ½ to 4 pints Arsenal® 2 WSL per 100 gallons of spray solution. Add 2 to 4 quarts of nonionic surfactant per 100 gallons of spray solution. Apply to foliage of actively growing vegetation. Applications should be made on a spray-to-wet basis. Spray coverage should be uniform and complete. Do not spray to the point of runoff.



# GLYPHOSATE 5.4

# Specimen Label

## Broadcast Applications with Ground Equipment:

Use 3 to 7 ½ pints of Glyphosate 5.4 plus ½ to 4 pints Arsenal® 2 WSL in sufficient water to apply in a total spray volume of 10 to 20 gallons per acre. Add 2 to 4 quarts of nonionic surfactant per 100 gallons of spray solution. Apply to foliage of actively growing vegetation.

Apply to woody brush and trees after full leaf expansion until initiation of fall color.

Avoid direct applications to any body of water. Do not apply on ditches used to transport irrigation water.

## GLYPHOSATE 5.4 plus 2,4-D AMINE

When applied as a tank mixture, this product will control the annual weeds listed in this label booklet. This tank mixture will control or partially control the listed perennial weeds, woody brush and trees.

Use 1 ½ to 2 ½ pints of this product plus 2 to 4 pints of 2,4-D amine (4 lb ai per gallon, labeled for aquatic sites) for control of annual weeds.

Use 3 to 7 ½ pints of this product plus 2 to 4 quarts of 2,4-D amine (4 lb ai per gallon, labeled for aquatic sites) for control of perennial weeds, woody brush and trees. The tank mixture may be used on alligatorweed, smartweed, waterprimrose, waxmyrtle and other labeled weeds.

When using this product, mix 2 or more quarts of a nonionic surfactant per 100 gallons of spray solution. Always read and follow the surfactant manufacturer's label recommendations.

Always predetermine the compatibility of the tank mixtures of this herbicide and 2,4-D amine by mixing small proportional quantities in advance.

Mix in the following sequence: Fill sprayer tank one-half full with water, add Glyphosate 5.4, then 2,4-D amine and finally surfactant. Fill sprayer tank to final volume with water.

NOTE: DO NOT MIX GLYPHOSATE 5.4 AMINE CONCENTRATES WITHOUT WATER CARRIER. DO NOT MIX GLYPHOSATE 5.4 AND 2,4-D AMINE IN BYPASS INJECTOR-TYPE SPRAY EQUIPMENT.

## WETLAND SITES

This product may be used in and around water (aquatic areas) and wetlands found in forestry and in power, telephone and pipeline rights-of-way sites, including where these sites are adjacent to or surrounding domestic water supply reservoirs, supply streams, lakes and ponds. Read and observe the following before making applications in and around water.

Consult local public water control authorities before applying this product in and around public water.

Permits may be required to treat such areas.

There is no restriction on the use of treated water for irrigation, recreation or domestic purposes.

**Restriction:** Do not apply this product directly to water within ½ mile up-stream of an active potable water intake in flowing water (i.e., river, stream, etc.) or within ½ mile of an active potable water intake in a standing body of water such as lake, pond or reservoir. To make aquatic applications around and within ½ mile of active potable water intakes, the water intake must be turned off for a minimum period of 48 hours after the application. These aquatic applications may be made ONLY in those cases where there are alternative water sources or holding ponds which would permit the turning off of an active potable water intake for a minimum period of 48 hours after the applications. This restriction does not apply to intermittent inadvertent overspray of water in terrestrial use sites.

Do not spray open bodies of water where woody brush, trees and herbaceous weeds do not exist. The maximum application rate of 3.75 quarts per acre must not be exceeded in a single over-water broadcast application except as follows, where any labeled rate may be applied:

- Stream crossings in utility rights-of-way.
- Where applications will result in less than 20 percent of the total water area being treated.

## WILDLIFE HABITAT RESTORATION AND MANAGEMENT AREAS

This product can be used for the restoration and/or maintenance of native habitat and in wildlife management areas.

Habitat Restoration and Maintenance – When applied as directed, exotic and other undesirable vegetation may be controlled in habitat management areas. Applications may be made to allow recovery of native plant species, to open up water to attract waterfowl, and for similar broad-spectrum vegetation control requirements in habitat management areas. Spot treatments may be made to selectively remove unwanted plants for habitat enhancement. For spot treatments, care should be exercised to keep spray off of desirable plants.

Wildlife Food Plots – This product may be used as a site preparation treatment prior to planting wildlife food plots. Apply as directed to control vegetation in the plot area. Any wildlife food species may be planted after applying this product, or native species may be allowed to reinfest the area. If tillage is needed to prepare a seedbed, wait 7 days after applying this product before tilling to allow for maximum effectiveness.

## WIPER APPLICATIONS

For wick or wiper applications, mix 1 gallon of this product with 2 gallons of clean water to make a 33 percent solution. Addition of a nonionic surfactant at a rate of 10 percent by

volume of total herbicide solution is recommended.

Wiper applications can be used to control or suppress annual and perennial weeds listed on this label. In heavy weed stands, a double application in opposite directions may improve results. See the "Weeds Controlled" section in this label for timing, growth stage and other instructions for achieving optimum results.

**Bromegrass (smooth), Canarygrass (reed), Dock (curly), Mullein (common), Quackgrass and Canada thistle:** This product may be applied through a wiper applicator after dilution with water and thorough mixing to these weeds growing in or along aquatic sites.

Wiper applicators, including wick devices, apply the herbicide solution by rubbing the weed with an absorbent material containing the herbicide solution.

Contact of the herbicide solution with desirable vegetation may result in damage or destruction. Applicators used above desired vegetation should be adjusted so that the lowest wiper contact point is at least two (2) inches above this vegetation. Application made above desirable vegetation should be made when the weeds are a minimum of six (6) inches above this vegetation.

Best results may be attained when more of the weed is exposed to the herbicide solution. Weeds not contacted (wiped) with the herbicide solution will not be affected. This may occur in dense clumps, severe infestations, or when the height of the weed varies so that not all weeds are contacted.

In severe infestations, reduce equipment ground speed to ensure that adequate amounts of this herbicide solution are wiped onto the weeds. When wiping moderate weed infestations an adequate flow rate should be 3 to 4 quarts of herbicide solution per mile of canal (wiping 4 foot band). For best results, do not allow wiper applicator to contact water.

## Note:

- Maintain wiper equipment in good operating condition.
- Adjust height of wiper applicator to ensure adequate contact with weeds.
- Keep wiping surfaces clean.
- Keep wiper material at proper degree of saturation with herbicide solution.
- DO NOT use wiper equipment when weeds are wet or under conditions where wave action or other water immersions will wash the solution off the weed.
- DO NOT operate equipment at ground speeds of greater than 5 MPH. As weed density increases, reduce equipment ground speed to ensure good coverage of weeds.
- Be aware that on sloping ground, the herbicide solution may migrate, causing dripping on the lower end and drying on the upper end of the wiper applicator.
- Variation in equipment design may affect weed control. With wiper applicators, the wiping material and its orientation must allow delivery of sufficient quantities of the specified herbicide solution directly to the weeds.
- Mix only the amount of solution to be used during a one day period as reduced activity may result from use of leftover solutions.

## Mixing Instructions:

Mix 2 ½ gallons of Glyphosate 5.4 herbicide with 7 ½ gallons of water to prepare a 25 percent solution. Add 1 quart of an approved surfactant per 10 gallons of herbicide solution (2 ½ percent surfactant by total volume). Apply this solution to weeds listed above.

## CUT STUMP APPLICATION

Woody vegetation may be controlled by treating freshly cut stumps of trees and resprouts with this product. Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut vegetation close to the soil surface. Apply a 50 to 100 percent solution of this product to freshly cut surface immediately after cutting. Delay in applying this product may result in reduced performance. For best results, trees should be cut during periods of active growth and full leaf expansion.

When used according to directions for cut stump application, this product will CONTROL, PARTIALLY CONTROL, or SUPPRESS most woody brush and tree species, some of which are listed below:

**Alder**  
*Alnus spp.*  
**Coyote brush\***  
*Baccharis consanguinea*  
**Dogwood\***  
*Cornus spp.*  
**Eucalyptus**  
*Eucalyptus spp.*  
**Hickory\***  
*Carya spp.*  
**Madrone**  
*Arbutus menziesii*  
**Maple\***  
*Acer spp.*  
**Oak**  
*Quercus spp.*

**Poplar\***  
*Populus spp.*  
**Reed, giant**  
*Arundo donax*  
**Salt cedar**  
*Tamarix spp.*  
**Sweet gum\***  
*Liquidambar styraciflua*  
**Sycamore\***  
*Platanus occidentalis*  
**Tan oak**  
*Lithocarpus densiflorus*  
**Willow**  
*Salix spp.*

\*This product is not approved for this use on these species in the state of California.



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## INJECTION AND FRILL APPLICATIONS

Woody vegetation may be controlled by injection or frill application of this product. Apply this product using suitable equipment which must penetrate into living tissue. Apply the equivalent of 1 mL of this product per 2 to 3 inches of trunk diameter. This is best achieved by applying 25 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 dilute material to a continuous frill or more closely spaced cuttings. Avoid application techniques that allow runoff to occur from frill or cut areas in species that exude sap freely after frills or cutting. In species such as these, make frill or cut at an oblique angle so as to produce a cupping effect and use undiluted material. For best results, applications should be made during periods of active growth and full leaf expansion.

This treatment WILL CONTROL the following woody species:

- Oak**  
*Quercus spp.*
- Poplar**  
*Populus spp.*
- Sweet gum**  
*Liquidambar styraciflua*
- Sycamore**  
*Platanus occidentalis*

This treatment WILL SUPPRESS the following woody species:

- Black gum\***  
*Nyssa sylvatica*
- Dogwood**  
*Cornus spp.*
- Hickory**  
*Carya spp.*
- Maple, red**  
*Acer rubrum*

\*This product is not approved for this use on these species in the state of California.

## INDUSTRIAL TURF

Apply 3 to 5 fluid ounces of this product per acre alone or in a recommended tank mixture. Use spray volumes of 10 to 40 gallons per acre.

When using this product, mix 2 quarts of a nonionic surfactant per 100 gallons of spray solution.

This product can be used for growth and seedhead suppression of:  
Tall Fescue  
Smooth Brome

For best results, apply this product in a recommended tank mixture to actively growing turf-grasses after greenup in the spring of the year. For suppression of seedheads, applications must be made before boot-to-seedhead stage of development. Applications made from seedhead emergence until maturity may result in turf discoloration or injury.

After mowing or removal of seedheads, this product in a recommended tank mixture may also be used to suppress the growth of certain turfgrasses. Allow turf to recover from stress caused by heat, drought or mowing before making applications. Applications made to turf under stress may increase the potential for discoloration or injury.

### Annual Grasses

For growth suppression of some annual grasses such as annual ryegrass, wild barley and wild oats, apply 3 to 4 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 made after seedhead emergence may cause injury to the desired grasses.

### TANK MIXTURES FOR INDUSTRIAL TURFGRASSES

For the following tank mixtures, consult each product label for weeds controlled and the proper stage of application. Do not treat turf under stress.

#### Tank Mixtures plus 2,4-D Amine

For additional weed control benefits, up to 1 quart per acre of 2,4-D amine may be added to the following tank mixtures.

### TALL FESCUE

#### Glyphosate 5.4 plus Telar® or Alligare Chlorsulfuron 75

For suppression of tall fescue growth and seedheads, and control or partial control of some annual weeds, apply this tank mixture after greenup and prior to boot-to-seedhead stage of development. Use up to ½ ounce of Telar® or Alligare Chlorulfuron 75 per acre.

This tank mixture can also be applied after mowing or removal of tall fescue seedheads for turf growth suppression and control or partial control of some annual weeds. Make only one of the above applications per growing season.

#### Glyphosate 5.4 plus Oust® or Alligare SFM 75

For suppression of tall fescue growth and seedheads, and control or partial control of some annual weeds, apply this tank mixture after greenup and prior to boot-to-seedhead stage of development. Use up to ¼ ounce of Oust® or Alligare SFM 75 per acre.

#### Glyphosate 5.4 plus Escort® or Alligare MSM 60

This tank mixture can be applied after mowing or removal of tall fescue seedheads for turf growth suppression and control or partial control of some annual weeds. Use up to 1/3 ounce of Escort® or Alligare MSM 60 per acre.

### SMOOTH BROME

#### Glyphosate 5.4 plus Oust® or Alligare SFM 75

For suppression of smooth brome growth and seedheads and control or partial control of some annual weeds, apply this tank mixture after greenup and prior to boot-to-seedhead stage of development. Use up to ¼ ounce of Oust® or Alligare SFM 75 per acre.

## RELEASE OF BERMUDAGRASS OR BAHIAGRASS ON NONCROP SITES

### RELEASE OF DORMANT BERMUDAGRASS AND BAHIAGRASS

When applied as directed, this product will provide control or suppression of many winter annual weeds and tall fescue for effective release of dormant bermudagrass or bahiagrass. Make applications to dormant bermudagrass or bahiagrass.

For best results on winter annuals, treat when weeds 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 in or beyond the 4 to 6-leaf stage.

### WEEDS CONTROLLED

Rates for control or suppression of winter annuals and tall fescue are listed below. Apply the listed rates of this product in 10 to 25 gallons of water per acre plus 2 quarts nonionic surfactant per 100 gallons of total spray volume.

### WEEDS CONTROLLED OR SUPPRESSED

NOTE:

C = Control

S = Suppression

WEED SPECIES	Glyphosate 5.4 oz/acre					
	6	9	12	18	24	48
<b>Barley, little</b> <i>Hordeum pusillum</i>	S	C	C	C	C	C
<b>Bedstraw, catchweed</b> <i>Galium aparine</i>	S	C	C	C	C	C
<b>Bluegrass, annual</b> <i>Poa annua</i>	S	C	C	C	C	C
<b>Chervil</b> <i>Chaerophyllum tainturieri</i>	S	C	C	C	C	C
<b>Chickweed, common</b> <i>Stellaria media</i>	S	C	C	C	C	C
<b>Clover, crimson</b> <i>Trifolium incarnatum</i>	•	S	S	C	C	C
<b>Clover, large hop</b> <i>Trifolium campestre</i>	•	S	S	C	C	C
<b>Speedwell, corn</b> <i>Veronica arvensis</i>	S	C	C	C	C	C
<b>Fescue, tall</b> <i>Festuca arundinacea</i>	•	•	•	•	S	S
<b>Geranium, Carolina</b> <i>Geranium carolinianum</i>	•	•	S	S	C	C
<b>Henbit</b> <i>Lamium amplexicaule</i>	•	S	C	C	C	C
<b>Ryegrass, Italian</b> <i>Lolium multiflorum</i>	•	•	S	C	C	C
<b>Vetch, common</b> <i>Vicia sativa</i>	•	•	S	C	C	C

\*These rates apply only to sites where an established competitive turf is present.

### RELEASE OF ACTIVELY GROWING BERMUDAGRASS

NOTE: USE ONLY ON SITES WHERE BAHIAGRASS OR BERMUDAGRASS ARE DESIRED FOR GROUND COVER AND SOME TEMPORARY INJURY OR YELLOWING OF THE GRASSES CAN BE TOLERATED.

When applied as directed, this product will aid in the release of bermudagrass by providing control of annual species listed in the "Weeds Controlled" section in this label, and suppression or partial control of certain perennial weeds.

For control or suppression of those annual species listed in this label, use ¾ to 2 ¼ pints of this product as a broadcast spray in 10 to 25 gallons of spray solution per acre, plus 2 quarts of a nonionic surfactant per 100 gallons of total spray volume. Use the lower rate when treating annual weeds below 6 inches in height (or length of runner in annual vines). Use the higher rate as size of plants increases or as they approach flower or seedhead formation.

Use the higher rate for partial control or longer-term suppression of the following perennial species. Use lower rates for shorter-term suppression of growth.

- Bahiagrass
- Dallisgrass
- Fescue (tall)
- Johnsongrass\*\*
- Trumpetcreeper\*
- Vaseygrass

\*Suppression at the higher rate only.

\*\*Johnsongrass is controlled at the higher rate.

Use only on well-established bermudagrass. Bermudagrass injury may result from the treatment but regrowth will occur under moist conditions. Do not make repeat applications in the same season since severe injury may result.

## BAHIAGRASS SEEDHEAD AND VEGETATIVE SUPPRESSION

When applied as directed in the "Noncrop Sites" section in this label, this product will provide significant inhibition of seedhead emergence and will suppress vegetative growth for a period of approximately 45 days with single applications and approximately 120 days with sequential applications.

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Apply this product 1 to 2 weeks after full green-up of bahiagrass or after the bahiagrass has been mowed to a uniform height of 3 to 4 inches. Applications must be made prior to seedhead emergence. Apply 5 fluid ounces per acre of this product, plus 2 quarts of an approved nonionic surfactant per 100 gallons of total spray volume in 10 to 25 gallons of water per acre.

Sequential applications of this product plus nonionic surfactant may be made at approximately 45-day intervals to extend the period of seedhead and vegetative growth suppression. For continued vegetative growth suppression, sequential applications must be made prior to seedhead emergence.

Apply no more than 2 sequential applications per year. As a first sequential application, apply 3 fluid ounces of this product per acre plus nonionic surfactant. A second sequential application of 2 to 3 fluid ounces per acre plus nonionic surfactant may be made approximately 45 days after the last application.

## ANNUAL GRASS GROWTH SUPPRESSION

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 ounces of this product in 10 to 40 gallons of spray solution per acre. Mix 2 quarts of a nonionic surfactant per 100 gallons of spray solution. Applications should be made when annual grasses are actively growing and before the seedheads are in the boot stage of development. Treatments made after seedhead emergence may cause injury to the desired grasses.

## AGRICULTURAL USES

### USE INFORMATION

**Product Description:** This product is a postemergent, systemic herbicide with no soil residual 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. It may be applied through most standard industrial or field-type sprayers after dilution and thorough mixing with water or other carriers according to label instructions.

Surfactant may be included in the tank mixture if desired and should only be done so based on field experience or further instructions from your local extension service, crop consultant or field representative.

**Time to 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 visual symptoms. Visible effects are a gradual wilting and yellowing of the plant which advances to complete browning of aboveground 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 recommendations for 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 or 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 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.

**Mode of Action:** The active ingredient in this product inhibits an enzyme found only in plants 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.

When this product comes in contact with soil it is bound to soil particles. Under specified use situations, once this product is bound to soil particles, it is not available for plant uptake and will not harm off-site vegetation where roots grow into the treated area or if the soil is transported off-site. The strong affinity of this product to soil particles prevents this product from leaching out of the soil profile and entering ground water.

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

**Volatility:** Glyphosate 5.4 is non-volatile. Therefore, it cannot move as a vapor after application to affect nearby vegetation.

**Toxicology Testing:** Exposure to workers and other applicators generally is expected to pose minimal risks based on results of short-term toxicity studies. Glyphosate has been thoroughly tested and determined not to cause cancer or other adverse long-term health effects.

**Tank Mixing:** This product does not provide residual weed control. For subsequent residual weed control, follow a label-approved herbicide program. Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used. Use according to the most restrictive label directions for each product in the mixture.

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 specified in this label. Mixing this product with herbicides or other materials not specified on this label may result in reduced performance.

**Annual Maximum Use Rate:** Except as otherwise specified in a crop section of this label, the combined total of all treatments must not exceed 6 quarts of this product per acre per year.

For non-agricultural uses, the combined total of all treatments must not exceed 8 quarts of this product per acre per year.

### ATTENTION

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

AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.

Do not allow the herbicide solution to mist, drip, drift or splash onto desirable vegetation since minute quantities of this product can cause severe damage or destruction to the crop, plants or other areas on which treatment was not intended. The likelihood of injury occurring from the use of this product increases when winds are gusty, as wind velocity increases, when wind direction is constantly changing or when there are other meteorological conditions that favor spray drift. When spraying, avoid combinations of pressure and nozzle type that will result in splatter or fine particles (mist) which are likely to drift. AVOID APPLYING AT EXCESSIVE SPEED OR PRESSURE.

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

### 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 where 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.

### Surfactant

Surfactant may be included in the tank mixture if desired and should only be done so based on field experience or further recommendation of your local extension service, crop consultant or field representative.

### Tank Mixing Procedure

Mix labeled tank mixtures of this product with water 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 a wettable powder is used, make a slurry with the water carrier, and add it SLOWLY through the screen into the tank. Continue agitation.
4. 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.
5. 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.
6. Continue filling the spray tank with water and add the required amount of this product near the end of the filling process.
7. When using nonionic surfactant add it to the spray tank before completing the filling process.
8. Add individual formulations to the spray tank as follows: wettable powder, flowable, emulsifiable concentrate, drift control additive and water soluble liquid followed by surfactant.

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 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.

Always predetermine the compatibility of labeled tank mixtures of this product with water carrier by mixing small proportional quantities in advance.

Refer to the "Tank Mixing" section for additional precautions and directions.

# GLYPHOSATE 5.4

# Specimen Label

## 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:

Desired Volume	Amount of Glyphosate 5.4					
	3/4%	1%	1 1/2%	2%	5%	10%
1 Gal	1 fl oz	1 1/3 fl oz	2 fl oz	2 2/3 fl oz	6 1/2 fl oz	13 fl oz
25 Gal	1 1/2 pts	1 qt	1 1/2 qts	2 qts	5 qts	10 qts
100 Gal	3 qts	1 gal	1 1/2 gals	2 gals	5 gals	10 gals

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 larger container. Fill sprayer with the mixed solution.

## 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 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 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 listed 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 recommendations.

## 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.

## 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 the 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 Applicator (CDA)** – Hand-held or boom-mounted applicators which 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 SPRAY DRIFT MANAGEMENT

### SPRAY DRIFT MANAGEMENT

AVOIDING SPRAY DRIFT AT THE APPLICATION SITE IS THE RESPONSIBILITY OF THE APPLICATOR. The interaction of many equipment-and-weather-related factors determine the potential for spray drift. The applicator is responsible for considering all these factors when making decisions.

The following drift management requirements must be followed to avoid off-target movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses or to applications using dry formulations.

1. The distance of the outer most nozzles on the boom must not exceed ¼ the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

Where states have more stringent regulations, they must be observed.

The applicator should be familiar with and take into account the information covered in the [Aerial Drift Reduction Advisory](#).

### Aerial Drift Reduction Advisory

[This section is advisory in nature and does not supersede the mandatory label requirements.]

### INFORMATION ON DROPLET SIZE

The most effective way to reduce drift potential is to apply large droplets. The best drift

management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (See Wind, Temperature and Humidity, and Temperature Inversions).

### CONTROLLING DROPLET SIZE

- Volume – Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- Pressure – Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- Number of nozzles – Use the minimum number of nozzles that provide uniform coverage.
- Nozzle Orientation – Orienting nozzles so that the spray is released parallel to the air-stream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.
- Nozzle Type – Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

### BOOM LENGTH

For some use patterns, reducing the effective boom length to less than ¼ of the wingspan or rotor length may further reduce drift without reducing swath width.

### APPLICATION HEIGHT

Applications must not be made at a height greater than 10 feet above the top of the target plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

### SWATH ADJUSTMENT

When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase with increasing drift potential (higher wind, smaller drops, etc.)

### WIND

Drift potential is lowest between wind speeds of 2-10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Do not apply below 2 mph due to variable wind direction and high inversion potential. NOTE: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

### TEMPERATURE AND HUMIDITY

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

### TEMPERATURE INVERSIONS

Applications must not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain 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 are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, 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.

### SENSITIVE AREAS

The pesticide must only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas).

### Aerial Equipment

DO NOT APPLY THIS PRODUCT USING AERIAL SPRAY EQUIPMENT EXCEPT UNDER CONDITIONS AS SPECIFIED WITHIN THIS LABEL. This product plus dicamba tank mixtures may not be applied by air in California.

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 1 quart per acre. Aerial applications of this product may be made in annual cropping conventional tillage systems, fallow and reduced tillage systems and preharvest applications. Refer to the individual use area sections of this label for specific volumes and application rates.

Avoid direct application to any body of water.

AVOID DRIFT – DO NOT APPLY DURING LOW-LEVEL INVERSION CONDITIONS, 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.

Coarse sprays are less likely to drift; therefore, do not use nozzles or nozzle configurations which dispense spray as fine spray droplets. Do not angle nozzles forward into the air-stream and do not increase spray volume by increasing nozzle pressure.

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

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# Specimen Label

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

## For Aerial Application in California Only

Aerial applications of this product are allowed in the following situations:

1. In fallow and reduced tillage systems prior to the emergence or transplanting of labeled crops.
2. In alfalfa and pasture renovation applications.
3. Over-the-top applications in Roundup Ready® corn and cotton.
4. Preharvest in alfalfa, corn, cotton, wheat, Roundup Ready® corn and Roundup Ready® cotton.

Do not plant subsequent crops other than those listed in the label booklet for 30 days following application.

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.

DO NOT EXCEED A MAXIMUM RATE OF 2 QUARTS PER ACRE OF THIS PRODUCT WHEN MAKING APPLICATIONS BY AIR IN FALLOW AND REDUCED TILLAGE SYSTEMS AND ALFALFA AND PASTURE RENOVATION APPLICATIONS.

DO NOT EXCEED A MAXIMUM RATE OF 1 QUART PER ACRE OF THIS PRODUCT WHEN MAKING APPLICATIONS BY AIR IN ALFALFA, CORN, COTTON, WHEAT, ROUNDUP READY® CORN AND ROUNDUP READY® COTTON PRIOR TO HARVEST. THIS RESTRICTION ALSO APPLIES TO OVER-THE-TOP APPLICATIONS IN ROUNDUP READY® CORN AND COTTON.

## Aerial Equipment

Use the specified rates of this product in 3 to 15 gallons of water per acre.

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 or crop(s) 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.

## For Aerial Application in Fresno County, California Only From February 15 through March 31 Only

### 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

### Product Information:

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

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:

Written directions MUST be submitted by or on behalf of the applicator to the Fresno County Agricultural Commissioner 24 hours prior to the application. These written directions 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 insure 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.

## FOR AERIAL APPLICATIONS IN MISSISSIPPI

### Aerial Application Restrictions:

Aerial application is prohibited in Zone I, south of Highway 8 in the counties listed below, from March 15 through April 30, except by permit from an authorized employee of the Mississippi Department of Agriculture and Commerce, Bureau of Plant Industry (Ph. 1-888-257-1285).

Aerial application is prohibited in Zone II, north of Highway 8 in the counties listed below, from March 25 through April 30, except by permit from an authorized employee of the Mississippi Department of Agriculture and Commerce, Bureau of Plant Industry (Ph. 1-888-257-1285).

The Bureau of Plant Industry may at anytime, based on current planting and environmental conditions modify the above restrictions for either zone or county therein.

**Zone I:** South of Highway 8 in the counties of Bolivar, Sunflower, Leflore, and Grenada plus the entire counties of Carroll, Holmes, Humphreys, Washington, Sharkey, Issaquena, Yazoo and Warren.

**Zone II:** North of Highway 8 in the counties of Bolivar, Sunflower, Leflore, and Grenada plus the entire counties of Tallahatchie, Tate, Quitman, Coahoma, Tunica, Panola and Desoto.

## FOR AERIAL APPLICATION IN 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 labeled 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 recommended.

Applications are typically to 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 percent of the length of the wingspan or rotor. In many cases, reducing this distance to 65 percent 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 air stream 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 winds are in excess of 10 mph.

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 mph is blowing towards desirable vegetation or crops, do not apply within 500 feet upwind of the desirable vegetation or crops.

Winds blowing from 5 to 10 mph toward desirable vegetation or crops will likely require buffer zones in excess of 500 feet.

### 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 control of weeds listed in the annual weeds rate tables, apply a 0.5 percent 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 1 percent solution.

For best results, use a 1 ½ percent solution on harder-to-control perennials, such as bermudagrass, dock, field bindweed, hemp dogbane, milkweed and Canada thistle.

When using application methods which result in less than complete coverage, use a 3.75 percent solution for annual and perennial weeds and a 3.75 to 5 percent solution for woody brush and trees.

### 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 non-agricultural use site specified on this label and only when specifically listed in cropping systems.



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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.

A shielded or hooded applicator directs the herbicide solution onto weeds, while shielding desirable vegetation from the herbicide.

A wiper or sponge applicator applies the herbicide solution onto weeds by rubbing the weed with an absorbent material containing the herbicide solution.

## 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 the height of the weeds varies so that not all weeds are contacted. In these instances, repeat treatment may be necessary.

### Shielded and hooded applicators

Use nozzles that provide uniform coverage within the treated area. Keep shields on these sprayers adjusted to protect desirable vegetation. **EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION.**

### Wiper applicators and sponge bars

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.

Nonionic surfactant at a rate of 10 percent by volume of total herbicide solution is recommended with all wiper applications.

**For Rope or Sponge Wick Applicators** – Mix 3 quarts of this product in 2 gallons of water to prepare a 25 percent solution. Apply this solution to weeds listed in this section.

**For Porous-Plastic Applicators** – Solutions ranging from 25 to 100 percent 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	

### 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 listed 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 percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 1.5 mph (1 ½ pints per acre). For the control of perennial weeds, apply a 20 to 40 percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 0.75 mph (3 to 6 pints per acre).

Controlled droplet application equipment produces a spray pattern which 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.

## CROPS (Alphabetical)

This section is organized alphabetically by crop category. There may be several labeled crops listed in a crop category.

Unless otherwise specified, applications may be made to control any weeds listed in the annual, perennial and woody brush tables. Also refer to the "SELECTIVE EQUIPMENT" section.

The maximum use rates stated throughout this products 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 application rates and ensure that the total use of this and other glyphosate or sulfosate containing products does not exceed stated maximum use rate.

For any crop not listed in this "CROPS" section, applications must be made at least 30 days prior to planting.

For broadcast postemergent treatments, do not harvest or feed treated vegetation for 8 weeks following application, unless otherwise specified.

When applying this product prior to transplanting crops into plastic mulch, residues may be removed from the plastic by 0.5 inches of water via sprinkler irrigation or natural rainfall.

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### Alfalfa, Clover, and Other Forage Legumes

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**LABELED CROPS:** Alfalfa, clover, kudzu, lespedeza, lupin, sainfoin, trefoil, velvet bean, vetch, crown vetch, milk vetch

**TYPES OF APPLICATIONS:** Preplant, preemergence, at-planting, spot treatment (alfalfa and clover only), wiper applicators (alfalfa and clover only), renovation, preharvest (alfalfa only)

#### Preplant, Preemergence and At-planting

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

**RESTRICTION:** Remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

#### Preharvest (Alfalfa only)

**USE INSTRUCTIONS:** This product may be used in declining alfalfa stands or any stand of alfalfa where crop destruction is acceptable. This application will severely injure or destroy the stand of alfalfa. This product will control annual and perennial weeds including quackgrass, when applied prior to the harvest of alfalfa. The treated crop and weeds can be harvested and fed to livestock after 36 hours. Allow a minimum of 36 hours between application and harvest. Use up to 1 quart of this product per acre. Applications may be made at any time of the year. Make only one application to an existing stand of alfalfa per 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.

**RESTRICTIONS:** Do not apply more than 1.5 pints of this product per acre as a preharvest treatment. Do not use for alfalfa grown for seed, as a reduction in germination or vigor may occur.

#### Spot treatment or Wiper applications (Alfalfa and Clover only)

**USE INSTRUCTIONS:** This product may be applied as a spot treatment in alfalfa or clover. 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. Applications may be made in the same area at 30-day intervals.

For spot treatment and wiper applications, apply in areas where the movement of domestic livestock can be controlled.

**RESTRICTIONS:** No more than one-tenth of any acre should be treated at one time. Remove domestic livestock before application and wait 14 days after application before grazing livestock or harvesting.

#### Renovation

**USE INSTRUCTIONS:** This product may be applied as a broadcast spray to existing stands of alfalfa, clover, and other labeled forage legumes. Labeled crops may be planted into the treated area.

**RESTRICTION:** Remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

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### Asparagus

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**TYPES OF APPLICATIONS:** Preplant, preemergence, spot treatment, postharvest

#### Preplant, Preemergence

**USE INSTRUCTIONS:** This product may be applied prior to emergence of asparagus. **RESTRICTION:** Do not apply within a week before the first spears emerge.

#### Spot treatment

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

# GLYPHOSATE 5.4

# Specimen Label

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

## Postharvest

**USE INSTRUCTIONS:** 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.

**PRECAUTIONS:** Direct contact of the spray with the asparagus may result in serious crop injury. Select and use specified types of spray equipment for postemergence 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.

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## Canola

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**TYPES OF APPLICATIONS:** Preplant, preemergence

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

**RESTRICTION:** Do not apply more than 1.5 quarts of this product per acre by ground.

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## Cereal Crops

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**LABELLED CROPS:** Barley, Buckwheat, Millet (Pearl, Proso), Oats, Rice, Rye, Teosinte, Triticale, Wheat (All), Wild rice.

**TYPES OF APPLICATIONS:** Preplant, preemergence, at-planting, spot treatment (except rice), post-harvest, preharvest (wheat only), wiper applicators (wheat only)

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

### Preplant, Preemergence 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.

### 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.

**RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in the treated area will be killed. Do not allow drift or spray outside target area for the same reason.

### Postharvest

**USE INSTRUCTIONS:** This product may be applied after harvest of cereal crops. 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.

**RESTRICTIONS:** For any crop not listed on this label, applications must be made at least 30 days prior to planting the next crop. Do not harvest or feed treated vegetation for 8 weeks following application.

### Preharvest (wheat only)

**USE INSTRUCTIONS:** This product provides weed control when applied prior to harvest of wheat. Apply after the hard-dough stage of grain (30% or less grain moisture) and at least 7 days prior to harvest. Wheat 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 1.5 pints of this product per acre. Do not apply to wheat grown for seed, as a reduction in germination or vigor may occur.

### Wiper applications (wheat only)

**USE INSTRUCTIONS:** Wiper applications may be used in wheat. 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.

### For nonselective control of listed annual weeds in small grain cropping systems (South Dakota only)

**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.

**PRECAUTIONS:** 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.

### Red Rice Control Prior To Planting Rice

**USE INSTRUCTIONS:** Apply 1.5 pints 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 the 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 only be partially controlled. **PRECAUTION:** Avoid spraying during low humidity conditions, as reduced control may result.

**RESTRICTION:** DO NOT TREAT RICE FIELDS OR LEVEES WHEN THE FIELDS CONTAIN FLOOD WATER. DO NOT RE-FLOOD TREATED FIELDS FOR 8 DAYS FOLLOWING APPLICATION.

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## Christmas Trees

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**TYPES OF APPLICATIONS:** Post-directed, spot treatment, site preparation

### Post-directed, Spot treatment

**USE INSTRUCTIONS:** This product may be used as a post-directed spray and spot treatment around established Christmas trees.

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

**RESTRICTION:** DO NOT USE THIS PRODUCT AS AN OVER-THE-TOP BROADCAST SPRAY IN CHRISTMAS TREES.

### Site preparation

**USE INSTRUCTIONS:** This product may be used prior to planting Christmas trees. **PRECAUTION:** Precautions should be taken to protect nontarget plants during site preparation applications.

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## Citrus Crops

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**LABELLED CROPS:** Calamondin, Chironja, Citron, Citrus Hybrids, Grapefruit, Kumquat, Lemon, Lime, Mandarin (tangerine), Orange (All), Pummelo, Tangelo, Tangor

**TYPES OF APPLICATIONS:** Weed control, middles (between rows of trees), strips (in row of trees), selective equipment

**NOTE:** FOR USE DIRECTIONS, SEE THE "TREE, NUT AND VINE (GENERAL)" SECTION. THE FOLLOWING DIRECTIONS ARE SPECIFIC TO CITRUS CROPS.

**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 3 to 4.5 pints of this product per acre. Apply in 20 to 30 gallons of water per acre when plants are actively growing. Use 3 pints per acre when plants are less than 8 inches tall and 4.5 pints per acre 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  
PC=Partial Control

B=Burndown  
C=Control

Weed Species	Glyphosate 5.4 Rate Per Acre			
	1.5 PT	3 PT	4.5 PT	7.5 PT
Bermudagrass	B	-	PC	C
Guineagrass				
Texas and Florida Ridge	B	C	C	C
Florida Flatwoods	-	B	C	C
Paragrass	B	C	C	C
Torpedograss	S	-	PC	C

**RESTRICTION:** Allow a minimum of 1 day between last application and harvest.

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## Conservation Reserve Program (CRP)

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**TYPES OF APPLICATIONS:** Renovation (rotating out of CRP), site preparation, dormant, wiper

### Rotating out of CRP, Site preparation

**USE INSTRUCTIONS:** This product may be used to prepare CRP land for crop production.

### Dormant, Wiper

**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 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.

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

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## Corn

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**TYPES OF CORN:** Field corn, seed corn, sweet corn and popcorn

**TYPES OF APPLICATIONS:** Preplant, preemergence, at-planting, spot treatment, hooded sprayers, preharvest, post-harvest

# GLYPHOSATE 5.4

# Specimen Label

## Preplant, Preemergence and At-planting

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

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 these tank mixtures in 10 to 20 gallons of water or 10 to 60 gallons of nitrogen solution per acre. 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. See the map in the Annual Weeds section of this label for areas included in this recommendation.

ATRAZINE	EXTRAZINE®	LOROX®
BANVEL®	FRONTIER®	MICRO-TECH®
BICEP®	GUARDSMAN®	PARTNER®
BICEP® II	HARNESS®	PROWL®
BROADSTRIKE®	HARNESS® XTRA	SIMAZINE
BULLET®	HARNESS® XTRA 5.6L	SURPASS®
DUAL®	LARIAT®	SURPASS® 100
DUAL® II	LASSO®/ALACHLOR	TOPNOTCH®
	LINEX®	

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

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 1.5 pints per acre in these tank mixtures. For other labeled annual weeds, apply 12-18 fluid ounces of this product per acre when weeds are less than 6 inches tall, and 1.5 to 2.25 pints when weeds are over 6 inches tall.

RESTRICTIONS: Applications of 2,4-D or dicamba must be made at least 7 days prior to planting corn.

The tank mix recommendations in this section are not registered in California.

## Spot treatment

USE INSTRUCTIONS: For spot treatments, apply this product prior to silking of corn. RESTRICTIONS: Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in the treated area will be killed. Do not allow drift or spray outside target area for the same reason.

## 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.

When applying to corn that is 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.

Follow these requirements:

- The spray hoods must be operated on the ground or skimming across the ground.
- Do not apply more than 1.5 pints of this product per acre per application.
- Corn must be at least 12 inches tall, measured without extending leaves.
- 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.
- Maximum wind speed: 10 mph.
- Use low-drift nozzles.

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.

PRECAUTIONS: 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: Do not graze or feed corn forage or fodder following applications of this product through hooded sprayers. Do not apply more than 4.5 pints of this product per acre per year for hooded sprayer applications.

## Preharvest

USE INSTRUCTIONS: 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). For ground applications, apply up to 4.5 pints of this product per acre. For aerial applications, apply up to 1.5 pints of this product per acre.

RESTRICTIONS: Do not treat corn grown for seed because a reduction in germination or vigor may occur. Allow a minimum of 7 days between application and harvest.

## Post-harvest

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: Do not harvest or feed treated vegetation for 8 weeks following application.

## Cotton

TYPES OF APPLICATIONS: Preplant, preemergence, at-planting, hooded sprayer, selective equipment, spot treatment, preharvest

## Preplant, Preemergence, 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. 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.

RESTRICTIONS: Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in treated area will be killed. Do not allow drift or spray outside target area for the same reason.

## 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. Apply 12 fluid ounces to 3 pints of this product per acre for cotton regrowth inhibition. Allow a minimum of 7 days between application and harvest of cotton.

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.

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 DEF® 6, Folex®, or Prep™ to provide additional enhancement of cotton leaf drop.

RESTRICTIONS: Do not feed or graze treated cotton forage or hay following preharvest applications. DO NOT APPLY MORE THAN 1.5 PINTS OF THIS PRODUCT PER ACRE BY AIR. Do not apply more than 1.5 quarts of this product per acre by ground. Do not apply to cotton grown for seed, as a reduction in germination or vigor may occur.

## Fallow Systems

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. For any crop not listed on this label, applications must be made at least 30 days prior to planting. 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.

RESTRICTION: DO NOT APPLY BANVEL® TANK MIXTURES BY AIR IN CALIFORNIA.

Refer to the specific product labels for crop rotation restrictions and cautionary statements of all products used in tank mixtures. Some crop injury may occur if Banvel® 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.

In addition, 9 fluid ounces of this product plus 2 to 4 oz of Goal® 2XL per acre will control the following weeds with the maximum height or length indicated: 3" – common cheeseweed, chickweed, groundsel; 6" – London rocket, shepherdspurse.

12 fluid ounces of this product plus 2 to 4 oz of Goal® 2XL per acre will control the following weeds with the maximum height or length indicated: 6" – common cheeseweed, groundsel, marehail (*Coryza canadensis*), 12" – chickweed, London rocket, shepherdspurse.

## 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.

# GLYPHOSATE 5.4

# Specimen Label

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## Grain Sorghum (Milo)

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TYPES OF APPLICATIONS: Preplant, preemergence, at-planting, spot treatment, wiper applicators, preharvest, post-harvest

### Preplant, Preemergence, At-planting

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

### Spot treatment and 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.

RESTRICTIONS: For spot treatment, do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in treated area will be killed. Do not allow drift or spray outside target area for the same reason.

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.

When applying to milo that is 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.

Follow these requirements:

- The spray hoods must be operated on the ground or skimming across the ground.
- Do not apply more than 1.5 pints of this product per acre per application.
- Milo must be at least 12 inches tall, measured without extending leaves. Treat before milo sends tillers between the drill rows. If such tillers are contacted with the spray solution, the main plant may be killed.
- 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.
- Maximum wind speed: 10 mph.
- Use low-drift nozzles.

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: 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. Do not graze or feed milo forage or fodder following applications of this product through hooded sprayers. Do not apply more than 4.5 pints of this product per acre per year for hooded sprayer applications.

### Preharvest

USE INSTRUCTIONS: Make applications at 30% grain moisture or less.

RESTRICTIONS: Do not apply more than 3 pints of this product per acre. Allow a minimum of 7 days between application and harvest of sorghum. Do not treat sorghum grown for seed as a reduction in germination or vigor may occur. The use of this product for preharvest grain sorghum (milo) is not registered in California.

### Post-harvest

USE INSTRUCTIONS: This product may be applied after harvest of grain sorghum. 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.

This product may be applied to grain sorghum (milo) stubble following harvest to suppress or control regrowth. Apply 1.5 pints of this product per acre for control, or 1.25 pints of this product per acre for suppression.

RESTRICTION: Do not harvest or feed treated vegetation for 8 weeks following application.

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## Grass Seed Production

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TYPES OF APPLICATIONS: Preplant, preemergence, renovation, site preparation, shielded sprayers, wiper applicators, spot treatments, creating rows in annual ryegrass

USE INSTRUCTIONS: This product may be applied before, during, or after planting or renovation of turf or forage grass areas grown for seed production. Applications MUST be made prior to the emergence of the crop to avoid crop injury. For maximum control of existing vegetation, delay planting 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 best control.

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 proper translocation into underground plant parts. Do not feed or graze treated areas for 8 weeks following application.

### Shielded Sprayers

USE INSTRUCTIONS: Apply 1.5 pints to 4.5 pints of this product as a broadcast spray in 10 to 20 gallons of water per acre to control weeds in the 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 or through the protective shields.

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

PRECAUTIONS: Contact of the herbicide solution with desirable vegetation may result in damage or destruction. Applicators must be adjusted so that the wiper contact point is at least two (2) inches above the desirable vegetation. Weeds should be a minimum of six (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. Better results may be obtained if 2 applications are made in opposite directions.

### Spot Treatments

USE INSTRUCTIONS: Use a 1 to 5 percent solution on a volume to volume basis with water. See the "SELECTIVE EQUIPMENT" section for additional application recommendations.

RESTRICTIONS: Apply this product prior to heading of grasses. Do not treat more than 10 percent of the total field to be harvested. The crop receiving the spray in the treated area will be killed. Do not allow drift or spray outside the target area for the same reason.

### Creating Rows in Annual Ryegrass

USE INSTRUCTIONS: Use 12-24 fluid ounces of this product per acre mixed with water. Use the higher rate when the ryegrass is greater than 6 inches tall. Best results are obtained when applicators are made before the ryegrass reaches 6 inches in height.

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 low-pressure nozzles, or drop nozzles designed to target the application over a narrow band.

Grower assumes all responsibility for crop losses from misapplication.

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## Herbs

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TYPES OF HERBS: Peppermint, spearmint

USE INSTRUCTIONS: This product may be used as a spot treatment in spearmint and peppermint. Apply spray-to-wet with hand-held equipment, such as backpack and knapsack sprayers, pump-up pressure sprayers, hand-guns, hand-wands or any other hand-held or motorized spray equipment used to direct the spray solution on to a limited area. Further applications may be made in the same area at 30-day intervals.

RESTRICTIONS: Allow at least 7 days between application and harvest. No more than one-tenth of any acre should be treated at one time. The crop receiving spray in the treated area will be killed. Do not allow drift or spray outside the target area for this reason.

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## Pastures

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TYPES OF PASTURES: Bahiagrass, bermudagrass, bluegrass, brome, fescue, orchardgrass, ryegrass, timothy, wheatgrass, alfalfa and clover.

TYPES OF APPLICATIONS: Spot treatment, wiper application, preplant, preemergence, pasture renovation

### Spot treatment and Wiper Application

USE INSTRUCTIONS: This product may be applied as a spot treatment or with wiper applicators in pastures. Applications may be made in the same area at 30-day intervals. For spot treatment and wiper applications, apply in areas where the movement of domestic livestock can be controlled.

RESTRICTIONS: No more than one-tenth of any acre should be treated at one time. Remove domestic livestock before application and wait 14 days after application before grazing livestock or harvesting.

### Preplant, Preemergence and Pasture renovation

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

RESTRICTION: Remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

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## Peanuts

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TYPES OF APPLICATIONS: Preplant, preemergence, at-planting

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

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## Small Fruits and Berries

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LABELLED CROPS: Blackberry, Blueberry, Boysenberry, Cranberry, Currant, Dewberry, Elderberry, Gooseberry, Huckleberry, Loganberry, Olallieberry, Raspberry (Black, Red), Youngberry



# GLYPHOSATE 5.4

# Specimen Label

**TYPES OF APPLICATIONS:** Preplant, preemergence, directed spray (except cranberry), wiper application

**USE INSTRUCTIONS:** This product may be applied as a preplant or preemergence broadcast application or as a wiper application for crops listed in this section. Directed sprays may be applied to any crop except cranberries. For wick or wiper applicators, mix 3 quarts of this product in 4 gallons of water. In severe infestations, reduce equipment ground speed to ensure that adequate amounts of this product are wiped on the weeds. A second treatment in the opposite direction may be beneficial.

**RESTRICTIONS:** Do not permit herbicide solution to contact desirable vegetation, including green shoots, canes or foliage. Allow a minimum of 30 days between last application and harvest of cranberries. For other small fruits and berries, allow a minimum of 14 days between last application and harvest.

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## Soybeans

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**TYPES OF APPLICATIONS:** Preplant, preemergence, at-planting, spot treatment, preharvest, selective equipment, hooded sprayers

### Preplant, Preemergence and At-planting

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

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.

CANOPY®	LASSO®/ALACHLOR	PROWL®
COMMAND®	LINEX®	PURSUIT®
DUAL®	LOROX®/LINURON	PURSUIT® PLUS
DUAL® II	LOROX® PLUS	SCEPTER®
FRONTIER®	MICRO-TECH®	SENCOR®/LEXONE®
FUSION®	PARTNER®	SQUADRON®
GEMINI®	PREVIEW®	TURBO®

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.

**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 1.5 pints per acre in these tank mixtures. For other labeled annual weeds, apply 12 fluid ounces to 18 fluid ounces of this product per acre when weeds are less than 6 inches tall, and 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.

**RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in treated area will be killed. Do not allow or spray outside target area for the same reason.

### 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 tables. 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.

Apply after pods have set and lost all green color. Allow a minimum of 7 days between application and harvest of soybeans. Care should be taken to avoid excessive seed shatter loss due to ground application equipment.

**RESTRICTIONS:** Do not graze or harvest treated crop for livestock feed within 25 days of last preharvest application. **DO NOT APPLY MORE THAN 4 QUARTS PER ACRE OF THIS PRODUCT FOR PREHARVEST APPLICATIONS. DO NOT APPLY MORE THAN 1.5 PINTS PER ACRE OF THIS PRODUCT BY AIR.** Do not apply to soybeans grown for seed as a reduction in germination or vigor may occur.

### Selective equipment

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

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## Sugarcane

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**TYPES OF APPLICATIONS:** Preplant, preemergence, spot treatment, fallow, hooded sprayers

### Preplant, Preemergence

**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 contain-

ing 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 3/4 percent solution of this product in water and spray to wet the foliage of vegetation to be controlled. Volunteer or diseased sugarcane should have at least 7 new leaves.

**RESTRICTIONS:** Avoid spray contact with healthy cane plants since severe damage or destruction may result. 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 3 to 3 3/4 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.

### Hooded sprayers

**USE INSTRUCTIONS:** This product may be used through hooded sprayers for weed control between the rows of sugarcane. A hooded sprayer is a type of shielded applicator. The spray pattern is completely enclosed on the top and all 4 sides by a hood, thereby shielding the crop from the spray solution.

Minimize the potential for spray particles to escape from under the hood by operating the sprayer at appropriate ground speeds, nozzle pressures and wind speeds. Operation on rough or sloping ground may result in spray particles escaping from the hood.

When applying to sugarcane that is grown on raised beds, ensure that the hood is designed to completely enclose the spray. If necessary, extend the front and rear flaps of the hoods to reach the ground in furrows between the rows.

Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting the crop. 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.

**PRECAUTION:** Droplets, mist, foam or splatter of the herbicide solution settling on the crop may result in discoloration, stunting or destruction.

**RESTRICTION:** Do not allow treated weeds to come into contact with the crop.

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## Sunflowers

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**TYPES OF APPLICATIONS:** Preplant, preemergence

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

A tank mixture with Prowl may be applied before, during or after planting in conventional tillage systems, into a cover crop, established sod or in previous crop residue.

**RESTRICTIONS:** Do not apply more than 24 fluid ounces (1.5 pints) of this product per acre for sunflowers. Make only one preplant or preemergent application per year. Do not feed or graze sunflower forage following application of this product.

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## Tree, Nut and Vine

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**TYPES OF APPLICATIONS:** Weed control, middles (between rows of trees), strips (in row of trees), selective equipment (except kiwi), perennial grass suppression

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

This product may be applied in middles, strips and for weed control in established citrus groves, tree fruit and tree nut orchards, and vineyards. Apply at rates given in the annual, perennial and woody brush tables. Repeat applications may be made up to a maximum of 8 quarts per acre per year. This product may also be used for site preparation prior to transplanting these crops. Allow a minimum of 3 days between application and transplanting. Applications may be made with boom equipment, CDA, shielded sprayers, hand-held and high-volume wands, lances, orchard guns or with wiper applicator equipment, except as directed.

### 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.

A tank mixture of this product plus Goal® 2XL may be used for annual weeds in middles between rows of citrus crops, tree fruits, tree nuts and vine crops. Use this mixture when weeds are stressed or growing in dense populations. 12 to 24 oz/A of this product plus 3 to 12 oz/A of Goal® 2XL will control annual weeds with a maximum height or diameter of 6 inches, including crabgrass, hairy fleabane (*Coryza bonariensis*), common groundsel, junglerice, common lambsquarters, redroot pigweed, London rocket, common ryegrass, shepherds-purse, annual sowthistle, common cheeseweed (malva), filaree (suppression), horseweed/marestail (*Coryza canadensis*), stinging nettle and common purslane (suppression). 9 to 24 oz/A of this product plus 3 to 12 oz/A of Goal® 2XL will control common cheeseweed (malva) with a maximum height or diameter of 3 inches.

# GLYPHOSATE 5.4

# Specimen Label

## Strips (in rows)

USE INSTRUCTIONS: This product may be applied in rows of tree or vine crops and may also be tank mixed with the following products.

DEVIRINOL® 50 DF	PRINCEP® CALIBER 90
DIREX® 4L	SIMAZINE 4L
GOAL® 2XL	SIMAZINE 80W
KARMEX® DF	SIM-TROL™ 4L
KROVAR® I	SOLICAM® DF
KROVAR® II	SULFLAN® AS
PROWL®	SURFLAN® 75W

Do not apply these tank mixtures in Puerto Rico.

Refer to the individual product labels for specific crops, rates, geographic restrictions and precautionary statements.

Apply 12 fluid ounces to 7.5 pints of this product per acre in these tank mixtures. Use 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.

## 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 1.5 pints to 3 pints 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 per acre 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, rates of 4.5 to 7.5 fluid ounces per acre should be used in shaded conditions or where a lesser degree of suppression is desired.

## Selective equipment

Shielded and wiper applicators may be used in tree crops and grapes. Refer to the individual crop sections for time interval between application and harvest.

RESTRICTIONS: For citron and olives, apply as a post-directed spray only.

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 AND VINES. CONTACT OF THIS PRODUCT WITH OTHER THAN MATURED BROWN BARK CAN RESULT IN SERIOUS CROP DAMAGE.

AVOID PAINTING CUT STUMPS WITH THIS PRODUCT AS INJURY RESULTING FROM ROOT GRAFTING MAY OCCUR IN ADJACENT TREES.

## Tree Fruits

LABELED CROPS: Apple, Apricot, Cherry (Sweet, Sour), Crabapple, Loquat, Mayhaw, Nectarine, Olive, Peach, Pear, Plum/Prune (All), Quince

TYPES OF APPLICATIONS: Weed control, middles (between rows of trees), strips (in row of trees), selective equipment

NOTE: FOR USE DIRECTIONS, SEE THE "TREE, NUT AND VINE (GENERAL)" SECTION. THE FOLLOWING DIRECTIONS ARE SPECIFIC TO TREE FRUITS.

## Restrictions on application equipment

For cherries, any application equipment listed in this section may be used in all states. For citron and olives, apply as a post-directed spray only.

Any application equipment listed in this section 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 which 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.

RESTRICTION: Allow a minimum of 1 day between last application and harvest for apple, crabapple, loquat, mayhaw, pear, quince.

Allow a minimum of 17 days between last application and harvest for apricot, cherry, nectarine, olive, peach, plum/prune.

## Tree Nuts

LABELED CROPS: Almond, Beechnut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert (Hazelnut), Hickory nut, Macadamia, Pecan, Pistachio, Walnut (Black, English)

TYPES OF APPLICATIONS: Weed control, middles (between rows of trees), strips (in row of trees), selective equipment.

NOTE: FOR USE DIRECTIONS, SEE THE "TREE, NUT AND VINE (GENERAL)" SECTION. THE FOLLOWING DIRECTIONS ARE SPECIFIC TO TREE NUTS.

RESTRICTION: Allow a minimum of 3 days between last application and harvest of tree nuts.

## Tropical Crops

LABELED CROPS: Atemoya, Avocado, Banana, Barbados Cherry (acerola), Breadfruit, Canistel, Carambola, Cherimoya, Cocoa beans, Coconuts, Coffee, Dates, Figs, Guava, Jaboticaba, Jackfruit, Longan, Lychee, Mango, Marmaladebox (genip), Papaya, Passion fruit, Persimmon, Pineapple, Plantain, Pomegranate, Sapodilla, Sapote (black, mamey, white), Soursop, Sugar apple, Tamarind, Tea.

USE INSTRUCTIONS: This product may be applied for weed control or for site preparation prior to transplanting crops listed in this section. In coffee and banana, delay applications 3 months after transplanting to allow the new coffee or banana plant to become established.

RESTRICTIONS: Allow a minimum of 14 days between last application and harvest of acerola, atemoya, avocado, breadfruit, canistel, carambola, cherimoya, cocoa beans, coconuts, dates, figs, genip, jaboticaba, jackfruit, longan, lychee, mango, mayhaw, passion fruit, persimmon, pomegranate, sapodilla, sapote, soursop, sugar apple, tamarind, and tea.

Allow a minimum of 28 days between last application and harvest of coffee.

Allow a minimum of 1 day between last application and harvest of banana, guava, and papaya and plantain.

Do not feed or graze treated pineapple forage following application.

## Vegetable Crops

LABELED CROPS: Amaranth, Arrugula, Artichoke (Jerusalem), Beans (All), Beet greens, Garden beets, Broccoli (All), Brussels sprouts, Cabbage (All), Cabbage (Chinese), Cantaloupe, Cardoon, Cavalo Broccolo, Carrot, Cauliflower, Casaba melon, Celery, Celery (Chinese), Celeriac, Celtuce, Chard (Swiss), Chayote, Chervil, Chick peas, Chicory, Chrysanthemum, Collards, Corn salad, Crenshaw melon, Cress, Cucumber, Dandelion, Dock (sorrel), Eggplant, Endive, Fennel (Florence), Garlic, Gherkin, Ginseng, Gourds, Ground cherry, Guar, Honeydew melon, Honey ball melon, Horseradish, Kale, Kohlrabi, Leek, Lentils, Lettuce, Mango melon, Melons (All), Mizuna, Muskmelon, Mustard greens, Okra, Onion, Oriental radish, Parsley, Parsnips, Peas (All), Pepinos, Pepper (All), Persian melon, Potato (Irish), Pumpkin, Purslane, Radish, Rape greens, Rhubarb, Rutabaga, Salsify, Shallot, Spinach (All), Mustard Spinach, Squash (Summer, Winter), Sugar beets, Sweet potato, Tomatillo, Tomato, Turnip, Watercress, Watermelon, Yams.

USE INSTRUCTIONS: This product may be applied prior to the emergence of direct seed-ed vegetables or prior to transplanting vegetables.

PRECAUTIONS: When applying this product prior to transplanting crops into plastic mulch, care must be taken to remove residues of this product from the plastic prior to transplanting. Residues can be removed by 0.5 inch natural rainfall or by applying water via a sprinkler system.

For the following crops, apply only prior to planting. Allow at least 3 days between application and planting of cantaloupe, casaba melon, crenshaw melon, cucumber, eggplant, garlic, gherkin, gourds, ground cherry, honeydew melon, honey ball melon, mango melon, melons (all), muskmelon, pepper (all), persian melon, pumpkin, squash (summer, winter), tomatillo, tomato, watercress, and watermelon.

Nonbearing Ginseng: This product may be used for weed control in established non-bearing 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. Applications must be made at least one year prior to harvest. 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.

Wiper applicators may be used in rutabagas. Allow at least 14 days between application and harvest.

# GLYPHOSATE 5.4

# Specimen Label

## Vine Crops

LABELLED CROPS: Grapes (raisin, table, wine), Kiwi fruit

TYPES OF APPLICATIONS: Weed control, middles (between rows), strips (in row), selective equipment

NOTE: FOR USE DIRECTIONS, SEE THE "TREE, NUT AND VINE (GENERAL)" SECTION.

THE FOLLOWING DIRECTIONS ARE SPECIFIC TO VINE CROPS.

Applications should not be made when green shoots, canes or foliage are 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.

RESTRICTION: Allow a minimum of 14 days between last application and harvest.

## Roundup Ready® Crops

The following instructions include applications which can be made onto Roundup Ready crops during the complete cropping season. Do NOT combine these instructions with other recommendations made for crop varieties which do not contain the Roundup Ready gene, in the CROPS (ALPHABETICAL) 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 which 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 which 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 which provides tolerance to this product. Information on Roundup Ready crop varieties may be obtained from your seed supplier.

### Spray Drift Management

AVOID DRIFT. EXTREME CARE MUST BE TAKEN WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.

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

DO NOT exceed a maximum rate of 24 fluid ounces per acre of this product when making applications by air unless otherwise directed. For aerial application in California and Arkansas, refer to the "For Aerial Application in California Only" and "For Aerial Application in Arkansas Only" sections of this label.

Tank mixtures with other herbicides, insecticides, or fungicides may result in reduced weed control or crop injury and are NOT recommended for over-the-top applications of this product.

Sprayer Preparation: It is important that sprayer, lines, filters, and mixing equipment be clean and free of pesticide residue before making applications of this product to Roundup Ready crops. Follow the cleaning procedures specified on the label of the product(s) previously used. Many crops can be very sensitive to herbicides at extremely low concentrations and care must be taken to thoroughly clean all equipment prior to use.

NOTE: The following directions are based on a clean start at planting by using a burn down application or tillage to control existing weeds before crop emergence. In no-till and stale seedbed systems, a preplant burn-down treatment of 18 to 48 fluid ounces per acre of this product is required to control existing weeds prior to crop emergence.

There are no rotational crop restrictions following application of this product.

For over-the-top uses on Roundup Ready crop varieties, crop safety and weed control performance are not warranted by Alligare, LLC when this product is used in conjunction with "brown bag" or "bin run" seed saved from previous year's production and replanted.

## CANOLA WITH THE ROUNDUP READY GENE

TYPES OF APPLICATIONS: Preplant, preemergence, postemergence

USE INSTRUCTIONS:

### Maximum Allowable Combined Application Quantities Per Season:

- |  |                          |
|--|--------------------------|
| 1. Preplant and preemergence applications:             | 48 fluid ounces per acre |
| 2. Total in-crop application from emergence to 6-leaf: | 24 fluid ounces per acre |

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 fan nozzles. Check for even distribution of spray droplets.

For aerial applications apply this product in 3 to 15 gallons of water per acre.

Over-the-top applications: This product may be applied by aerial or ground application equipment postemergence to Roundup Ready canola from emergence through the six-leaf stage of development. To maximize yield potential spray canola early to eliminate competing weeds. Any single over-the-top broadcast application should not exceed 10 ounces per acre. No more than two over-the-top broadcast applications may be made from crop emergence through the six-leaf stage of development. Sequential over-the-top applications

of this product must be at least 10 days apart.

Weeds controlled: For specific rates of application and instructions for control of various annual and perennial weeds, refer to the "ANNUAL" and "PERENNIAL" weed rate tables on this label.

Some weeds with multiple germination times or suppressed (stunted) weeds may require sequential applications of this product for control. The second application should be made after some regrowth has occurred and at least 10 days after a previous application of this product.

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.

Allow a minimum of 60 days between last application and canola harvest.

## CORN WITH THE ROUNDUP READY GENE

TYPES OF APPLICATIONS: Preplant, preemergence, at-planting, postemergence, spot treatment, post-harvest

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. Applications must be made to actively growing weeds before they reach the maximum size listed in the "ANNUAL" and "PERENNIAL" weed rate tables. Refer to the "MIXING" section of this labeling for the proper 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. Single in-crop applications of this product are not to exceed 24 fluid ounces per acre. Sequential in-crop applications of this product from emergence through the V8 stage or 30 inches must not exceed 48 fluid ounces per acre per growing season.

### Maximum Allowable Application Rates

1. Combined total per year for all applications	6 quarts per acre
2. Preplant, Preemergence applications	3.755 quarts per acre
3. Total in-crop applications from emergence through the V8 stage or 30 inches	48 fluid ounces per acre
4. 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 per acre

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 under hard water conditions, drought conditions or when tank mixed with Bullet®, Micro-Tech®, or Partner® Herbicides. Ensure that 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. The addition of other additives, including fertilizers and micronutrients are not recommended with this product since this may result in increased potential for crop injury.

For ground applications: Use the labeled rates of this product in 5 to 20 gallons of spray solution per acre as a broadcast spray. Carefully select correct nozzles and spray pressure to avoid spraying a fine mist. Check for even distribution of spray droplets.

For aerial applications: Use the labeled rates of this product in 3 to 15 gallons of spray solution per acre.

Allow a minimum of 50 days between application of this product and harvest of corn forage and 7 days between application and harvest of corn grain. Allow a minimum of 10 days between in-crop applications of this product.

### Weed Control Directions

Apply 18 to 24 fluid ounces of this product per acre for control of labeled grasses and broadleaf weeds in conventional and no-till corn production systems. Refer to the "ANNUAL WEED RATE TABLE" of this label for specific annual weeds. This product, applied at up to 24 fluid ounces per acre will control or suppress the growth of perennial weeds such as: bermudagrass, Canada thistle, common milkweed, field bindweed, hemp dogbane, horsenettle, nutsedge, quackgrass, rhizome johnsongrass, redivine, trumpet creeper, swamp smartweed, and wirestem muhly. For additional information on perennial weeds, see the "PERENNIAL WEED RATE TABLE" in this label.

**Preemergence followed by Postemergence Weed Control Program:** This product may be applied postemergence in-crop following any labeled preemergence herbicide application. The post application of this product should be made before the weeds reach a height and/or density that the weeds become competitive with the crop. A single in-crop application of this product at the specified rate will provide control of emerged weeds listed on the label. 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 (free standing), whichever comes first.

**Postemergence Only Weed Control Program:** This product may be applied alone as a postemergence in-crop application to provide control of emerged weeds listed on this label. The postemergence application of this product must be made before the weeds reach a height and/or density that the weeds become competitive with the crop. If new flushes of weeds occur, a sequential application of 18 to 24 fluid ounces per acre will control labeled grasses and broadleaf weeds. This product may be applied postemergence to Roundup Ready corn from emergence through the V8 stage or until corn height reaches 30 inches (free standing), whichever comes first.

This product may be applied in tank mixture with a labeled rate of Bullet, Harness, Harness Xtra, Harness Xtra 5.6L, Micro-Tech, Partner, Permit or Atrazine. Refer to the specific product label and observe all precautions and limitations on the label for all products used in

# GLYPHOSATE 5.4

# Specimen Label

tank mixtures, including application timing restrictions, soil restrictions, minimum recropping interval and rotational guidelines - the more restrictive requirements apply.

Tank-mix Partner	Maximum Height Of Corn For Application
Harness Harness Xtra Harness Xtra 5.6	11 inches
Bullet* Micro-Tech* Partner*	5 inches
Permit	24 inches
atrazine	12 inches

\*Bullet, Micro-Tech and Partner are not registered for use as a postemergence application in Texas.

## COTTON WITH THE ROUNDUP READY GENE

TYPES OF APPLICATIONS: Preplant, preemergence, at-planting, over-the-top, post-direct-ed, hooded sprayer, preharvest

ATTENTION: This product is for use only over-the-top or directed onto improved cotton varieties that are designated as cotton with the Roundup Ready gene. SEVERE INJURY OR DEATH OF COTTON WILL RESULT IF ANY COTTON VARIETIES NOT PROPERLY DESIGNATED AS HAVING THE ROUNDUP READY GENE ARE SPRAYED WITH THIS PRODUCT.

ROUNDUP READY COTTON VARIETIES MUST BE PURCHASED FROM AN AUTHORIZED LICENSED SEED SUPPLIER. THE DESIGNATION, "ROUNDUP READY," INDICATES THE COTTON VARIETY CONTAINS A PATENTED PROPRIETARY TRAIT.

USE INSTRUCTIONS:

### Maximum Allowable Yearly Rates

- |  |               |
|--|---------------|
| 1. Combined total per year for all applications      | 6 quarts/A    |
| 2. Preplant, Preemergence applications               | 3.75 quarts/A |
| 3. Total in-crop applications from cracking to layby | 3 quarts/A    |
| 4. Maximum preharvest application rate               | 1.5 quarts/A  |

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 fan nozzles. Check for even distribution of spray droplets.

For aerial applications apply this product in 3 to 15 gallons of water per acre.

The combined total application from crop emergence until harvest must not exceed 4.5 quarts per acre.

**Over-the-top applications:** This product may be applied by aerial or ground application equipment postemergence to Roundup Ready cotton from the ground cracking stage until the four leaf (node) stage of development (until the fifth true leaf reaches the size of a quarter). Over-the-top applications made after the four leaf (node) stage of development may result in boll loss, delayed maturity and/or yield loss. Any single over-the-top broadcast application should not exceed 24 fluid ounces per acre. No more than two over-the-top broadcast applications may be made from crop emergence through the four leaf (node) stage of development. Sequential over-the-top applications of this product must be at least 10 days apart and cotton must have at least two nodes of incremental growth between applications.

**Post-directed or hooded applications:** This product may be applied using precision post-directed or hooded sprayers to Roundup Ready cotton through layby. At this stage, post-directed equipment should be used which directs the spray to the base of the cotton plants. Contact of the spray with cotton leaves must 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). Any single post-directed application must not exceed 24 fluid ounces per acre of this product. No more than two applications can be made from the fifth leaf through layby. Sequential in-crop applications of this product must be at least 10 days apart and cotton must have at least two nodes of incremental growth between applications.

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 ACCORDANCE WITH THE LABEL SPECIFICATIONS. IN SOME CASES, THESE FACTORS CAN RESULT IN BOLL LOSS, DELAYED MATURITY AND/OR YIELD LOSS.

**Salvage Treatment:** This treatment may be used after the four leaf stage of development and must only be used where weeds threaten to cause the loss of the crop. 24 fluid ounces 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 MORE THAN ONE SALVAGE TREATMENT PER GROWING SEASON.

**Weeds controlled:** For specific rates of application and instructions for control of various weed species, refer to the "ANNUAL" and "PERENNIAL" weed rate tables of this label. This product applied at 24 fluid ounces per acre will burndown or suppress the growth of the following perennial weeds and reduce crop competition: yellow and purple nutsedge, rhizome johnsongrass, common bermudagrass, silverleaf nightshade, trumpet creeper, and redvine.

Fall preharvest applications may be required for control of these perennial weeds.

Some weeds with multiple germination times or suppressed (stunted) weeds may require sequential applications of this product for control.

**Preharvest applications:** This product may be applied for preharvest annual and perennial weed control as a broadcast treatment to Roundup Ready cotton after 20% boll crack. Allow a minimum of 7 days between application and harvest of cotton or feeding of cotton forage or hay.

NOTE: This product will not enhance the performance of harvest aids when applied to Roundup Ready cotton. DO NOT APPLY GLYPHOSATE 5.4 PREHARVEST TO CROPS GROWN FOR SEED.

## ROUNDUP READY FLEX COTTON

The instructions provided in this section are specific to, and must only be used with, varieties designated as Roundup Ready Flex cotton. Applications described in this section over the top of cotton other than Roundup Ready Flex cotton will cause crop injury and reduce yields. DO NOT combine the instructions in this section with those in the "Roundup Ready Cotton" section of this label, or with any other Roundup Ready cotton or Roundup Ready Flex cotton instructions on labeling for this or other glyphosate-containing products. Drift of this product from applications 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, Preemergence, Postemergence (In-crop), Preharvest

USE INSTRUCTIONS: Refer to the following table for maximum application rates of this product with Roundup Ready Flex cotton.

Maximum Application Rates	
Combined total per year for all applications	6 quarts per acre
Total of all Preplant, At-Planting, Preemergence applications	3.75 quarts per acre
Total of all In-crop applications from cracking to 60 percent open bolls	4.5 quarts per acre
Total of all In-crop applications between layby and 60 percent open bolls	1.5 quarts per acre
Total of all In-crop applications from 60 percent open bolls to 7 days prior to harvest	1.5 quarts per acre
Total of all In-crop applications from emergence through harvest	4.5 quarts per acre

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

TYPES OF APPLICATIONS: Preplant, At-Planting, Preemergence

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

TANK MIXTURES: This product may be tank-mixed with 2,4-D or Clarity and applied prior to planting only. This product may be tank-mixed with the following products and applied prior to crop emergence.

Ensure that the specific product being used is labeled for application prior to emergence of cotton. Read and follow label directions of all products in the tank mixture.

2,4-D,  
clomazone (Aim),  
dicamba,  
diuron (Direx, Karmex),  
flumioxan (Chateau, Valor),  
fluometuron (Cotoran, Meturon),  
fomesafen (Reflex),  
metolachlor,  
norflurazon (Solicam),  
s-metolachlor (Dual Magnum, Dual II Magnum),  
pendimethalin (Prowl, Prowl H2O),  
prometryn (Caparol, Cotton-Pro),  
pyrithiobac-sodium (Staple)

Maximum quantity of this product that may be applied for all preplant, at-planting and preemergence applications combined is 3.75 quarts per acre per season. Refer to individual tank-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

## Postemergence (In-crop)

USE INSTRUCTIONS: This product may be applied to control annual grasses and broadleaf weeds listed on this label. To maximize yield potential, eliminate competing weeds early. Many perennial weeds will be controlled or suppressed with one or more applications of this product. Use an initial application of 25 fluid ounces per acre on 1 to 3 inch tall annual grass 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 per acre per application. In addition to broadcast application, post-directed spray equipment may be used to achieve more thorough weed coverage.

TANK MIXTURES: This product may be tank-mixed with the following products and applied postemergence (in-crop) over the top of Roundup Ready Flex cotton. Ensure that the specific product being used is labeled for application postemergence (in-crop) to cotton. Read and follow label directions of all products in the tank mixture.



# GLYPHOSATE 5.4

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clethodim,  
fluaizop-P-butyl (Fusilade DX),  
fomesafen (Reflex),  
metolachlor (Stalwart),  
s-metolachlor (Dual Magnum),  
pyrithiobac-sodium (Staple),  
quizalofop-p-ethyl (Assure II),  
sethoxydim (Poast Plus),  
trifloxysulfuron-sodium (Envoke)

Staple may cause leaf yellowing and/or leaf crinkling when applied postemergence (in-crop) in Roundup Ready Flex cotton. Dual MAGNUM and Stalwart applied over the top of Roundup Ready Flex cotton may cause leaf injury in the form of necrotic spotting.

This product can be tank-mixed with the following products for in-crop application using precision post-directed or hooded sprayers. Ensure that the specific product being used is labeled for postemergence (in-crop) application to cotton. Read and follow label directions of all products in the tank mixture.

Refer to the individual tank-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.  
carfentrazone-ethyl (Aim),  
diuron (Direx),  
flumioxazin (Chateau, Valor),  
fluometuron (Cotoran),  
linuron (Layby-Pro),  
pendimethalin Prowl H2O,  
prometryn (Caparol),  
pyrithiobac-sodium (Staple),  
trifloxysulfuron-sodium (Envoke)

The maximum single, in-crop application rate of this product to Roundup Ready Flex cotton using ground application equipment is 36 fluid ounces per acre. In-crop application rates above 25 fluid ounces 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 maximum rate of 25 fluid ounces of this product per acre when making application by air. Between layby and 60 percent open bolls, the maximum combined total application rate of this product is 48 fluid ounces per acre. The maximum combined total of all application of this product made from crop emergence to 60 percent open bolls must not exceed 4.5 quarts per acre. **DO NOT ADD ADDITIONAL SURFACTANT OR ADDITIVES CONTAINING SURFACTANT TO THIS PRODUCT FOR OVER-THE-TOP APPLICATION TO ROUNDUP READY FLEX COTTON.**

## Preharvest

**USE INSTRUCTIONS:** This product may be applied to Roundup Ready Flex cotton at up to 48 fluid ounces per acre for annual and perennial weed control prior to harvest after 60 percent boll crack.

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

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, preemergence, at-planting, postemergence, preharvest, post-harvest

**USE INSTRUCTIONS:** When applied as directed, this product will control labeled annual grasses and broadleaf weeds in Roundup Ready soybeans. Many perennial grasses and broadleaf weeds will be controlled or suppressed with one or more applications of this product.

### Maximum Allowable Application Rates

- |   |                          |
|---|--------------------------|
| 1. Combined total per year for all applications                   | 6 quarts per acre        |
| 2. Preplant, Preemergence applications                            | 3.75 quarts per acre     |
| 3. Total in-crop applications from emergence throughout flowering | 2.25 quarts per acre     |
| 4. Maximum preharvest application rate                            | 24 fluid ounces per acre |

**RESTRICTIONS:** The combined total application from crop emergence through harvest must not exceed 2.25 quarts per acre. The maximum rate for any single in-crop application is 48 fluid ounces per acre. The maximum combined total of this product which can be applied during flowering is 48 fluid ounces per acre. Allow a minimum of 14 days between final application and harvest or feeding of soybean grain, forage or hay.

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

### Annual Weed Rate Tables

The following rates will provide control of labeled grasses and broadleaf weeds in conventional and no-till Roundup Ready soybean production systems. Refer to the "ANNUAL WEED RATE TABLES" of this label for rates for specific annual weeds.

Alligare, LLC will not warrant crop safety or weed control when Roundup Ready soybeans are treated with herbicides not specified on this label. Because of the potential for: 1) crop injury, 2) poor weed control from antagonism, and/or 3) rotational crop restrictions, herbicides

not specified on this label should not be used, whether applied preemergence or applied postemergence as a tank mixture with this product.

This product may be used up to 48 fluid ounces per acre in any single in-crop application for control of annual weeds, where heavy weed densities exist.

### Midwest/Mid-Atlantic Instructions

**Narrow row or drilled soybeans:** A single in-crop application of this product will provide effective control of labeled weeds. Use an initial application of 24 fluid ounces per acre, on 4-8" weeds. Weeds will generally be 4-8" tall 3 to 5 weeks after planting. If the initial application is delayed and weeds are 8-18" tall, use 36 fluid ounces per acre.

**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 at 18 to 24 fluid ounces per acre may be necessary to control late flushes of weeds.

**Wide row soybeans:** An in-crop application of this product will provide effective control of the initial stand of labeled weeds. Use an initial application of 24 fluid ounces per acre, on 4-8" weeds. Weeds will generally be 4-8" tall 3 to 5 weeks after planting. If new flushes of weeds occur, they can be controlled by sequential applications of this product.

### Initial and Sequential (if needed) Applications

Weed Height (inches)	Rate (fl oz/A)
1-3	18
4-8	24
8-18	36

**Giant ragweed:** Apply 24 fluid ounces per acre when the weed is 8-12" tall to avoid the need for sequential application.

**Black nightshade, Pennsylvania smartweed, ladythumb smartweed, velvetleaf and water-hemp:** Apply 24 fluid ounces per acre to weeds 3-6" tall and 36 fluid ounces per acre when weeds are up to 12 inches tall. For Morningglory species apply 24 fluid ounces per acre when weeds are up to 4 inches tall, and 36 fluid ounces per acre when weeds are up to 6 inches tall.

Some weeds, such as black nightshade, woolly cupgrass, shattercane, wild proso millet, burcumber, and giant ragweed, with multiple germination times may require a sequential application of this product. Suppressed or stunted weeds may also require sequential applications. Sequential applications should be made after some regrowth has occurred. Use a minimum of 18 fluid ounces of this product per acre for sequential applications.

### Southeast Instructions

**Narrow row, drilled, or wide-row soybeans:** An in-crop application of this product will provide effective control of the initial stand of labeled weeds. Use an initial application of 24 fluid ounces per acre, on 3-6" weeds. Weeds will generally be 3-6" tall 2 to 3 weeks after planting.

### Initial Treatment

Weed Height (inches)	Rate (fl oz/A)
3-6	24
6-12	36

**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 at 12 to 24 fluid ounces per acre may be necessary to control late flushes of weeds.

### Sequential Application (if needed)

Weed Height (inches)	Rate (fl oz/A)
2-3	12
3-6	18
6-12	24

**Florida pusley, hemp sesbania, and spurred anoda:** Apply 24 fluid ounces per acre to weeds 2-4" for the initial application. Apply 24 fluid ounces per acre when these weeds are 3-6" tall if a sequential application is necessary.

**Morningglory, black nightshade, groundcherry, and Pennsylvania smartweed:** Apply 18 fluid ounces per acre on 1-3" weeds, 24 fluid ounces per acre on 3-6" weeds, or 36 fluid ounces per acre on 6-12" weeds for the initial application.

Some weeds, such as black nightshade, broadleaf signalgrass, Texas Panicum, burcumber, and sicklepod, with multiple germination times may require a sequential application of this product. Suppressed or stunted weeds may also require sequential applications. Sequential applications of this product should be made after some regrowth has occurred. Use a minimum of 12 fluid ounces of this product per acre for sequential applications.

### Delta/Mid-South Instructions

**Narrow row, drilled or wide row soybeans:** An in-crop application of this product will provide effective control of the initial stand of labeled weeds. A sequential application will be required to control new flushes of weeds. Use an initial application of 24 fluid ounces per acre, on 2-4" weeds. Weeds will generally be 2-4" tall 2 to 3 weeks after planting.

### Initial Treatment

Weed Height (inches)	Rate (fl oz/A)
2-4	24
5-12	36

### Sequential Application

Weed Height (inches)	Rate (fl oz/A)
2-3	12
3-6	18
6-12	24

# GLYPHOSATE 5.4

# Specimen Label

Hemp sesbania and spurred anoda: Apply a sequential treatment of 24 fluid ounces per acre on 3-6" weeds if necessary.

Some weeds, such as black nightshade, broadleaf signalgrass, Texas Panicum, burcumber, and sicklepod, with multiple germination times may require a sequential application of this product. Suppressed or stunted weeds may also require sequential applications. Sequential applications should be made after some regrowth has occurred. Use a minimum of 12 fluid ounces of this product per acre for sequential applications.

## Perennial Weeds Rate Instructions

A 24 to 48 fluid ounces 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, marestalk (horseweed), nutsedge, quackgrass, rhizome johnsongrass, redvine, trumpetcreeper, swamp smartweed, and wirestem muhly.

Allow perennial weed species to achieve at least 6" of growth before spraying with this product.

## ALFALFA WITH THE ROUNDUP READY GENE

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY CROPS), DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "USE INFORMATION" AND "MIXING" sections of this label for essential product performance information.

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

The Roundup Ready designation indicates that the alfalfa contains a patented gene, which provides tolerance to this product.

Information on Roundup Ready alfalfa varieties may be obtained from your seed supplier or Alligare, LLC representative. Roundup Ready crop varieties must be purchased from an authorized licensed seed supplier.

See the "ROUNDUP READY CROPS" section of this label for precautionary instructions for use in Roundup Ready crops. Do NOT combine these instructions with other directions made for crop varieties that do not contain a Roundup Ready gene listed in the "AGRICULTURAL USES" section of this label.

## Application Instructions

This product will control many troublesome emerged weeds with over-the-top applications in Roundup Ready alfalfa. Allow a minimum of 5 days between the last application and grazing, or, cutting and feeding of alfalfa forage and hay.

For ground applications with broadcast equipment, apply this product in 3 to 40 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 fan nozzles. Check for even distribution of spray droplets.

**For aerial application:** Use the directed rates of this product in 3 to 15 gallons of spray solution per acre.

DO NOT EXCEED 1.5 QUARTS OF THIS PRODUCT PER ACRE WHEN MAKING APPLICATIONS BY AIR. AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS WHICH DO NOT CONTAIN A ROUNDUP READY GENE. Do not apply during low-level inversion conditions, when winds are gusty or under any other conditions that favor 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.

See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of the label booklet for procedures to avoid spray drift that may cause injury to any vegetation not intended for treatment.

**Sprayer Preparation:** It is important that sprayer and mixing equipment be clean and free of pesticide residue before making applications of this product to Roundup Ready alfalfa. Follow the cleaning procedures specified on the label of the product(s) used. Alfalfa can be very sensitive to many herbicides at extremely low concentrations and care should be taken to thoroughly clean all equipment prior to use.

**Types of applications:** Preplant, At-planting, Preemergence and Postemergence.

## MAXIMUM ALLOWABLE APPLICATION RATES

Combined total per year for all applications, including preplant during year of establishment	5.75 quarts per acre
Combined total per year for in-crop applications for newly established and established stands	4.5 quarts per acre (144 fl. oz. per acre)
Preplant, At-planting and Preemergence single applications	1.5 quarts per acre

## A. New Stand Establishment (seeding year)

Prior to First Cutting During New Stand Establishment

From emergence up to 4 trifoliolate leaves	1.5 quarts per acre
From 5 trifoliolate leaves up to 5 days before first cutting	1.5 quarts per acre

After First Cutting in Newly Established Stands:

In-crop application, per cutting, up to 5 days before cutting.	1.5 quarts per acre
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## B. Established Stands (non-seeding year)

In-crop application, per cutting, up to 5 days before cutting. 1.5 quarts per acre

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

**Over-the-top applications:** This product may be applied postemergence to Roundup Ready alfalfa from emergence until 5 days prior to cutting. Any single over-the-top application of this product should not exceed 1.5 quarts per acre. Sequential applications of this product should be at least 7 days apart.

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

During stand establishment, due to the biology and breeding constraints of alfalfa, up to 10 percent of the seedlings may not contain a 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, a single application of at least 0.75 quart per acre of this product should be applied 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, applications of this product should be made after weeds have emerged but before alfalfa growth or re-growth interferes with application spray coverage of the target weeds.

**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 TABLE" in 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 booklet, 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:** Any single over-the-top application of this product must not exceed 1.5 quarts (48 fluid ounces) per acre. Sequential applications of this product should be at least 7 days apart. The combined total per year for all in-crop applications in newly established and established stands must not exceed 4.5 quarts (144 fluid ounces) per acre. 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.

For over-the-top uses on Roundup Ready crop varieties, crop safety and weed control performance are not warranted by Alligare, LLC when this product is used in conjunction with "brown bag" or "big run" seed saved from previous year's production and replanted.

## ROUNDUP READY SUGAR BEETS

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

## MAXIMUM ALLOWABLE APPLICATION RATES

Combined total per year for all applications	192 fluid ounces per acre
Preplant, Preemergence applications	120 fluid ounces per acre
Emergence to 8-leaf stage	60 fluid ounces per acre
Between 8-leaf stage and canopy closure	48 fluid ounces per acre

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

## Preplant, Preemergence, At-planting

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

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

## Postemergence (In-crop)

**USE INSTRUCTIONS:** This product may be applied postemergent over-the-top to Roundup Ready sugar beets 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. Refer to the "ANNUAL WEEDS RATE TABLE" in this label for the labeled rates for specific annual weeds. 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:** The combined total application from crop emergence through harvest must not exceed 108 fluid ounces per acre. The maximum rate for any single application between emergence to the 8 leaf stage is 36 fluid ounces per acre. The maximum rate for any single application between the 8 leaf stage and canopy closure is 24 fluid ounces per acre. Allow a minimum of 30 days between last application and sugar beet harvest. For any crop not listed in on this label, applications must be at least 30 days prior to planting.

## FARMSTEADS

**TYPES OF APPLICATIONS:** Nonselective weed control, trim-and-edge, chemical mowing, cut stumps, habitat management.

Nonselective weed control, Trim-and-edge

**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,

# GLYPHOSATE 5.4

# Specimen Label

along and in fences, in dry ditches and canals, along ditchbanks, farm roads, shelterbelts, prior to landscape plantings and equipment storage areas.

This product may be tank mixed with the following products. Refer to these product labels for approved farmstead sites and application rates. For annual weeds, use 1.5 pints per acre of this product when weeds are less than 6 inches tall and 2.25 pints per acre when weeds are greater than 6 inches tall. For perennial weeds, apply 3 to 7.5 pints 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 "HAND-HELD AND HIGH VOLUME EQUIPMENT" section of this label for labeled rates.

Arsenal®	Plateau®
Banvel®	Princep® DF
Barricade® 65WG	Princep® Liquid
Diuron	Ronstar® 50 WP
Endurance®	Sahara®
Escort®	Simazine
Karmex® DF	Surflan®
Krovar® I DF	Telar®
Oust®	Vanquish®
Pendulum® 3.3 EC	2,4-D
Pendulum® WDG	

Banvel mixtures may not be applied by air in California.

## Greenhouse/Shadehouse

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

## Chemical Mowing

USE INSTRUCTIONS: This product will suppress perennial grasses listed in this section to serve as a substitute for mowing. Apply this product at a rate of 4.5 to 6 fluid ounces per acre. Use 6 fluid ounces of this product per acre when treating tall fescue, fine fescue, orchardgrass or quackgrass covers. Use 4.5 fluid ounces of this product per acre when treating Kentucky bluegrass. 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.

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

## Cut Stumps

TYPES OF APPLICATIONS: 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 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 must be made during periods of active growth and full leaf expansion.

Alder	Salt-cedar
Eucalyptus	Sweetgum
Madrone	Tan oak
Oak	Willow
Reed, giant	

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. INJURY RESULTING FROM ROOT GRAFTING MAY OCCUR IN ADJACENT WOODY BRUSH OR TREES.

## Habitat Management

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 broadspectrum 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 section of the 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.

## Rangelands

TYPES OF APPLICATIONS: Postemergence

USE INSTRUCTIONS: 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.

RESTRICTIONS: Do not use ammonium sulfate when spraying rangeland grasses with this product. Do not make more than one application per year.

## Postemergence

Apply 9-12 fluid ounces of this product to control or suppress many weeds, including downy brome, cheat grass, cereal rye and jointed goatgrass in rangelands. Apply when most mature 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.

Apply 12 fluid ounces when the medusahead has reached the 3-leaf stage. Delaying applications beyond this stage will result in reduced or unacceptable control. Fire 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.

## SILVICULTURAL SITES AND UTILITY RIGHTS-OF-WAY

TYPES OF APPLICATIONS: This product is labeled for the control or partial control of woody brush, trees and herbaceous weeds. This product is labeled for use in forestry and utility sites. This product can also be used for use in preparing or establishing wildlife openings within these sites and maintaining logging roads, and for side trimming along utility rights-of-way.

In forestry, use this product for site preparation prior to planting any tree species, including Christmas trees and silvicultural nursery sites.

In utilities, this product can be used along electrical power, pipeline and telephone rights-of-way, and in other utility sites associated with these rights-of-way, such as substations.

## APPLICATION RATES AND TIMING:

Application	Glyphosate 5.4	Spray Volume (Gal/A)
<b>Broadcast</b>		
Aerial	1.5 to 7.5 qts./A	5 to 30
Ground	1.5 to 7.5 qts./A	10 to 60
<b>Spray-to-Wet</b>		
Handgun, Backpack, Mistblower	0.6% to 2% by volume	spray-to-wet
<b>Low Volume Directed Spray</b>		
Handgun, Backpack, Mistblower	4% to 7.5% by volume	partial coverage*

\*For low volume directed spray applications, 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.

In forestry site preparation and utility rights-of-way applications, this product requires use with a nonionic surfactant. Use a nonionic surfactant with greater than 80 percent active ingredient and labeled for use with herbicides. Use of this product without surfactant will result in reduced performance. Refer to the "MIXING" section of this label for more information.

Mix 2 or more quarts of the nonionic surfactant per 100 gallons of spray solution (0.5 percent or more by spray volume). Do not use surfactant concentrations greater than 1.5 percent by spray volume with handgun applications or 2.5 percent by spray volume with broadcast applications.

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.

This product has no herbicidal or residual activity in the soil. Where repeat applications are necessary, do not exceed 8 quarts of this product per acre per year.

## 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 both products used. Use according to the most restrictive precautionary statements for each product in the mixture. Any listed rate of this product may be used in a tank mix.

NOTE: For forestry site preparation, make sure the tank-mix product is approved for use prior to planting the desired species. Observe planting interval restrictions. For side trimming treatments in utility rights-of-way, do not use tank mixtures with Arsenal® 2WSL. For side trimming treatments, use this product alone, or as a tank mixture with Garlon® 4 or Triclopyr 4 EC.

# GLYPHOSATE 5.4

# Specimen Label

Product	Broadcast Rate	Use Sites
Arsenal® Applicators Concentrate or Imazapyr 4 SL**	2 to 16 fl. oz./A	Forestry site preparation
Chopper® or Rotary**	4 to 32 oz./A	Forestry site preparation
Escort*** or Metsulfuron Methyl DF**	½ to 3 ½ oz./A	Forestry site preparation
Oust® or SFM 75	1 to 4 oz./A	Forestry site preparation, Utility sites
Garlon® 3A*, Garlon® 4, Triclopyr 4 EC**, Triclopyr 3A**	1 to 4 qts.	Forestry site preparation, Utility sites
Arsenal® 2WSL**	4 to 32 fl. oz./A	Utility sites

Product	Spray-to-Wet Rates	Use Sites
Arsenal® Applicators Concentrate or Imazapyr 4 SL**	1/32 % to ½ % by volume	Forestry site preparation
Arsenal® 2WSL**	1/16 % to ½ % by volume	Utility sites

Product	Low Volume Directed Spray Rates	Use Sites
Arsenal® Applicators Concentrate or Imazapyr 4 SL**	1/8 % to ½ % by volume	Forestry site preparation or Utility sites
Arsenal® 2WSL**	1/8 % to ½ % by volume	Utility sites

\*Ensure that Garlon® 3A (or Triclopyr 3A) 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 compatibility problems.

\*\*Not registered in the state of California.

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.

## FORESTRY CONIFER AND HARDWOOD RELEASE

### Directed Spray and Selective Equipment

This product may be applied as a directed spray or by using selective equipment in forestry conifer and hardwood sites, including Christmas tree plantations and silvicultural nurseries. Mix 2 to 6 quarts of a nonionic surfactant per 100 gallons of spray solution (0.5 to 1.5 percent by spray volume) for all spray applications. Use a surfactant with greater than 80 percent active ingredient.

In hardwood plantations, tank mixtures with Oust® (or SFM 75) may be used. In pine plantations, tank mixtures with Garlon® 4 (or Triclopyr 4 EC) or Arsenal® AC (or Imazapyr 4 SL) may be used. Comply with all site restrictions, forestry species limitations and precautions on the tank mix product label.

Avoid contact of spray, drift, mist or drips with foliage, green bark or non-woody surface roots of desirable species.

See all sections in the "APPLICATION EQUIPMENT AND TECHNIQUES" portion of this label for specific equipment and precautions.

For spray-to-wet applications, use a 1.5 percent spray solution for the control of undesirable woody brush and trees. To control herbaceous weeds, use a 0.75 to 1.5 percent solution.

For low volume directed spray applications, use a 4 to 7.5 percent spray solution. Coverage should be uniform with at least 50 percent of the foliage contacted. Coverage of the top one-half of the unwanted vegetation is important.

For equipment calibrated for broadcast applications, use 1.5 to 7.5 quarts of this product per acre. Apply in 10 to 60 gallons of clean water per acre. Shielded application equipment may be used to avoid contact of the spray solution with desirable plants. Shields should be adjusted to prevent spray contact with the foliage or green bark of desirable vegetation.

Wiper application equipment may be used. 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.

Use a nonionic surfactant at a rate of 10 percent by volume of total herbicide solution with all wiper applications.

For Rope or Sponge Wick Applicators – Mix 3 quarts of this product in 2 gallons of water to prepare a 25 percent solution. Apply this solution to weeds listed in this section.

For Porous-Plastic Applicators – Solutions ranging from 25 to 100 percent of this product in water may be used in porous-plastic wiper applicators.

### Broadcast Spray

Except where specified below, use only where conifers have been established for more than one year.

**Application must be made after formation of final conifer resting buds in the fall or prior to initial bud swelling in the spring.**

Injury may occur to conifers treated for release, especially where spray patterns overlap or the higher rates are applied. Damage can be accentuated if applications are made when conifers are actively growing, or are under stress from drought, flood water, improper planting, insects, animal damage or diseases.

This product may require use with a surfactant. Follow the instructions under the "MIXING AND APPLICATION INSTRUCTIONS" portion of this label.

### For release of the following conifer species outside the Southeastern United States:

<b>Douglas fir</b>	<b>Pines*</b>
<i>Pseudotsuga menziesii</i>	<i>Pinus spp.</i>
<b>Fir</b>	<b>Redwood, California**</b>
<i>Abies spp.</i>	<i>Sequoia spp.</i>
<b>Hemlock**</b>	<b>Spruce</b>
<i>Tsuga spp.</i>	<i>Picea spp.</i>

\*Includes all species except loblolly pine, longleaf pine, shortleaf pine or slash pine.

\*\*Do not use a surfactant for release of hemlock species or California redwood. In mixed conifer stands, injury to these species may result if a surfactant is used.

Apply 0.75 to 1.5 quarts of this product per acre as a broadcast spray.

**Note:** For release of Douglas fir with this product or specified tank mixtures of this product, Entry™ II or a nonionic surfactant labeled for over-the-top foliar sprays may be used. To avoid possible conifer injury, Entry™ II rates should not exceed 20 fluid ounces per acre at elevations above 1500 feet, or 10 fluid ounces per acre in the coastal range or at elevations below 1500 feet in Washington and Oregon. Nonionic surfactants may be used at 2 fluid ounces per acre at elevations above 1500 feet, or 1 fluid ounce per acre in the coastal range or at elevations below 1500 feet. Use of surfactant rates exceeding those listed above may result in unacceptable conifer injury and are not recommended. Ensure that the nonionic surfactant has been adequately tested for Douglas fir safety before use.

In Maine, up to 2.25 quarts per acre of this product or a tank mix with 1 fl. oz./A of Arsenal® Applicators Concentrate (or Imazapyr 4 SL) may be used for the control of difficult species.

To release Douglas fir, pine and spruce species at the end of the first growing season (except in California), apply 0.75 to 1.125 quarts of this product per acre. Ensure that the conifers are well hardened off.

**Oust® (or SFM 75) Tank Mixtures** – To release jack pine, white pine and white spruce, apply 0.75 to 1.5 quarts of this product with 1 to 3 fl. oz. (1 to 1.5 for white pine) of Oust® (or SFM 75) per acre. Make applications to actively growing weeds as a broadcast spray over the top of established conifers. Applications at these rates should be made after formation of conifer resting buds in the late summer or fall.

**Arsenal® Applicators Concentrate (or Imazapyr 4 SL) Tank Mixtures** – This product may be tank mixed with Arsenal® Applicators Concentrate (or Imazapyr 4 SL) for release of Douglas fir. Use 0.75 to 1.125 quarts of this product tank mixed with 2 to 6 fluid ounces of Arsenal® (or Imazapyr 4 SL) per acre. For release of balsam fir and red spruce, apply a mixture of 1.5 quarts of this product and 1 to 2.5 fluid ounces of Arsenal® Applicators Concentrate (or Imazapyr 4 SL) per acre.

### For release of the following conifer species in the Southeastern United States:

<b>Eastern white pine</b>	<b>Shortleaf pine</b>
<i>Pinus strobus</i>	<i>Pinus echinata</i>
<b>Loblolly pine</b>	<b>Slash pine</b>
<i>Pinus taeda</i>	<i>Pinus elliottii</i>
<b>Longleaf pine</b>	<b>Virginia pine</b>
<i>Pinus palustris</i>	<i>Pinus virginiana</i>

Apply 1.125 to 1.875 quarts of this product per acre as a broadcast spray during late summer or early fall after the conifers have hardened off. For applications at the end of the first growing season, use 0.75 quart per acre of this product alone or in a recommended tank mixture.

**Arsenal® Applicators Concentrate (or Imazapyr 4 SL) Tank Mixtures** – Apply 0.75 to 1.5 quarts of this product with 2 to 16 fluid ounces of Arsenal® Applicators Concentrate (or Imazapyr 4 SL) per acre as a broadcast spray for conifer release. Use only on conifer species that are labeled for over-the-top sprays for both products. Use the higher specified rates for dense, tough-to-control woody brush and trees.

Read and carefully observe the label claims, cautionary statements and all information on the labels of each product used in these tank mixtures. Use according to the most restrictive precautionary statements for each product in the mixture.

## HERBACEOUS RELEASE

When applied as directed, this product plus listed residual herbicides provides postemergence control of the annual weeds and control or suppression of the perennial weeds listed in this label, and residual control of the weeds listed in the residual herbicide label. Make applications to actively growing weeds as a broadcast spray over the top of labeled conifers.

**Oust® (or SFM 75) Tank Mixtures** – To release loblolly pines, apply 12 to 18 fluid ounces of this product, plus 2 to 4 ounces of Oust® (or SFM 75) per acre. To release slash pines, apply 9 to 12 fluid ounces of this product, plus 2 to 4 ounces of Oust® (or SFM 75) per acre.

Mix up to 3.2 fluid ounces per acre of Entry™ II with the specified rate of this product plus Oust® (or SFM 75). Applications can be made over newly planted pines after the emergence



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of herbaceous weeds in the spring or early summer. Best results are obtained from applications made in May and June.

Weed control may be reduced if water volumes exceed 25 gallons per acre for these treatments.

**Atrazine Tank Mixtures** – To release Douglas fir, apply 0.75 quart of this product, plus 4 pounds active ingredient of atrazine per acre. Apply only over Douglas fir that has been established for at least one full growing season. Apply in the early Spring, usually mid-March through early April. Injury will occur if applications are made after bud swell in the Spring. Do not add surfactant to this mix for this use.

Always read and follow the manufacturer's label recommendations for all herbicides and surfactants used.

### ANNUAL WEEDS RATE TABLES ALPHABETICALLY BY SPECIES

Use water carrier volumes of 3 to 10 gallons per acre for ground applications and 3 to 5 gallons per acre for aerial applications.

Apply to actively growing annual weeds.

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. For those rates less than 36 fluid ounces per acre, this product may be used up to 36 fluid ounces per acre where heavy weed densities exist.

Refer to this map for location of the regions listed in the annual weed tables below.



### ANNUAL WEEDS RATE TABLE, NORTH AND SOUTH REGIONS

WEED SPECIES	REGION	RATE (FLUID OUNCES PER ACRE)					
		9	12	18	24	30	36
		MAXIMUM HEIGHT/LENGTH					
Annoda, spurred		-	1"	2"	3"	5"	8"
Barley		-	18"	18"+	-	-	-
Barnyardgrass	South	-	3"	5"	7"	9"	12"
	North	-	-	6"	12"	-	-
Bassia, fivehook		-	-	-	6"	-	-
Bittercress		-	12"	20"	-	-	-
Bluegrass, annual		-	10"	-	-	-	-
Brome, downy		6"	-	-	-	-	-
Brome, Japanese		-	6"	-	24"	-	-
Browntop panicum		-	6"	8"	12"	-	24"
Burcucumber		-	-	6"	12"	-	-
Buttercup		-	12"	20"	-	-	-
Carolina foxtail		-	20"	-	-	-	-
Carolina geranium		-	-	-	4"	-	9"
Carpetweed		-	-	6"	12"	-	-
Cheat		-	6"	20"	-	-	-
Chervil		-	20"	-	-	-	-
Chickweed		-	12"	18"	-	-	-
Cocklebur		-	12"	18"	24"	-	-
Copperleaf, hophornbeam		-	1"	2"	3"	4"	6"
Copperleaf, Virginia		-	1"	2"	3"	4"	6"
Corn		-	12"	20"	-	-	-
Corn speedwell		-	12"	-	-	-	-
Crabgrass		-	12"	18"	-	-	-
Cutleaf evening primrose		-	-	-	3"	3"	6"
Dwarf dandelion		-	20"	-	-	-	-
Eastern manna grass		-	8"	12"	-	-	-
Eclipta		-	4"	8"	12"	-	-
Fall panicum	South	-	4"	6"	8"	12"	24"
	North	-	6"	12"	18"	-	-
Falsedandelion		-	20"	-	-	-	-
Falseflax, smallseed		-	12"	-	-	-	-
Fiddleneck		-	-	-	6"	6"	12"
Field pennycress		-	6"	12"	-	-	-
Filaree		-	-	-	-	-	12"
Fleabane, annual		-	6"	20"	-	-	-
Fleabane, hairy ( <i>Conyza bonariensis</i> )		-	6"	-	-	-	-
Fleabane, rough		-	3"	6"	12"	-	-
Florida pusley		-	-	-	4"	4"	6"
Foxtail	South	-	8"	12"	20"	-	-
	North	18"	18"+	-	-	-	-

WEED SPECIES	REGION	RATE (FLUID OUNCES PER ACRE)					
		9	12	18	24	30	36
		MAXIMUM HEIGHT/LENGTH					
Goatgrass, jointed		-	6"	-	-	-	-
Goosegrass		-	3"	5"	8"	-	18"
Grain sorghum (milo)		-	6"	12"	20"	-	-
Groundsel, common		-	6"	-	-	-	-
Hemp sesbania		-	-	2"	4"	6"	8"
Henbit		-	-	-	6"	-	20"
Horseweed/Marestail ( <i>Conyza canadensis</i> )	South	-	-	12"	30"	-	-
	North	-	6"	12"	18"	-	-
Itchgrass		-	6"	12"	18"	-	-
Johnsongrass, seedling	South	-	-	18"	-	-	-
	North	-	12"	18"	-	-	-
Junglerice		-	3"	5"	7"	9"	12"
Knotweed		-	3"	8"	12"	-	20"
Kochia <sup>1</sup>		-	3 to 6"	12"	-	-	-
Lambsquarters		-	6"	8"	12"	-	20"
Little barley		-	20"	-	-	-	-
London rocket		-	6"	-	-	-	-
Mayweed		-	-	2"	6"	12"	18"
Morningglory ( <i>Lpomoea spp.</i> )		-	-	2"	4"	-	6"
Mustard, blue		6"	-	-	-	-	-
Mustard, tansy		6"	12"	20"	-	-	-
Mustard, tumble		6"	-	-	-	-	-
Mustard, wild		6"	12"	18"	-	-	-
Nightshade, black		-	6"	12"	-	-	-
Nightshade, hairy		-	6"	12"	-	-	-
Oats		-	-	6"	20"	-	-
Pigweed		-	12"	18"	24"	-	-
Prickly lettuce		-	6"	12"	20"	-	-
Purslane		-	-	-	6"	6"	12"
Ragweed, common	South	-	4"	6"	8"	-	11"
	North	-	6"	12"	18"	-	-
Ragweed, giant		-	-	4"	6"	-	11"
Red rice		-	-	-	4"	-	-
Russian thistle		-	-	-	6"	-	-
Rye	South	-	6"	20"	60"	-	-
	North	-	18"	18"+	-	-	-
Ryegrass		-	-	-	6"	-	7"+
Sandbur, field		12"	-	-	-	-	-
Shattercane		-	12"	18"	-	-	-
Shepherdspurse		-	6"	12"	-	-	-
Sicklepod		-	-	2"	4"	-	8"
Signalgrass, broadleaf		-	3"	5"	7"	9"	12"
Smartweed, ladysthumb		-	4"	6"	8"	-	12"
Smartweed, Pennsylvania		-	4"	6"	8"	-	12"
Sowthistle, annual		-	-	-	6"	-	12"
Spanishneedles		-	-	-	8"	-	18"
Speedwell, purslane		-	12"	-	-	-	-
Sprangletop		-	6"	12"	20"	-	-
Spurge, prostrate		-	6"	12"	20"	-	-
Spurge, spotted		-	6"	12"	20"	-	-
Spurry, umbrella		6"	-	-	-	-	-
Stinkgrass		12"	-	-	-	-	-
Sunflower		-	12"	18"	-	-	-
Teaweed/Prickly sida		-	1"	2"	3"	4"	6"
Texas panicum		-	6"	8"	12"	-	24"
Velvetleaf	South	-	2"	3"	4"	5"	8"
	North	-	3"	6"	12"	-	-
Virginia pepperweed		-	18"	-	-	-	-
Waterhemp		-	-	6"	12"	-	-
Wheat	South	-	6"	30"	-	-	-
	North	-	18"	18"+	-	-	-
Wheat (overwintered)		-	6"	18"	-	-	-
Wild Proso Millet		-	-	6"	12"	12"	18"
Witchgrass		-	12"	-	-	-	-
Woolly cupgrass		-	6"	12"	-	-	-
Yellow rocket		-	-	12"	20"	-	-

<sup>1</sup>Do not treat kochia in the button stage.

### ANNUAL WEEDS RATE TABLE, WEST REGION

WEED SPECIES	RATE (FLUID OUNCES PER ACRE)				
	9	12	18	24	36
	MAXIMUM HEIGHT/LENGTH				
Barley	12"	-	-	-	-
Barnyardgrass	6"	-	-	-	-
Bluegrass, annual	6"	-	-	-	-
Bluegrass, bulbous	-	6"	-	-	-
Brome, downy <sup>1</sup>	6"	-	-	-	-
Buttercup	-	12"	-	-	-
Cheat	-	6"	-	-	-
Chickweed	-	6"	-	-	-
Cocklebur	-	12"	-	-	-
Corn	-	6"	-	-	-
Crabgrass	-	12"	-	-	-
Dwarf dandelion	-	12"	-	-	-

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WEED SPECIES	RATE (FLUID OUNCES PER ACRE)				
	9	12	18	24	36
	MAXIMUM HEIGHT/LENGTH				
Fall panicum	-	12"	-	-	-
Falseflax, smallseed	-	12"	-	-	-
Field pennycress	-	6"	-	-	-
Filaree	-	-	-	-	12"
Fleabane, hairy ( <i>Conyza bonariensis</i> )	-	6"	-	-	-
Florida pusley	-	-	-	12"	-
Foxtail	-	6 fl. oz. for up to 12"			
Goatgrass, jointed	-	6"	-	-	-
Groundsel, common	-	6"	-	-	-
Henbit	-	6"	-	-	-
Horseweed/Marestail ( <i>Conyza canadensis</i> )	-	6"	-	-	-
Johnsongrass, seedling	-	12"	-	-	-
Lambsquarters	-	6"	-	-	-
London rocket	-	6"	-	-	-
Morningglory ( <i>Lpomoea spp.</i> )	-	2"	-	-	-
Mustard, blue	6"	-	-	-	-
Mustard, tansy	6"	-	-	-	-
Mustard, tumble	6"	-	-	-	-
Mustard, wild	6"	-	-	-	-
Pigweed	-	12"	-	-	-
Rye	12"	-	-	-	-
Ryegrass, Italian	-	6"	-	-	-
Sandbur, field	12"	-	-	-	-
Shattercane	12"	-	-	-	-
Shepherdspurse	-	6"	-	-	-
Sowthistle, annual	-	6"	-	-	-
Spurge, annual	-	6"	-	-	-
Stinkgrass	12"	-	-	-	-
Texas panicum	-	12"	-	-	-
Wheat	18"	-	-	-	-
Wild oats	-	12"	-	-	-
Witchgrass	-	12"	-	-	-

\*For control of Downy brome in no-till systems, use 12 fluid ounces per acre.

### Annual Weeds – Water Carrier Volumes of 10 to 40 Gallons Per Acre

Apply 1 ½ pints to 2 ¼ pints of this product per acre. Use 1 ½ pints per acre if weeds are less than 6 inches tall and 2 ¼ pints per acre if weeds are over 6 inches tall.

These rates will provide control of weeds listed in the annual weed control tables when water carrier volumes are 10 to 40 gallons per acre for ground applications.

### Annual Weeds – Tank Mixtures with 2,4-D or Banvel®

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

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

9 fluid ounces of this product plus 0.25 pounds a.i. of Banvel® or 0.5 pounds a.i. of 2,4-D per acre will control foxtail up to 18".

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

DO NOT APPLY BANVEL TANK MIXTURES BY AIR IN CALIFORNIA.

### 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 specified stages.

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.

Do not treat when weeds are under drought stress as good soil moisture is necessary for active growth.

Weed Species	Rate (PT/A)	Water Volume	Hand-Held % Solution	Comments
Alfalfa	1.5-3	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. Applications should be followed with deep tillage at least 7 days after treatment, but before soil freeze-up.
Alligatorweed	6	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.
Bahiagrass	4.5-7.5	3-20	1.5%	Apply when most plants have reached the early head stage.
Bentgrass	2.25	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 produces the best results.
Bermudagrass	4.5-7.5	3-20	1.5%	For control, apply 7.5 pints of this product per acre. For partial control, apply 4.5 pints per acre. Treat when bermudagrass is actively growing and seedheads are present. Retreatment may be necessary to maintain control.
Bermudagrass, water (knotgrass)	1.5-2.25	5-10	1.5%	Apply 2.25 pints 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 1.5 pints 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.
Bindweed, field	0.75-7.5	3-20	1.5%	Do not treat when weeds are under drought stress as good soil moisture is necessary for active growth. For control, apply 6 to 7.5 pints of this product per acre west of the Mississippi River and 4.5 to 6 pints east of the Mississippi River. Apply when the 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. Also for control, apply 3 pints of this product plus 0.5 pounds a.i. of Banvel® in 10 to 20 gallons of water per acre. Do not apply by air. For suppression on irrigated agricultural land, apply 1.5 to 3 pints 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. For suppression, apply 12 fluid ounces of this product plus 0.5 pound a.i. 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. In California only, apply 1.5 to 7.5 pints 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 1.5 pints 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 maximum weed emergence and runner growth. Allow 3 or more days after application before tillage.
Bluegrass, Kentucky	1.5-3	3-40	1.5%	Apply 3 pints of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seed-head stage of development. For partial control in pasture or hay crop renovation, apply 1.5 to 2.25 pints 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.
Blueweed, Texas	4.5-7.5	3-40	1.5%	Apply 6 to 7.5 pints of this product per acre west of the Mississippi River and 4.5 to 6 pints 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.
Brackenfern	4.5-6	3-40	0.75-1.5%	Apply to fully expanded fronds which are at least 18 inches long.
Bromegrass, smooth	1.5-3	3-40	1.5%	Apply 3 pints of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seed-head stage of development. For partial control in pasture or hay crop renovation, apply 1.5 to 2.25 pints 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, woolly-leaf	-	3-20	1.5%	For control, apply 3 pints of this product plus 1 pint of Banvel® per acre. For partial control, apply 1.5 pints of this product plus 1 pint of Banvel® 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.

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# Specimen Label

Weed Species	Rate (PT/A)	Water Volume	Hand-Held % Solution	Comments
Canarygrass, reed	3-4.5	3-40	1.5%	For best results, apply when most plants have reached the boot-to-head stage of growth.
Cattail	4.5-7.5	3-40	1.5%	Apply when most plants have reached the early head stage.
Clover; red, white	4.5-7.5	3-20	1.5%	Apply when most plants have reached the early bud stage.
Cogongrass	4.5-7.5	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	4.5-7.5	3-20	1.5%	Apply when most plants have reached the early head stage.
Dandelion	4.5-7.5	3-40	1.5%	Apply when most plants have reached the early bud stage of growth. Also for control, apply 12 fluid ounces of this product plus 0.5 pound a.i. 2,4-D in 3 to 10 gallons of water per acre.
Dock, curly	4.5-7.5	3-40	1.5%	Apply when most plants have reached the early bud stage of growth. Also for control, apply 12 fluid ounces of this product plus 0.5 pound a.i. 2,4-D in 3 to 10 gallons of water per acre.
Dogbane, hemp	6	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 fluid ounces 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)	4.5-7.5	3-20	1.5%	Apply when most plants have reached the early head stage.
Fescue, tall	1.5-4.5	3-40	1.5%	Apply 4.5 pints of this product per acre when most plants have reached boot-to-early seedhead stage of development. Fall applications only: Apply 1.5 pints 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 per acre of this product will improve long-term control and control seedlings germinating after fall treatments or the following spring.
Guineagrass	4.5	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.
Horsenettle	4.5-7.5	3-20	1.5%	Apply when most plants have reached the early bud stage.
Horseradish	6	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	-	-	1.5%	Iceplant should be at or beyond the early bud stage of growth. Thorough coverage is necessary for best control.
Jerusalem artichoke	4.5-7.5	3-20	1.5%	Apply when most plants are in the early bud stage.
Johnsongrass	0.75-4.5	3-40	0.75%	In annual cropping systems apply 1.5 to 3 pints of this product per acre. Apply 1.5 pints of this product in 3 to 10 gallons of water per acre. Use 3 pints of this product when applying 10 to 40 gallons of water per acre. In non-agricultural, or areas where annual tillage (no-till) is not practiced, apply 3 to 4.5 pints 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. Allow 7 or more days after application before tillage. Do not tank mix with residual herbicides when using the 1.5 pint per acre rate. For burndown of Johnsongrass, apply 12 fluid ounces 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 3/4 percent solution of this product when Johnsongrass is 12 to 18 inches in height. Coverage should be uniform and complete.
Kikuyugrass	3-4.5	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	6	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	-	-	0.75-1.0%	Apply at or beyond the bloom stage of growth. Use the higher application rate for plants that have reached the woody stage of growth.
Lespedeza	4.5-7.5	3-20	1.5%	Apply when most plants have reached the early bud stage.
Milkweed, common	4.5	3-40	1.5%	Apply when most plants have reached the late bud to flower stage of growth.
Muhly, wirestem	1.5-3	3-40	1.5%	Use 1.5 pints of this product in 3 to 10 gallons of water per acre. Use 3 pints of this product when applying 10 to 40 gallons of water per acre or in pasture, sod, or non-agricultural 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 prior to spring applications. Allow 3 or more days after application before tillage.
Mullein, common	4.5-7.5	3-20	1.5%	Apply when most plants are in the early bud stage.
Napierrgrass	4.5-7.5	3-20	1.5%	Apply when most plants are in the early head stage.
Nightshade, silverleaf	3	3-10	1.5%	Applications should be made when at least 60 percent of the plants have berries. Fall treatments must be applied before a killing frost.
Nutsedge; purple, yellow	0.75-4.5	3-40	0.75-1.5%	Apply 4.5 pints of this product per acre or apply a 3/4 to 1 1/2 percent 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 following treatment. Repeat treatments will be required for long-term control of ungerminated tubers. Sequential applications: 1.5 to 3 pints 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 fluid ounces to 3 pints 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	1.5-3	3-40	1.5%	Apply 3 pints 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 1.5 to 2.25 pints 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 1.5 to 2.25 pints 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.
Pampasgrass	-	-	1.5%	Pampasgrass should be at or beyond the boot stage of growth. Thorough coverage is necessary for best control.
Paragrass	4.5-7.5	3-20	1.5%	Apply when most plants are in the early head stage.
Phragmites	4.5-7.5	10-40	0.75-1.5%	For partial control. For best results, treat during late summer or fall months or 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. Visual control symptoms will be slow to develop.

# GLYPHOSATE 5.4

# Specimen Label

Weed Species	Rate (PT/A)	Water Volume	Hand-Held % Solution	Comments
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	1.5	3-40	1.5%	Apply to actively growing plants up to 24 inches tall.
Quackgrass	1.5-4.5	3-40	1.5%	In annual cropping systems, or in pastures and sods followed by deep tillage: Apply 1.5 pints of this product in 3 to 10 gallons of water per acre. For 10 to 40 gallons of water per acre, apply 3 pints of this product. Do not tank mix with residual herbicides when using the 1.5 pint 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 non-agricultural areas where deep tillage does not follow application: Apply 3 to 4.5 pints of this product in 10 to 40 gallons of water per acre when the quackgrass is greater than 8 inches tall.
Redvine	1.25-3	5-10	1.5%	For suppression, apply 18 fluid ounces of this product per acre at each of two applications 7 to 14 days apart or a single application of 3 pints per acre. Apply specified rates in 5 to 10 gallons of water per acre. Apply in late September or early October to plants which 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 late summer to fall.
Ryegrass, perennial	1.5-4.5	3-40	0.75%	In annual cropping systems apply 1.5 to 3 pints of this product per acre. Apply 1.5 pints of this product in 3 to 10 gallons of water per acre. Use 3 pints of this product when applying 10 to 40 gallons of water per acre. In non-agricultural, or areas where annual tillage (no-till) is not practiced, apply 3 to 4.5 pints of this product in 10 to 40 gallons 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 the 1.5 pint per acre rate.
Smartweed, swamp	4.5-7.5	3-40	1.5%	Apply when most plants have reached the early bud stage of growth. Also for control, apply 12 fluid ounces of this product plus 0.5 pound a.i. 2,4-D in 3 to 10 gallons of water per acre in the late summer or fall.
Sowthistle, perennial	3-4.5	3-40	1.5%	Apply when most plant 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 the 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 fluid ounces of this product plus 0.5 pound a.i. 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	3	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	3-4.5	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 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, apply 1.5 pints of this product, or 12 fluid ounces of this product plus 0.5 pound a.i. 2,4-D, in 3 to 10 gallons of water per acre in the late summer or fall after harvest, mowing or tillage. 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	3-4.5	3-40	1.5%	For best results, apply when most plants have reached the boot-to-head stage of growth.
Torpedograss	6-7.5	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.
Trumpetcreeper	3	5-10	1.5%	Partial control. Apply in late September or October, to plants which are at least 18 inches tall and have been growing 45-60 days since the last tillage operation. Make applications at least 1 week before a killing frost.
Vaseygrass	4.5-7.5	3-20	1.5%	Apply when most plants are in the early head stage.
Velvetgrass	4.5-7.5	3-20	1.5%	Apply when most plants are in the early head stage.
Wheatgrass, western	3-4.5	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 ALPHABETICALLY BY SPECIES

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.

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.

Weed Species	Rate (PT/A)	Water Volume	Hand-Held % Solution	Comments
Alder	4.5-6	3-40	0.75-1.5%	For control
Ash	3-7.5	3-40	0.75-1.5%	Partial control
Aspen, quaking	3-4.5	3-40	0.75-1.5%	For control
Bearmat (Bearclover)	3-7.5	3-40	0.75-1.5%	Partial control
Beech	3-7.5	3-40	0.75-1.5%	Partial control
Birch	3	3-40	0.75%	For control

Weed Species	Rate (PT/A)	Water Volume	Hand-Held % Solution	Comments
Blackberry	4.5-6	10-40	0.75-1.5%	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 ¾ percent solution of this product. For control of blackberries after leaf drop and until a killing frost or as long as stems are green, apply 4.5 to 6 pints of this product in 10 to 40 gallons of water per acre.
Blackgum	3-7.5	3-40	0.75-1.5%	For control
Bracken	3-7.5	3-40	0.75-1.5%	For control
Broom; French, Scotch	-	-	1.5%	For control
Buckwheat, California	-	-	0.75-1.5%	For partial control. Thorough coverage of foliage is necessary for best results.
Cascara	3-7.5	3-40	0.75-1.5%	Partial control
Catsclaw	-	-	0.75-1.5%	Partial control
Ceanothus	3-7.5	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	3-4.5	3-40	0.75-1.5%	For control
Coyote brush	-	-	1.5%	For control. Apply when at least 50 percent of the new leaves are fully developed.
Dogwood	3-7.5	3-40	0.75-1.5%	Partial control



Weed Species	Rate (PT/A)	Water Volume	Hand-Held % Solution	Comments
Elderberry	3	3-40	0.75%	For control
Elm	3-7.5	3-40	0.75-1.5%	Partial control
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)	3-7.5	3-40	0.75-1.5%	Partial control
Gorse	3-7.5	3-40	0.75-1.5%	Partial control
Hasardia	-	-	0.75-1.5%	Partial control. Thorough coverage of foliage is necessary for best results.
Hawthorn	3-4.5	3-40	0.75-1.5%	For control
Hazel	3	3-40	0.75%	For control
Hickory	3-7.5	3-40	0.75-1.5%	Partial control
Honeysuckle	3-6	3-40	0.75-1.5%	For control
Hornbeam, American	3-7.5	3-40	0.75-1.5%	Partial control
Kudzu	6	3-40	1.5%	For control. Repeat applications may be required to maintain control.
Locust, black	3-6	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/early summer treatments.
Manzanita	3-7.5	3-40	0.75-1.5%	Partial control
Maple, red	3-6	3-40	0.75-1.5%	For control, apply a 0.75 to 1.5 percent solution when at least 50 percent of the new leaves are fully developed. For partial control, apply 3 to 6 pints of this product per acre.
Maple, sugar	-	-	0.75-1.5%	For control. Apply when at least 50 percent 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	3-6	3-40	0.75-1.5%	Partial control
Oak, post	4.5-6	3-40	0.75-1.5%	For control
Oak; northern, pin	-	-	0.75-1.5%	For control. Apply when at least 50 percent of the new leaves are fully developed.
Oak, southern, red	3-4.5	3-40	0.75-1.5%	For control
Persimmon	3-7.5	3-40	0.75-1.5%	Partial control
Pine	3-7.5	3-40	0.75-1.5%	For control
Poison ivy/ Poison oak	4-5	3-40	2%	For control. Repeat applications may be required to maintain control. Fall treatments must be applied before leaves lose green color.
Poplar, yellow	3-7.5	3-40	0.75-1.5%	Partial control
Redbud, eastern	3-7.5	3-40	0.75-1.5%	For control
Rose, multiflora	3	3-40	0.75%	For control. Treatments should be made prior to leaf deterioration by leaf-eating insects.
Russian olive	3-7.5	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	3-7.5	3-40	0.75-1.5%	Partial control
Sage brush, California	-	-	0.75%	For control. Thorough coverage of foliage is necessary for best results.
Salmonberry	3	3-40	0.75%	For control
Salt-cedar	3-7.5	3-40	0.75-1.5%	For control
Sassafras	3-7.5	3-40	0.75-1.5%	Partial control
Sourwood	3-7.5	3-40	0.75-1.5%	Partial control
Sumac; poison, smooth, winged	3-6	3-40	0.75-1.5%	Partial control
Sweetgum	3-4.5	3-40	0.75-1.5%	For control
Swordfern	3-7.5	3-40	0.75-1.5%	Partial control
Tallowtree, Chinese	-	-	0.75%	For control. Thorough coverage of foliage is necessary for best results.
Tan oak 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	3	3-40	0.75%	For control
Tobacco, tree	-	-	0.75-1.5%	Partial control
Trumpet creeper	3-4.5	3-40	0.75-1.5%	For control
Vine maple	3-7.5	3-40	0.75-1.5%	Partial control
Virginia creeper	3-7.5	3-40	0.75-1.5%	For control
Waxmyrtle, southern	3-7.5	3-40	0.75-1.5%	Partial control
Willow	4.5	3-40	0.75%	For control

## CONDITION OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

To the extent consistent with applicable law, upon purchase or use of this product, purchaser and user agree to the following terms:

**Warranty:** Alligare, LLC (the Company) warrants that this product conforms to the chemical description on the label in all material respects and is reasonably fit for the purpose referred to in the directions for use, subject to the exceptions noted below, which are beyond the Company's control. To the extent consistent with applicable law, the Company makes no other representation or warranty, express or implied, concerning the product, including no implied warranty of merchantability or fitness for a particular purpose. No such warranty shall be implied by law, and no agent or representative is authorized to make any such warranty on the Company's behalf.

**Terms of Sale:** The Company's directions for use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, and the manner of use or application (including failure to adhere to label directions), all of which are beyond the Company's control. To the extent consistent with applicable law, all such risks are assumed by the user.

**Limitation of Liability:** To the extent consistent with applicable law, the exclusive remedy against the Company for any cause of action relating to the handling or use of this product is a claim for damages, and in no event shall damages or any other recovery of any kind exceed the price of the product which caused the alleged loss, damage, injury or other claim. To the extent consistent with applicable law, under no circumstances shall the Company be liable for any special, indirect, incidental or consequential damages of any kind, including loss of profits or income, and any such claims are hereby waived. Some states do not allow the exclusion or limitation of incidental or consequential damages.

The Company and the seller offer this product, and the purchaser and user accept this product, subject to the foregoing warranty, terms of sale and limitation of liability, which may be varied or modified only by an agreement in writing signed on behalf of the Company by an authorized representative.

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