

# ALLIGARE

## 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

 EPA Est. No. 42750-MO-001

 EPA Est. No. 37429-GA-001

 EPA Est. No. 53883-TX-002

## 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.

#### 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.

#### ENVIRONMENTAL HAZARDS

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.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

#### 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. Emptied container retains vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned, or destroyed.

**Container Disposal (plastic containers):** Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**Container Disposal (refillable containers):** Do not reuse this container except for refill in accordance with a valid Alligare Repackaging or Toll Repackaging Agreement. If not refilled or returned to the authorized repackaging facility, triple rinse container, then 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.

**Bulk Tanks:** Triple rinse (or equivalent) and wash with appropriate cleaners before reusing.

Read the entire label before using this product.

Use only according to label instructions.

Not all products recommended 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.

#### GENERAL 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 recommended 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 recommended 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 recommended 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 recommended 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.

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

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## 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 recommended 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 recommended 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 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 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 airstream 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 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.

### APPLICATION HEIGHT

Applications should 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. Application should be avoided 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 should 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 should 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).

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## 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 1/2 mile upstream of an active potable water intake in flowing water (i.e., river, stream, etc.) or within 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 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

### General 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.

### Boom Equipment

For control of weed or brush species listed in this section using conventional boom

equipment – Use the recommended 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 recommended 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 3/4 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	1 2/3 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 recommended 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," "General Information" and "Mixing and Application Instructions" for labeled uses and specific application instructions.

**Broadcast Application** – Use 1 1/2 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 1/2 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 3/4 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 non-ionic surfactant WILL CONTROL the following ANNUAL WEEDS:

### Balsamapple\*\*

*Momordica charantia*

### Barley

*Hordeum vulgare*

### Barnyardgrass

*Echinochloa crus-galli*

### Bassia, fivehook

*Bassia hyssopifolia*

### Bluegrass, annual

*Poa annua*

### Bluegrass, bulbous

*Poa bulbosa*

### Brome

*Bromus spp.*

### Buttercup

*Ranunculus spp.*

### Cheat

*Bromus secalinus*

### Chickweed, mouseear

*Cerastium vulgatum*

### Cocklebur

*Xanthium strumarium*

### Corn, volunteer

*Zea mays*

### Crabgrass

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*Digitaria* spp.  
**Dwarf dandelion**  
*Krigia cespitosa*  
**Falseflax, smallseed**  
*Camelina microcarpa*  
**Fiddleneck**  
*Amsinckia* spp.  
**Flaxleaf fleabane**  
*Conyza bonariensis*  
**Fleabane**  
*Erigeron* spp.  
**Foxtail**  
*Setaria* spp.  
**Foxtail, Carolina**  
*Alopecurus carolinianus*  
**Groundsel, common**  
*Senecio vulgaris*  
**Horseweed/Marestail**  
*Conyza canadensis*  
**Kochia**  
*Kochia scoparia*  
**Lambsquarters, common**  
*Chenopodium album*  
**Lettuce, prickly**  
*Lactuca scariola*  
**Morningglory**  
*Ipomoea* spp.  
**Mustard, blue**  
*Chorispora tenella*  
**Mustard, tansy**  
*Descurainia pinnata*  
**Mustard, tumble**  
*Sisymbrium altissimum*  
**Mustard, wild**  
*Sinapis arvensis*  
**Oats, wild**  
*Avena fatua*  
**Panicum**  
*Panicum* spp.  
**Pennycress, field**  
*Thlaspi arvense*  
**Pigweed, redroot**  
*Amaranthus retroflexus*  
**Pigweed, smooth**  
*Amaranthus hybridus*  
**Ragweed, common**  
*Ambrosia artemisiifolia*  
**Ragweed, giant**  
*Ambrosia trifida*  
**Rocket, London**  
*Sisymbrium irio*  
**Rye**  
*Secale cereale*  
**Ryegrass, Italian\***  
*Lolium multiflorum*  
**Sandbur, field**  
*Cenchrus* spp.  
**Shattercane**  
*Sorghum bicolor*  
**Shepherdspurse**  
*Capsella bursa-pastoris*  
**Signalgrass, broadleaf**  
*Bracharia platyphylla*  
**Smartweed, Pennsylvania**  
*Polygonum pennsylvanicum*  
**Sowthistle, annual**  
*Sonchus oleraceus*  
**Spanishneedles\***  
*Bidens bipinnata*  
**Stinkgrass**  
*Eragrostis cilianensis*  
**Sunflower**  
*Helianthus annuus*  
**Thistle, Russian**  
*Salsola kali*  
**Spurry, umbrellal**  
*Holosteum umbellatum*  
**Velvetleaf**  
*Abutilon theophrasti*  
**Wheat**  
*Triticum aestivum*  
**Witchgrass**  
*Panicum capillare*

\*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 "General 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 recommended 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 recommended under the conditions described, this product plus surfactant WILL CONTROL the following PERENNIAL WEEDS:

**Alfalfa**  
*Medicago sativa*  
**Alligatorweed\***  
*Alternanthera philoxeroides*  
**Anise/Fennel**  
*Foeniculum vulgare*  
**Artichoke, Jerusalem**  
*Helianthus tuberosus*  
**Bahiagrass**  
*Paspalum notatum*  
**Beachgrass, European\*\*\***  
*Ammophila arenaria*  
**Bermudagrass**  
*Cynodon dactylon*  
**Bindweed, field**  
*Convolvulus arvensis*  
**Bluegrass, Kentucky**  
*Poa pratensis*  
**Bluweed, Texas**  
*Helianthus ciliaris*  
**Brackenfern**  
*Pteridium* spp.  
**Bromegrass, smooth**  
*Bromus inermis*  
**Canarygrass, reed**  
*Phalaris arundinacea*  
**Cattail**  
*Typha* spp.  
**Clover, red**  
*Trifolium pratense*  
**Clover, white**  
*Trifolium repens*  
**Cogongrass**  
*Imperata cylindrica*  
**Cordgrass**  
*Spartina* spp.  
**Cutgrass, giant\***  
*Zizaniopsis miliacea*  
**Dallisgrass**  
*Paspalum dilatatum*  
**Dandelion**  
*Taraxacum officinale*  
**Dock, curly**  
*Rumex crispus*  
**Dogbane, hemp**  
*Apocynum cannabinum*  
**Fescue**  
*Festuca* spp.  
**Fescue, tall**  
*Festuca arundinacea*  
**Guineagrass**  
*Panicum maximum*  
**Hemlock, poison**  
*Conium maculatum*  
**Horsenettle**  
*Solanum carolinense*  
**Horseradish**  
*Armoracia rusticana*  
**Ice Plant**  
*Mesembryanthemum crystallinum*  
**Johnsongrass**  
*Sorghum halepense*  
**Kikuyugrass**  
*Pennisetum clandestinum*  
**Knapweed**  
*Centaurea repens*  
**Lantana**  
*Lantana camara*  
**Lespedeza: common, serices**  
*Lespedeza striata*  
*Lespedeza cuneata*  
**Loosestrife, purple**  
*Lythrum salicaria*  
**Lotus, American**  
*Nelumbo lutea*  
**Maidencane**  
*Panicum hematomon*  
**Milkweed**  
*Asclepias* spp.  
**Muhly, wirestem**



# GLYPHOSATE 5.4

# Specimen Label

*Muhlenbergia frondosa*

**Mullein, common**

*Verbascum thapsus*

**Napiergrass**

*Pennisetum purpureum*

**Nightshade, silverleaf**

*Solanum elaeagnifolium*

**Nutsedge: purple, yellow**

*Cyperus rotundus*

*Cyperus esculentus*

**Orchardgrass**

*Dactylis glomerata*

**Pampasgrass**

*Cortaderia jubata*

**Paragrass**

*Brachiaria mutica*

**Phragmites\*\***

*Phragmites spp.*

**Quackgrass**

*Agropyron repens*

**Reed, giant**

*Arundo donax*

**Ryegrass, perennial**

*Lolium perenne*

**Smartweed, swamp**

*Polygonum coccineum*

**Spatardock**

*Nuphar luteum*

**Starthistle, yellow**

*Centaurea solstitialis*

**Sweet potato, wild\***

*Ipomoea pandurata*

**Thistle, artichoke**

*Cynara cardunculus*

**Thistle, Canada**

*Cirsium arvense*

**Timothy**

*Phleum pratense*

**Torpedograss\***

*Panicum repens*

**Tules, common**

*Scirpus acutus*

**Vaseygrass**

*Paspalum urvillei*

**Velvetgrass**

*Holcus spp.*

**Waterhyacinth**

*Eichornia crassipes*

**Waterlettuce**

*Pistia stratiotes*

**Waterprimrose**

*Ludwigia spp.*

**Wheatgrass, western**

*Agropyron smithii*

\*Partial control.

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

\*\*\*Washington and Oregon only.

**Alligatorweed** – Apply 6 pints of this product per acre as a broadcast spray or as a 1 1/4 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 1/2 pints of this product per acre as a broadcast spray or as a 1 1/2 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 1/2 pints of this

product per acre as a broadcast spray west of the Mississippi River and 4 1/2 to 6 pints of this product per acre east of the Mississippi River. With hand-held equipment, use a 1 1/2 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 1/2 to 6 pints of this product per acre as a broadcast spray or as a 3/4 to 1 percent solution with hand-held equipment. Apply to fully expanded fronds which are at least 18 inches long.

**Cattail** – Apply 4 1/2 to 6 pints of this product per acre as a broadcast spray or as a 3/4 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 1/2 to 7 1/2 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 1/2 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 1/2 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 1-1/2 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 1/2 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 1/2 pints of this product per acre as a broadcast spray or as a 3/4 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 1/2 pints of this product per acre as a broadcast spray or as a 3/4 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 3/4 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 1 to 1-1/2 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 3/4 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.

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**Maidencane/Paragrass** – Apply 6 pints of this product per acre as a broadcast spray or as a 3/4 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 1/2 pints of this product per acre as a broadcast spray or as a 1-1/2 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 1/2 pints of this product per acre as a broadcast spray, or as a 3/4 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 1-1/2 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 1/2 pints per acre as a broadcast spray or apply a 1-1/2 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 3/4 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/Kikuyugrass/Muhly, wirestem** – Apply 3 to 4 1/2 pints of this product per acre as a broadcast spray or as a 3/4 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 1-1/2 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 3/4 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 1-1/2 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 recommended stage of growth before retreatment.

**Thistle: Canada, artichoke** – Apply 3 to 4 1/2 pints of this product per acre as a broadcast spray or as a 1 1/2 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 1/2 pints of this product per acre as a broadcast spray or as a 3/4 to 1 1/2 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 1-1/2 percent solution with hand-held equipment. Apply to actively growing plants at or beyond the seedhead stage of growth. After application, 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 3/4 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 3/4 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 3/4 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 1/2 to 7 1/2 pints of this product per acre as a broadcast spray or as a 3/4 to 1 1/2 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 recommended 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*

**Broom:**  
**Scotch**  
*Cytisus scoparius*  
**Buckwheat, California\***  
*Eriogonum fasciculatum*

**Cascara\***  
*Rhamnus purshiana*

**Catsclaw\***  
*Acacia greggi*

**Ceanothus**  
*Ceanothus spp.*

**Chamise**  
*Adenostoma fasciculatum*

**Cherry:**  
**Bitter**  
*Prunus emarginata*

**Black**  
*Prunus serotina*

**Pin**  
*Prunus pensylvanica*

**Coyote brush**  
*Baccharis consanguinea*

**Creeper, 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.*

**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**

# GLYPHOSATE 5.4

# Specimen Label

*Rhus toxicodendron*  
**Poplar, yellow\***  
*Liriodendron tulipifera*  
**Prunus**  
*Prunus spp.*  
**Raspberry**  
*Rubus spp.*  
**Redbud, eastern**  
*Cercis canadensis*  
**Rose, multiflora**  
*Rosa multiflora*  
**Russian-olive**  
*Elaeagnus angustifolia*  
**Sage: black, white**  
*Salvia spp.*  
**Sagebrush, California**  
*Artemisia californica*  
**Salmonberry**  
*Rubus spectabilis*  
**Salt cedar\***  
*Tamarix spp.*  
**Saltbush, Sea myrtle**  
*Baccharis halimifolia*  
**Sassafras**  
*Sassafras albidum*  
**Sourwood\***  
*Oxydendrum arboreum*  
**Sumac:**  
**Poison\***  
*Rhus vernix*  
**Smooth\***  
*Rhus glabra*  
**Winged\***  
*Rhus copallina*  
**Sweet gum**  
*Liquidambar styraciflua*  
**Swordfern\***  
*Polystichum munitum*  
**Tallowtree, Chinese**  
*Sapium sebiferum*  
**Thimbleberry**  
*Rubus parviflorus*  
**Tobacco, tree\***  
*Nicotiana glauca*  
**Trumpet creeper**  
*Campsis radicans*  
**Waxmyrtle, southern\***  
*Myrica cerifera*  
**Willow**  
*Salix spp.*

\*Partial Control

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

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

Apply the recommended 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 1/2 to 6 pints per acre as a broadcast spray or as a 3/4 to 1 1/4 percent solution with hand-held equipment.

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

**Broom: French, Scotch** – For control, apply a 1 1/4 to 1 1/2 percent solution with hand-held equipment.

**Buckwheat, California/Hasardia/Monkey Flower/Tobacco, Tree** – For partial control of these species, apply a 3/4 to 1 1/2 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 1/4 to 1 1/2 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 1/2 pints of this product per acre as a broadcast spray or as a 1 to 1 1/2 percent solution with hand-held equipment.

**Coyote brush** – For control, apply a 1 1/4 to 1 1/2 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 1/2 pints per acre as a broadcast spray.

**Eucalyptus, bluegum** – For control of eucalyptus resprouts, apply a 1-1/2 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 1-1/2 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 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 1-1/2 percent solution with hand-held equipment. Repeat applications will be required to maintain control.

**Maple, Red** – For control, apply as a 3/4 to 1 1/4 percent solution with hand-held equipment when leaves are fully developed. For partial control, apply 2 to 7 1/2 pints of this product per acre as a broadcast spray.

**Maple, Sugar/Oak: Northern Pin, Red** – For control, apply as a 3/4 to 1 1/4 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 1/2 pints of this product per acre as a broadcast spray or as a 1-1/2 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 3/4 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 3/4 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 1-1/2 percent solution with hand-held equipment.

**Willow** – For control, apply 4 1/2 pints of this product per acre as a broadcast spray or as a 3/4 percent solution with hand-held equipment.

**Other woody brush and trees listed in this label** – For partial control, apply 3 to 7 1/2 pints of this product per acre as a broadcast spray or as a 3/4 to 1 1/2 percent solution with hand-held equipment.

## AQUATIC AND OTHER NONCROP SITES

When applied as directed and under the conditions described in the "Weeds Controlled" sec-

# GLYPHOSATE 5.4

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tion in this label, this product will control or partially control labeled weeds growing in the following industrial, recreational, public areas, aquatic and terrestrial sites.

**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 1/2 mile up-stream of an active potable water intake in flowing water (i.e., river stream, etc.) or within 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 1/2 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 1/2 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 & Roadside  
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 recommendations. 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 Triclopyr 4 EC

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 Triclopyr 4 EC, provides burndown and partial control or suppression of woody brush and vegetation labeled for this product. This tank mixture is recommended for use on rights-of-way (utility, railroad, highway, pipeline), fence rows, 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 Triclopyr 4 EC 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 1/2 to 2 quarts of Garlon® 4 or Triclopyr 4 EC 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 Triclopyr 4 EC 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 1/2 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.

## Broadcast Applications with Ground Equipment:

Use 3 to 7 1/2 pints of Glyphosate 5.4 plus 1/2 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 1/2 to 2 1/2 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 1/2 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 or partial 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.**

## WILDLIFE HABITAT RESTORATION AND MANAGEMENT AREAS

This product is recommended 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.



# GLYPHOSATE 5.4

# Specimen Label

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 recommended 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 recommended 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 1/2 gallons of Glyphosate 5.4 herbicide with 7 1/2 gallons of water to prepare a 25 percent solution. Add 1 quart of an approved surfactant per 10 gallons of herbicide solution (2 1/2 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.

#### 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.

#### CHRISTMAS TREES

**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, RESTRICTIONS:** Desirable plants may be protected from the spray solution by using shields or coverings made of cardboard or other impermeable material. THIS PRODUCT IS NOT RECOMMENDED FOR USE AS AN OVER-THE-TOP BROADCAST SPRAY IN CHRISTMAS TREES. Care must be exercised to avoid contact of spray, drift or mist with foliage or green bark of established Christmas trees.

#### Site preparation

**USE INSTRUCTIONS:** This product may be used prior to planting Christmas trees.

**PRECAUTIONS, RESTRICTIONS:** Precautions should be taken to protect nontarget plants during site preparation applications.

#### SILVICULTURAL SITES AND UTILITY RIGHTS-OF-WAY

**TYPES OF APPLICATIONS:** This product is recommended 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 is also recommended 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, this product is recommended for use in site preparation prior to planting any tree species, including Christmas trees and silvicultural nursery sites.

In utilities, this product is recommended for use 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 ingredi-

# GLYPHOSATE 5.4

# Specimen Label

ent 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). Use of surfactant concentrations greater than 1.5 percent by spray volume with handgun applications or 2.5 percent by spray volume with broadcast applications is not recommended.

Use higher rates of this product within the recommended 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 recommended 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 recommended 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 recommended 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, tank mixtures with Arsenal® 2WSL are not recommended. For side trimming treatments, it is recommended that this product be used alone as recommended, or as a tank mixture with Garlon® 4 or Triclopyr 4 EC.

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

Product	Low Volume Directed Spray Rates	Use Sites
Arsenal® Applicators Concentrate or Imazapyr 4 SL**	1/8 % to 1/2 % by volume	Forestry site preparation
Arsenal® 2WSL**	1/8 % to 1/2 % by volumen	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 recommended tank mixture rates. For control of dense stands or tough-to-control woody brush and trees, use the higher recommended 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 recommendations 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.

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.

### Broadcast Spray

Except where specifically recommended 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. Unless otherwise recommended in this section, use Entry™ II surfactant at 10 to 30 fluid ounces per acre. 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> <i>Pseudotsuga menziesii</i>	<b>Pines*</b> <i>Pinus spp.</i>
<b>Fir</b> <i>Abies spp.</i>	<b>Redwood, California**</b> <i>Sequoia spp.</i>
<b>Hemlock**</b> <i>Tsuga spp.</i>	<b>Spruce</b> <i>Picea spp.</i>

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

\*\*Use of a surfactant is not recommended 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 recommended tank mixtures of this product, Entry™ II or a nonionic surfactant recommended 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 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 ounces (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.

# GLYPHOSATE 5.4

# Specimen Label

**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> <i>Pinus strobus</i>	<b>Shortleaf pine</b> <i>Pinus echinata</i>
<b>Loblolly pine</b> <i>Pinus taeda</i>	<b>Slash pine</b> <i>Pinus elliottii</i>
<b>Longleaf pine</b> <i>Pinus palustris</i>	<b>Virginia pine</b> <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 recommended 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 recommended rate of this product plus Oust® (or SFM 75). Applications can be made over newly planted pines after the emergence 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.

**INDUSTRIAL TURF**

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

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 seed-head 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 seed-heads 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®**

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 1/2 ounce of Telar® 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 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 1/4 ounce of Oust® or SFM 75 per acre.

**Glyphosate 5.4 plus Escort® or Metsulfuron Methyl DF**

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 Metsulfuron Methyl DF per acre.

**SMOOTH BROME  
Glyphosate 5.4 plus Oust® or 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 1/4 ounce of Oust® or 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**

Rate recommendations for control or suppression of winter annuals and tall fescue are listed below.

Apply the recommended 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 3/4 to 2 1/4 pints of this product as a broadcast spray in 10 to 25 gallons of spray solution per acre, plus 2

# GLYPHOSATE 5.4

# Specimen Label

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\*\*  
Trumpet creeper\*  
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. Repeat applications in the same season are not recommended, 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.

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.

## 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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