



# TOP DOG<sup>®</sup> GLYCEL ULTRA MAX

## HERBICIDE

**Group 9 Herbicide**

**Non-selective, broad-spectrum weed control for many cropping systems, farmsteads, and Conservation Reserve Program acres.**

**ACTIVE INGREDIENT**

\*Glyphosate, N-(phosphonomethyl) glycine, in the form of its isopropylamine salt..... 50.2%

**OTHER INGREDIENTS** ..... 49.8%

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

Contains 600 grams per liter or 5 pounds per U.S. gallon of the active ingredient glyphosate, in the form of its isopropylamine salt.

IN CASE OF AN EMERGENCY INVOLVING THIS PRODUCT, OR FOR MEDICAL ASSISTANCE, CALL CHEMTREC, DAY OR NIGHT 1-800-424-9300.

FOR PRODUCT INFORMATION OR ASSISTANCE IN USING THIS PRODUCT, CALL TOLL-FREE, 1-866-248-7426.

**KEEP OUT OF REACH OF CHILDREN  
CAUTION!**

CAUSES MODERATE EYE IRRITATION.

Avoid contact with eyes or clothing.

**FIRST AID**

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

**Repar Corporation**

EPA Est. No. 81347-CHN-001

EPA Est. No. 228-IL-001

EPA Est. No. 53368-IL-001

EPA Reg. No. 86004-6-69361 P.O. Box 4321 • Silver Spring, MD 20910

NET CONTENTS:  5 Gals.  30 Gals.  55 Gals.  250 Gals.  260 Gals.  265 Gals.  270 Gals.

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# PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

## CAUTION

CAUSES MODERATE EYE IRRITATION.

Avoid contact with eyes or clothing.

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

## PERSONAL PROTECTIVE EQUIPMENT (PPE)

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

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

## USER SAFETY DIRECTIONS

User must:

- Wash hands thoroughly after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

## ENVIRONMENTAL HAZARD

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

## PHYSICAL OR CHEMICAL HAZARDS

Spray solutions of this product must 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. The gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

## DIRECTIONS FOR USE

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

### \*COUNTY RESTRICTIONS

In **MONTANA, NEVADA, and WYOMING**, this product can be used in those counties listed below:

#### **MONTANA:**

Beaverhead, Big Horn, Blaine, Broadwater, Carbon, Cascade, Chouteau, Deer Lodge, Fergus, Flathead, Gallatin, Glacier, Golden Valley, Granite, Hill, Jefferson, Judith Basin, Lake, Lewis And Clark, Liberty, Lincoln, Madison, Meagher, Mineral, Missoula, Musselshell, Park, Pondera, Powell, Ravalli, Sanders, Silver Bow, Stillwater, Sweet Grass, Teton, Toole, Treasure, Wheatland, Yellowstone

#### **NEVADA:**

Churchill, Elko, Eureka, Humboldt, Lyon, Pershing

#### **WYOMING:**

Big Horn, Fremont, Hot Springs, Johnson, Lincoln, Park, Sheridan, Sublette, Teton, Washakie

## AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard. Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 hours. PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves and chemical resistant gloves.

## NON-AGRICULTURAL USE REQUIREMENTS

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

Keep people and pets off treated areas until spray solution had dried to prevent transfer of this product onto desirable vegetation.

## STORAGE AND DISPOSAL

Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Keep container closed to prevent spills and contamination.

**Storage:** Store above 28°F or agitate before use.

**Pesticide Disposal:** Pesticide spray mixture or rinsate water that cannot be used according to label instructions must be disposed of on site or at an approved waste disposal facility.

### **Container Handling:**

#### **Nonrefillable containers 5 gallons or less:**

**Container disposal: Nonrefillable container.** Do not reuse or refill this container. Offer for recycling if available. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use of disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use of disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

#### **Refillable containers 5 gallons or less:**

**Container disposal: Refillable container.** Refill this container with pesticide only. Do not reuse this container for any other purpose.

Cleaning the container before final disposal is the responsibility of the person disposing of this container.

Cleaning before refilling is the responsibility of the refiller.

To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water and, if possible, spray all sides while adding water. If practical, agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

#### **Nonrefillable containers of 5 gallons or larger:**

**Container Disposal: Nonrefillable container.** Do not reuse or refill this container. Offer for recycling if available.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over on its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

## PRODUCT INFORMATION

### **(How this product works)**

**Product Description:** This product is a postemergent, systemic herbicide with no soil residual activity. It is generally non-selective and gives broad spectrum control of many annual weeds, perennial weeds, woody brush, and trees. It is formulated as a water-soluble liquid. It may be applied through most standard industrial or field-type sprayers after dilution and thorough mixing with water and other carriers according to label instructions. Do not add surfactants, additives containing surfactants, buffering agents or pH adjusting agents to the spray solution when this product is the only pesticide used unless otherwise directed. Ammonium sulfate, drift control additives, or dyes and colorants may be used. See the "MIXING" section of this label for instructions.

**Time to Symptoms:** This product moves through the plant from the point of foliage contact to and into the root system. Visible effects on most annual weeds occur within 2 to 4 days, but on most perennial weeds may not occur for 7 days or more. Extremely cool or cloudy weather following treatment may slow activity of this product and delay development of visual symptoms. Visible effects are a gradual wilting and yellowing of the plant which advances to complete browning of above-ground growth and deterioration of underground plant parts.

**Stage of Weeds:** Annual Weeds are easiest to control when they are small. Best control of most perennial weeds is obtained when treatment is made at late growth stages. Refer to the "ANNUAL WEED, PERENNIAL WEED, AND WOODY BRUSH RATE TABLES" for directions for specific weeds. Always use the higher rate of this product per acre within the labeled range when weed growth is heavy or dense or weeds are growing in an undisturbed (non-cultivated) area. Do not treat weeds under poor growing conditions such as drought stress, disease or insect damage, as reduced weed control may result. Reduced results may also occur when treating weeds heavily covered with dust.

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

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

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

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

**No Soil Activity:** Weeds must be emerged at the time of application to be controlled by this product. Weeds germinating from seed after application will not be controlled. Unemerged plants arising from unattached underground rhizomes or root stocks of perennials will not be affected by the herbicide and will continue to grow. When this product comes in contact with soil, it is bound to soil particles. Under directed use situations, once this product is bound to soil particles, it is not available for plant uptake and will not harm off-site vegetation where roots grow into the treated area or if the soil is transported off-site. The strong affinity of this product to soil particles prevents this product from leaching out of the soil profile and entering ground water.

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

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

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

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

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

**Annual Maximum Use Rate:** Except as otherwise specified in a crop section of this label, the combined total of all treatments must not exceed 6.5 quarts of this product per acre per year.

For applications in non-crop sites or in tree, vine or shrub crops, the combined total of all treatments must not exceed 8.5 quarts of this product per acre per year. The maximum use rates stated throughout this product's labeling apply to this product combined with the use of all other herbicides containing glyphosate or sulphosate as active the active ingredient, whether applied as mixtures or separately. Calculate the application rates and ensure that the total use of this and other glyphosate or sulfosate containing products does not exceed stated maximum use rate.

**NOTE:** Use of this product in any manner not consistent with this label may result in injury to person, animals or crops, or other unintended consequences.

## GLYPHOSATE WEED RESISTANCE MANAGEMENT

# GROUP 9 HERBICIDE

### Information on Weed Resistance

**GROUP 9 HERBICIDE:** Glyphosate, the active ingredient in this product, is a Group 9 herbicide. Target site resistance to Group 9 herbicides is rare. Although rare in occurrence, any weed population may contain plants naturally resistant to Group 9 herbicides. Weed species resistant to Group 9 herbicides may be effectively managed utilizing another herbicide from a different Group or using other cultural practices. Weed resistance management specifications for Group 9 herbicides are:

- Ensure optimum weed control by making applications at the right time (correct weed size) and utilizing the specified label rate for the most difficult to control weed in your field.
- Base decisions on local needs and use the tool(s) necessary to obtain optimum weed control and minimize weed escapes.
- Avoid tank-mixtures that reduce this product's efficacy (through antagonism) or which encourage rates of this product below the label specifications.
- Scout treated weed populations for escapes 2-4 weeks after application.
- Report any incidence of repeated non-performance of this product on a particular weed to the local retailer, county extension agent, or Repair, LLC representative.

### DIRECTIONS FOR USE

See the "APPLICATION EQUIPMENT AND TECHNIQUES" Section for more information.

### MIXING

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

**NOTE:** REDUCED RESULTS MAY OCCUR IF WATER CONTAINING SOIL IS USED, SUCH AS VISIBLE MUDDY WATER OR WATER FROM PONDS AND DITCHES THAT IS NOT CLEAR.

**Mixing with Water:** This product mixes readily with water. Mix spray solutions of this product as follows: Fill the mixing or spray tank with the required amount of water. Add the directed amount of this product near the end of the filling process and mix well. Use caution to avoid siphoning back into the carrier source. Use approved anti backsiphoning devices where required by state or local regulations. During mixing and application, foaming of the spray solution may occur. To prevent or minimize foam, avoid the use of mechanical agitator, terminate by-pass and return lines at the bottom of the tank and, if needed, use an approved anti-foam or defoaming agent.

### Tank Mixing Procedure:

Mix labeled tank mixtures of this product with water as follows:

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

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



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

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

Refer to the “**TANK MIXING**” section of “**PRODUCT INFORMATION**” for additional directions.

### Mixing for Hand-Held Sprayers

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

#### Spray Solution

Desired Volume	Amount of Top Dog® Glycel Ultra Max Herbicide					
	1/2%	1%	1-1/2%	2%	5%	8%
1 Gal	2/3 oz	1-1/3 oz	2 oz	2-2/3 oz	6-1/2 oz	10-1/2 oz
25 Gal	1 pt	1 qt	1-1/2 qt	2 qt	5 qt	8 qt
100 Gal	2 qt	1 gal	1-1/2 gal	2 gal	5 gal	8 gal

2 tablespoons = 1 fluid ounce

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

### Ammonium Sulfate

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

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

### Colorants or Dyes

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

### Drift Control Additives

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

### Surfactants

Although not generally required, surfactant may be added to spray solutions at water carrier volumes above 30 gallons per acre or application rates below 20 fluid ounces of this product per acre. Nonionic surfactants which are labeled for use with herbicides may be used. Do not reduce rates of this product when adding surfactant. When adding additional surfactant, a rate of 0.25 to 0.5 percent surfactant concentration (1 to 2 quarts per 100 gallons of spray solution) when using surfactants which contain at least 70 percent active ingredient or a 1 percent surfactant concentration (4 quarts per 100 gallons of spray solution) for those surfactants containing less than 70 percent active ingredient is preferred. Read and carefully observe surfactant cautionary statements and other information appearing on the surfactant label.

When applied as specified under the conditions described, this product controls annual and perennial weeds listed in this label booklet.

**DO NOT** add buffering agents or pH adjusting agents to the spray solution when Top Dog® Glycel Ultra Max is the only pesticide used. **DO NOT ADD SURFACTANT TO THIS PRODUCT FOR APPLICATIONS OVER-THE-TOP OF ROUNDUP READY CROPS AND PREHARVEST TO COTTON.**

## **Addition of Surfactant for Applications with Top Dog® Glycel Ultra Max Herbicide in Arizona**

Although not generally required, surfactant may be added to this product, and is specified at water carrier volumes above 30 gallons per acre or rates below 20 fluid ounces per acre. Nonionic surfactants which are labeled for use with herbicides may be used. Do not reduce rates of this product when adding surfactant. When adding additional surfactant, a rate of 0.25 to 0.50 percent surfactant concentration (1 to 2 quarts per 100 gallons of spray solution) when using surfactants which contain at least 70 percent active ingredient or a 1 percent surfactant concentration (4 quarts per 100 gallons of spray solution) for those surfactants containing less than 70 percent active ingredient is preferred. Read and carefully observe surfactant cautionary statements and other information appearing on the surfactant label.

When applied as specified under the conditions described, this product controls annual and perennial weeds listed in this label booklet.

## **APPLICATION EQUIPMENT AND TECHNIQUES**

### **SPRAY DRIFT MANAGEMENT**

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

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

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

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment-and- weather-related factors determines the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

To minimize drift, use nozzles that emit medium to large-sized droplets. The likelihood of drift 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. Extreme care must be used when applying this product to avoid injury to desirable plants and crops.

Do not apply this product through any type of irrigation system.

This product may be applied with the following application equipment:

**Aerial** – Fixed Wing and Helicopter

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

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

\* This Product is not registered in California or Arizona for use in mistblowers.

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

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

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

Apply these spray solutions in properly maintained and calibrated equipment capable of delivering desired volumes.

### **Aerial Equipment**

FOR ALL AERIAL APPLICATIONS USER MUST FOLLOW SPECIFIC DIRECTIONS WITHIN THIS LABEL.

NOTE: Aerial applications are not permitted for all uses.

Use the directed rates of this herbicide in 3 to 15 gallons of water per acre unless otherwise specified on this label. Unless otherwise specified, do not exceed 26 fluid ounces per acre. Aerial applications of this product may

be made in annual cropping conventional tillage systems, fallow and reduced tillage systems and preharvest applications. Refer to the individual use area sections of this label for directed volumes and application rates. For specific state information, consult the following sections and the state pesticide regulatory agency.

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

## **STATE INFORMATION ON AERIAL APPLICATIONS**

### **Arkansas:**

#### **USE DIRECTIONS**

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

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

Use sufficient carrier volume and appropriate equipment set-up to form droplets large enough to avoid drift potential. Coarse droplets in the 300 to 500 (VMD) micron range are preferred.

Applications must typically be made with the nozzle release point at 8 to 15 feet above the top of the target plants unless a greater height is required for aircraft safety.

The distance of the outermost nozzles on the boom must not exceed 75 percent of the length of the wingspan or rotor. In many cases, reducing this distance to 65 percent of the length of the wingspan or rotor will improve drift control without affecting the swath width.

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

Do not apply this product when winds are in excess of 10 miles per hour.

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

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

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

### **California:**

See “PRODUCT INFORMATION” and “MIXING” sections for essential product information.

See the “CROPS” section for specific specifications on the use of this product.

**EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF THE SPRAY WITH FOLIAGE. GREEN STEMS OR FRUIT OF DESIRABLE CROPS (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY® CROPS), PLANTS, TREES OR OTHER DESIRABLE VEGETATION, SINCE SEVERE DAMAGE OR DESTRUCTION MAY RESULT.**

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

1. In fallow and reduced tillage systems prior to the emergence or transplanting of labeled crops.
2. In alfalfa and pasture renovation applications
3. Over-the-top or preharvest applications in Roundup Ready corn and Roundup Ready cotton crops. Refer to further Top Dog® Glycel Ultra Max Herbicide label instructions for specific application instructions and limitations in these Roundup Ready crops.

4. Preharvest applications in conventional alfalfa, corn, cotton, and wheat crops. Refer to the Top Dog® Glycel Ultra Max Herbicide booklet for specific preharvest application instructions and limitations for each individual crop.

Do not plant subsequent crops other than those listed in this label booklet for 30 days following application. When applied as specified under the conditions described, this product controls annual and perennial weeds listed in this label booklet.

When tank mixing this product with 2,4-D for aerial applications, only 2,4-D amine formulations may be used. This tank mixture may be used for fallow and reduced tillage systems and alfalfa and pasture renovation applications only. This product plus dicamba tank mixtures may not be applied by air in California.

**DO NOT EXCEED THE FOLLOWING MAXIMUM RATES WHEN MAKING APPLICATIONS BY AIR**

26 fluid ounces	52 fluid ounces
	Alfalfa
<b>Corn</b>	
Roundup Ready® Corn	
	Cotton
	Roundup Ready® Cotton
	Fallow
	Reduced tillage systems
	Pastures
<b>Wheat</b>	

**Aerial Equipment**

Use the directed rates of this product in 3 to 15 gallons of water per acre. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash waters.

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

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

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

Coarse sprays are less likely to drift; therefore, do not use nozzles or nozzle configurations that dispense spray as fine spray droplets. Do not angle nozzles forward into the air-stream and do not increase spray volume by increasing nozzle pressure. Drift control additives may be used. When a drift control additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label.

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

## **California – Fresno County**

This section applies to aerial applications in Fresno County from February 15 through March 31 only.

### **Applicable Area**

This supplement only applies to the area contained inside the following boundaries within Fresno County, California.

North: Fresno County line

South: Fresno County line

East: State Highway 99

West: Fresno County line

### **Product Information**

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

Observe the following directions to minimize off-site movement during aerial application of this product.

Minimization of off-site movement is the responsibility of the grower, Pest Control Advisor and aerial applicator.

### **Written Specifications**

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

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

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

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

To report known or suspected misuse of this product call 1-800-332-3111

For additional information on the proper aerial application of this product, call 916-784-1718.

**Note:** For aerial application from April 1 through February 14, refer to the "STATE INFORMATION ON AERIAL APPLICATIONS: "California" section of this label.

## **AERIAL SPRAY DRIFT MANAGEMENT**

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops.

1. The distance of the outermost nozzles on the boom must not exceed  $\frac{3}{4}$  the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees. Where states have more stringent regulations, they must be observed.

### **Importance of 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 the "Wind", "Temperature and Humidity", and "Temperature Inversions" sections of this label).

## Controlling droplet size

- **Volume:** Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with the higher rated flows produce larger droplets.
- **Pressure:** Use the lower spray pressures directed for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. 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 backwards, parallel to the airstream, will produce larger droplets than other orientations. Significant deflection from the 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 larger droplets than other nozzle types.
- **Boom Length:** For some use patterns, reducing the effective boom length to less than  $\frac{3}{4}$  of the wingspan or rotor length may further reduce drift without reducing swath width.
- **Application Height:** Applications must not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces the exposure of the droplets to evaporation and wind.

## Swath Adjustment

When applications are made with a crosswind, the swath will be displaced downward. 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 must increase with increasing drift potential (higher wind, smaller drops, etc.).

## Wind

Drift potential is lowest between wind speeds of 2 to 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application must be avoided below 2 mph due to variable wind direction and high inversion potential.

**NOTE:** Local terrain can influence wind patterns. Every applicator must be familiar with local wind patterns and how they affect drift.

## Temperature and Humidity

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

## Temperature Inversions

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

## Sensitive areas

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

Do not allow direct application to any body of water.

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

## **Aircraft Maintenance**

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 THE MOST SUSCEPTIBLE.**

The maintenance of an organic coating (paint), which meets aerospace specification MIL-C-38413, may prevent corrosion.

## **Ground Broadcast Equipment**

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

## **Hand-Held and High-Volume Equipment**

Apply to foliage of vegetation to be controlled. For applications made on a spray-to-wet basis, spray coverage must be uniform and complete. Do not spray to the point of runoff. Use coarse sprays only.

For control of weeds listed in the "ANNUAL WEEDS RATE TABLES", apply a 0.5 percent solution of this product to weeds less than 6 inches in height or runner length. Apply prior to seedhead formations in grass or bud formation in broadleaf weeds. For annual weeds over 6 inches tall, or unless otherwise specified, use a 1 percent solution.

For best results use a 2 percent solution on harder-to-control perennials, such as bermudagrass, dock, field bindweed, hemp dogbane, milkweed and Canada thistle.

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

## **Selective Equipment**

This product may be applied through recirculation spray systems, shielded applicators, hooded sprayers, wiper applicators or sponge bars after dilution and thorough mixing with water to listed weeds growing in any non-crop site specified on this label and only when specifically directed in cropping systems.

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

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

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

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

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

Contact of the herbicide solution with desirable vegetation may result in damage or destruction. Applicators used above desirable vegetation must be adjusted so that the lowest spray stream or wiper contact point is at least 2 inches above the desirable vegetation. Droplets, mist, foam, or splatter of the herbicide solution settling on desirable vegetation may result in discoloration, stunting or destruction. Applications made above the crops must be made when the weeds are a minimum of 6 inches above the desirable vegetation. Better results may be obtained when more of the weed is exposed to the herbicide solution. Weeds not contacted by the herbicide solution will not be affected. This may occur in dense clumps, severe infestations or when the height of the weeds varies so that not all weeds are contacted. In these instances, repeat treatment may be necessary.

## **Recirculating spray systems**

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

## Shielded and hooded applicators

When applied under the conditions described in the following paragraphs for shielded and hooded applications, this product at specified rates will control those weeds listed in the "ANNUAL WEEDS RATE TABLE" and "PERENNIAL WEEDS RATE TABLE" sections of this label. A hooded sprayer is a type of shielded applicator where the spray pattern is fully enclosed including top, sides, front and back, thereby shielding the crop from the spray solution. Keep shields on these sprayers adjusted to protect desirable vegetation. When applying to crops grown on raised beds, ensure that the hood is designed to completely enclose the spray solution. If necessary, extend the front and rear flaps of the hoods to reach the ground in deep furrows. **EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION.** This equipment must be set up and operated in a manner that avoids bouncing or raising the hoods off the ground in any way. If the hoods are raised, spray particles may escape and come into contact with the crop, causing damage or destruction of the crop. Avoid operation on rough or sloping ground where the spray hoods might be raised off the ground. Use hoods designed to minimize excessive dripping or run-off down the insides of the hoods. A single, low pressure/low drift flat-fan nozzle with an 80 to 95 degree spray angle positioned at the top center of the hood is specified. Spray volume must be 20 to 30 gallons per acre.

These procedures will reduce the potential for crop injury:

- The spray hoods must be operated on the ground or skimming across the ground.
- Leave at least an 8 inch untreated strip over the drill row. For example, if the crop row width is 38 inches, the maximum width of the spray hood must be 30 inches.
- Maximum tractor speed: 5 miles per hour to avoid bouncing of the spray hoods.
- Maximum wind speed: 10 miles per hour.
- Use low-drift nozzles that provide uniform coverage within the treated area. Crop injury may occur when the foliage of treated weeds comes into direct contact with leaves of the crop. Do not apply this product when the leaves of the crop are growing in direct contact with weeds to be treated. Droplets, mist, foam or splatter of the herbicide solution may contact the crop and cause discoloration, stunting or destruction.

## Wiper applicators and sponge bars

Wiper applicators are devices that physically wipe appropriate amounts of this product directly onto the weed. Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting desirable vegetation. Operate this equipment at ground speeds no greater than 5 mph. Performance may be improved by reducing speed in areas of heavy weed infestations to ensure adequate wiper saturation. Better results may be

obtained if 2 applications are made in opposite directions.

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

Do not use wiper equipment when weeds are wet.

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

Do not add surfactant to the herbicide solution.

**For Rope or Sponge Wick Applicators** - Solutions ranging from 33 to 75 percent of this product in water may be used. Apply this solution to weeds listed in this section.

**For Panel Applicators** – Solutions ranging from 33 to 100 percent of this product in water may be used in panel wiper applications.

**For Porous-Plastic Applicators** – Solutions ranging from 33 to 100 percent of this product in water may be used in porous-plastic wiper applicators.

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

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



When applied as directed, this product SUPPRESSES the following weeds:

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

### **Injection Systems**

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

### **Controlled Droplet Applicator (CDA) Equipment**

The rate of this product applied per acre by vehicle-mounted CDA equipment must not be less than the amount directed in this label when applied by conventional broadcast equipment. For vehicle-mounted CDA equipment, apply 2 to 15 gallons of water per acre.

For the control of annual weeds with hand-held CDA units, apply a 20 percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 1.5 mph (1 quart per acre). For the control of perennial weeds, apply a 20 to 40 percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 0.75 mph (2 to 4 quarts per acre).

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

### **FOR SELECTIVE WEED CONTROL IN NONCROP AREAS AND INDUSTRIAL SITES**

Use in areas such as airports, Christmas tree farms, ditch banks, dry ditches, dry canals, fencerows, industrial sites, lumber yards, manufacturing sites, parking areas, petroleum tank farms and pumping installations, railroads, recreational areas, roadsides, storage areas, utility substations, warehouse areas, other public areas, and similar industrial and noncrop sites.

### **Weed control, Trim-and-edge and Bare ground**

This product may be used in noncrop areas. It may be applied with any application equipment described in this label.

This product may be used to trim-and-edge around objects in noncrop sites, for spot treatment of unwanted vegetation and to eliminate unwanted weeds growing in established shrub beds or ornamental plantings. This product may be used prior to planting an area to ornamentals, flowers, turfgrass (sod or seed), or prior to laying asphalt or beginning construction projects.

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

This product may be tank mixed with the following products. Refer to these products' labels for approved noncrop sites and application rates.

ARSENAL™	2,4-D
BANVEL	VANQUISH™
BARRICADE™ 65WG	TELAR™
DIURON	SURFLAN™
ENDURANCE™	SIMAZINE
ESCORT™	SAHARA™
GARLON™ 3A	RONSTAR™ 50WP
GARLON4	PRINCEP™ LIQUID

KARMEX™ DF  
KROVAR™ I DF  
MANAGE®  
OUST  
PENDULUM™ 3.3 EC

PRINCEP™ DF  
PENDULUM WDG  
PLATEAU™

Banvel and 2,4-D tank mixtures may not be applied by air in California.

When applied as a tank mixture for bare ground, this product provides control of the emerged annual weeds and control or partial control of emerged perennial weeds, woody brush and trees. For control or partial control of the following perennial weeds, apply 1 to 2 quarts of this product plus Oust.

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

### **Chemical mowing - Perennials**

This product will suppress perennial grasses listed in this section to serve as a substitute for mowing. Use 6.4 fluid ounces of this product per acre when treating tall fescue, fine fescue, orchardgrass or quackgrass covers. Use 5 fluid ounces of this product per acre when treating Kentucky bluegrass. Apply treatments in 10 to 40 gallons of spray solution per acre.

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

### **Chemical mowing – Annuals**

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

**PRECAUTIONS:** Treatments may cause injury to the desired grasses

**RESTRICTIONS:** Applications must be made when annual grasses are actively growing and before the seed heads are in the boot stage of development.

### **Dormant turfgrasses**

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

Apply 6.4 to 51 fluid ounces of this product per acre.

Apply the specified rates in 10 to 40 gallons of water per acre. DO NOT apply tank mixtures of this product plus Oust in highly maintained turfgrass areas. For further uses, refer to the "ROADSIDES" section of this label, which gives rates for dormant bermudagrass and bahiagrass treatments.

**PRECAUTIONS:** Treatments in excess of 13 fluid ounces per acre may result in injury or delayed greenup in highly maintained areas, such as golf courses and lawns.

**RESTRICTIONS:** Use only in areas where bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated.

### **Actively growing bermudagrass**

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing bermudagrass. DO NOT apply more than 13 fluid ounces of this product per acre in highly maintained turfgrass areas. DO NOT apply tank mixtures of this product plus OUST in highly maintained turfgrass areas. For further uses, refer to the "ROADSIDES" section of this label, which gives rates for actively growing bermudagrass treatments.

**RESTRICTIONS:** Use only in areas where some temporary injury or discoloration can be tolerated.

### **Roadsides**

All of the instructions in the "Noncrop and Industrial Site" section apply to roadsides.

### **Shoulder treatments**

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

### **Muster treatments**

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

### **Guardrails and other obstacles to mowing**

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

### **Spot treatment**

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

### **Tank mixtures**

This product may be tank-mixed with the following products for muster, guardrail, spot and bare ground treatments:

BANVEL	PRINCEP LIQUID
DIURON	RONSTAR 50WP
ENDURANCE	SAHARA
ESCORT	SIMAZINE
KROVAR I DF	SURFLAN
OUST	TELAR
PENDULUM 3.3 EC	VANQUISH
PENDULUM WDG	2,4-D
PRINCEP DF	

### **Release of Bermudagrass or Bahiagrass**

#### **Dormant applications**

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

This product may also be tank-mixed with Oust for residual control. Tank mixtures of this product with Oust may delay greenup.

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

Apply 6.4 to 51 fluid ounces of this product per acre alone or in a tank mixture with Oust. Apply the specified rates in 10 to 40 gallons of water per acre. Use only in areas where bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated. To avoid delays in greenup and minimize injury on bermudagrass and bahiagrass avoid treatments when these grasses are in a semidormant condition.

### **Actively growing bermudagrass**

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing bermudagrass. Apply 13 to 38 fluid ounces of this product in 10 to 40 gallons of spray solution per acre. Use the lower rate when treating annual weeds below 6 inches in height (or runner length). Use the higher rate as weeds increase in size or as they approach flower or seed head formation.

These rates will also provide partial control of the following perennial species:

Bahiagrass	Johnsongrass
Bluestern, silver	Trumpetcreeper
Fescue, tall	Vaseygrass

This product may be tank-mixed with Oust. If tank mixed, use no more than 13 to 26 fluid ounces of this product with 1 to 2 ounces of Oust per acre. Use the lower rates of each product to control annual weeds less than 6 inches in height (or runner length) that are listed in this label and the Oust label. Use the higher rates as annual weeds increase in size and approach the flower or seed head stages. These rates will also provide partial control of the following perennial weeds:

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

Use only on well-established bermudagrass. Bermudagrass injury may result from the treatment, but regrowth will occur under moist conditions. Repeat applications of the tank mix in the same season are not to be done, since severe injury may occur.

### **Actively growing bahiagrass**

For suppression of vegetative growth and seed head inhibition of bahiagrass for approximately 45 days, apply 5 fluid ounces of this product in 10 to 40 gallons of water per acre. Apply 1 to 2 weeks after full greenup or after mowing to a uniform height of 3 to 4 inches.

This application must be made prior to seed head emergence.

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

A tank mixture of this product plus Oust may be used.

Apply 5 fluid ounces of this product plus Oust 1 to 2 weeks following an initial spring mowing. Make only one application per year.

### **Bermudagrass Release**

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing bermudagrass. Apply 13 to 38 fluid ounces of this product in up to 80 gallons of spray solution per acre. Use the lower rate when treating annual weeds below 6 inches in height (or runner length). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation. These rates will also provide partial control of the following perennial species:

Bahiagrass	Johnsongrass
Bluestem, silver	Trumpetcreeper
Fescue, tall	Vaseygrass

This product may be tank-mixed with Oust. If tank-mixed, use no more than 13 to 38 fluid ounces of this product with Oust. Use the lower rates of each product to control annual weeds less than 6 inches in height (or runner length) that are listed in this label and the Oust label. Use the higher rates of each product as annual weeds increase in size and approach the flower or seed head stages. These rates will also provide partial control of the following perennial weeds:

Bahiagrass	Fescue, tall
Blackberry	Johnsongrass
Bluestem, silver	Poorjoe
Broomsedje	Raspberry
Dallisgrass	Trumpetcreeper
Dewberry	Vaseygrass
Dock, curly	Vervian, blue
Dogfennel	

**PRECAUTION:** Bermudagrass injury may result from the treatment, but regrowth will occur under moist conditions.

**RESTRICTIONS:** Use only on well-established bermudagrass. Repeat applications in the same season must not be made, since severe injury may occur.

## Weed Control in Railroads

### Bare Ground, Ballast and Musters, Crossings, and Spot Treatment

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

ARSENAL™	KROVAR™ I DF
BANVEL™	OUST™
DIURON	SAHARA™
ESCORT™	SPIKE™
GARLON™ 3A	TELAR™
GARLON 4	VANQUISH™
HYVAR™ X	2,4-D

### Brush Control

This product may be used to control woody brush and trees on railroad rights-of-way. Apply 3 to 8 quarts of this product per acre as a broadcast spray, using boom-type or boomless nozzles. Up to 80 gallons of spray solution per acre may be used. Apply a 2/3 to 1.6 percent solution of this product when using high-volume spray-to-wet applications. Apply a 4 to 8 percent solution of this product when using low volume directed sprays for spot treatment. This product may be mixed with the following products for enhanced control of woody brush and trees:

ARSENAL	GARLON 4
ESCORT	TORDON™ K
GARLON 3A	

## **Turfgrass and Sod Production**

**USE INSTRUCTIONS:** This product controls most existing vegetation prior to renovating turfgrass areas or establishing turfgrass grown for seed or sod. For maximum control of existing vegetation, delay planting or sodding to determine if any regrowth from escaped underground plant parts occurs. For warm season grasses such as bermudagrass, summer or fall applications provide the best control.

Desirable turfgrasses may be planted following the above procedures. Hand-held equipment may be used for spot treatment of unwanted vegetation growing in existing turfgrass.

Broadcast or hand-held equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested.

**RESTRICTIONS:** Do not feed or graze turfgrass grown for seed or sod production for 8 weeks following application.

Refer to the “ANNUAL WEED RATE TABLES” for rates to use on the weeds that are present.

## **NON-CROP USES AROUND THE FARMSTEAD**

**TYPES OF APPLICATIONS:** Non-selective weed control, Trim-and-edge, Greenhouse/shade house, Chemical mowing, Cut stumps, Habitat management.

### **Bananacide in banana plantings infected with banana bunchy top virus (banana only)**

**USE INSTRUCTIONS:** This product may be used to destroy banana plants infected with the Banana Bunchy Top Virus as well as non-infected banana plants to establish disease free buffers around plantations. Remove all fruit from the plants within the treatment area prior to treatment. Inject 1/25 fluid ounce (1 mL) of this product's concentrate per 2 to 3 inches of pseudostem diameter. Make the injection at least one foot above the ground, except for very small plants, which must be injected vertically into the top. Any subsequent regrowth must also be destroyed. All plants and mats (or units) adjacent (within a 4-foot radius) to a treated mat shall be mechanically destroyed.

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

**RESTRICTIONS:** Do not apply more than 1/2 fluid ounce (15 mL) of this product's concentrate per mat (or unit). Remove all fruit from plants and mats (or units) prior to treatment. Do not harvest any fruit or plant materials from treated mats (or units) following injection. Do not allow livestock to consume treated plant materials. Following transplant of new banana plants into treated areas, allow plants to become established for 3 months before applying this product for weed control.

### **Weed Control and Trim-And-Edge**

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

**TANK MIXTURES:** This product may be tank mixed with the following products. Refer to these product labels for approved farmstead sites and application rates. For annual weeds, use 26 fluid ounces per acre of this product when weeds are less than 6 inches tall, 40 fluid ounces per acre when weeds are 6 to 12 inches tall and 52 fluid ounces per acre when weeds are greater than 12 inches tall. For perennial weeds, apply 52 fluid ounces to 4 quarts per acre in these tank mixes. For tank mixtures with these products through backpack sprayers, handguns or other high-volume spray-to-wet applications, see the “ANNUAL WEEDS -- HAND-HELD OR HIGH VOLUME EQUIPMENT” section of this label for specified rates.

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

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

### **Greenhouse/Shade house**

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

### **Chemical mowing**

**USE INSTRUCTIONS:** This product will suppress perennial grasses listed in this section to serve as a substitute for mowing. Use 5 fluid ounces of this product per acre when treating Kentucky bluegrass. Use 6.5 fluid ounces of this product per acre when treating tall fescue, fine fescue, orchard grass, bahiagrass or quackgrass covers. Use 13 fluid ounces of this product per acre when treating bermudagrass. Use 52 fluid ounces of this product per acre when treating torpedo grass or paragrass. Apply treatments in 10 to 20 gallons of spray solution per acre. Chemical mowing applications may be made along farm ditches and other parts of farmsteads.

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

### **Cut Stumps**

**TYPES OF APPLICATION:** Treating cut stumps in any non-crop site listed on this label

**USE INSTRUCTIONS:** This product will control regrowth of cut stumps and resprouts of many types of woody brush and tree species, some of which are listed below.

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

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

**Nut Trees:** Almond, Beechnut, Brazil Nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert (Hazelnut), Hickory Nut, Macadamia, Pecan, Pistachio, Walnut (Black, English)

**Ornamental Trees:** Alder, Eucalyptus, Madrone, Oak, Brazilian Pepper, Austrian Pine, giant Reed, Salt-cedar, Sweetgum, Tan oak, Willow

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

**RESTRICTIONS:** Do not make cut stump applications when the roots of desirable woody brush or trees may be grafted to the roots of the cut stump. Some sprouts, stems, or trees may share the same root system. Adjacent trees having a similar age, height and spacing may signal shared roots. Whether grafted or shared, injury is likely to occur to non-treated stems/trees when one or more trees sharing common roots are treated. In orchards, do not make cut stump applications for selective removal of individual trees within a desirable row or grove. Use cut stump applications only for complete removal of all orchard trees in one area.

## **Habitat Management**

**TYPES OF USES:** Habitat restoration and maintenance, Wildlife food plots.

### **Habitat restoration and maintenance**

**USE INSTRUCTIONS:** This product may be used to control exotic and other undesirable vegetation in habitat management areas. Applications can be made to allow recovery of native plant species, prior to planting desirable native species, and for similar broad spectrum vegetation control requirements in habitat management areas. Spot treatments can be made to selectively remove unwanted plants for habitat maintenance and enhancement.

### **Wildlife food plots**

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

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

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

### **TYPES OF APPLICATIONS:**

Chemical fallow, Preplant fallow beds, Preplant, Preemergence, At planting, Hooded sprayers in row middles, Shielded sprayers in row-middles, Wiper applicators in row-middles, and Post-harvest treatments.

### **USE INSTRUCTIONS:**

Apply this product during fallow intervals preceding planting, prior to planting or transplanting, at-planting, or preemergent to annual and perennial crops listed in this label, except where specifically limited. For any crop not listed in this label, applications must be made at least 30 days prior to planting. Unless otherwise specified, weed control applications may be made according to the rates listed in the **“ANNUAL WEEDS, PERENNIAL WEEDS, AND WOODY BRUSH RATE TABLES”** in this label. Repeat applications may be made up to a maximum of 6.5 quarts per acre per year. Post-directed hooded sprayers and wiper equipment capable of preventing all crop contact with herbicide solutions may be used in mulched or unmulched row middles after crop establishment. Where specifically noted below, wipers may also be used above certain crops to control tall weeds. Refer to the **“SELECTIVE EQUIPMENT”** section of this label for essential directions when using hooded sprayers or wipers to avoid crop injury caused by leakage of spray mists or dripping onto crops. Crop injury is possible with these applications and shall be the sole responsibility of the applicator.

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



## **USE DIRECTIONS:**

Avoid contact of herbicide with foliage, green shoots or stems, bark, exposed roots (including those emerging from plastic mulch), or fruit of crops because severe injury or destruction may result. When making preemergence and at planting applications, applications must be made before crop emergence to avoid severe crop injury. Broadcast applications made at emergence will result in injury or death to emerged seedlings. Apply before seed germination in coarse sandy soils to further minimize the risk of injury. Unless otherwise specified in this product's labeling, treatments with selective equipment including wipers and hooded sprayers must be made at least 14 days prior to harvest. Post-harvest or fallow applications must be made at least 30 days prior to planting any non-labeled crop. See "**APPLICATION EQUIPMENT AND TECHNIQUES**" section of this label for additional information. In crops where spot treatments are allowed, do not treat more than 10 percent of the total field to be harvested. The crop receiving spray in treated area will be killed. Care must be taken for the same reason. Drift or spray outside the target area. For broadcast postemergent treatments, do not harvest or feed treated vegetation for 8 weeks following application, unless otherwise specified.

## **Berry Crops**

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

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

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

### **Spot treatment in cranberry production**

**USE INSTRUCTIONS:** Spot treatments may be used to control weeds growing in dry ditches (interior and perimeter) of cranberry production areas. Hand-held sprayers or other appropriate application equipment listed under "**APPLICATION EQUIPMENT AND TECHNIQUES**" in this label may be used. Drop water level to remove standing water in ditches prior to application. In hand-held sprayers, use 0.8 to 1.6 percent solution of this product. Spray to wet vegetation, not to run-off.

**PRECAUTIONS:** For treatments after draw-down of water in dry ditches, allow 2 or more days after treatment before reintroduction of water to achieve maximum weed control. Apply this product within 1 day after draw-down to ensure application to actively growing weeds. Use nozzles that emit medium to large-sized droplets to minimize drift. The likelihood of crop 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. Avoid drift. Extreme care must be used when applying this product to avoid injury to desirable plants and crops.

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

### **Post-harvest treatments in cranberry production**

**USE INSTRUCTIONS:** Application of this product may be made after the harvest of cranberries to control weeds growing within the field. Best results will be obtained if applications are made to vines that appear dormant (after they have turned red). Hand-held sprayers, wipers, or other appropriate application equipment listed under "**APPLICATION EQUIPMENT AND TECHNIQUES**" in this label may be used. If using handheld sprayers, use a 0.4 to 0.8 percent solution of this product. Spray to wet vegetation, not to run-off. If using hand-held boom sprayers, apply 1.75 to 3.25 quarts of this product per acre.

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

**PRECAUTIONS:** Even though vines appear dormant, contact of the herbicide solution with desirable vegetation may result in damage or severe plant injury. Cranberry plants that are directly sprayed may be killed. Use nozzles that emit medium to large-sized droplets to minimize drift. The likelihood of crop 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. Avoid drift. Extreme care must be used when applying this product to avoid injury to desirable plants and crops.

### **Cereal and Grain Crops**

**LABELLED CROPS:** Barley, Buckwheat, Millet (pearl, proso), Oats, Rice, Rye, Quinoa, Teff, Teosinte, Triticale, Wheat (all types), Wild rice.

**RESTRICTIONS:** Do not treat rice fields or levees when field contains water.

**TYPES OF APPLICATIONS:** Those listed in Annual and Perennial Crops Use Instructions plus the following: red rice control prior to planting rice, spot treatment (except rice), wiper applicators over-the-top of wheat and feed barley only, preharvest (wheat and feed barley only).

### **Preplant, Preemergence and At-planting**

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

**NOTE:** For preplanting treatment of wheat, tank mixtures of Top Dog® Glycel Ultra Max Herbicide (26 fluid ounces per acre) and AIM™ (0.144 ounce per acre) may be used. For best results make applications to actively growing weeds. Ammonium sulfate at 1 to 2 percent by weight or 8.5 to 17 pounds per 100 gallons of water may be added. The addition of 2,4-D or dicamba is not recommended.

### **Red rice control prior to planting rice**

**USE INSTRUCTIONS:** Apply 40 fluid ounces of this product in 5 to 10 gallons of water per acre. Flush fields prior to application to obtain uniform germination and stand of red rice. Make application when the majority of the red rice plants are in the 2-leaf stage and no more than 4 inches tall. Red rice plants with less than 2 true leaves may be only partially controlled.

**PRECAUTION:** Avoid spraying during low humidity conditions, as reduced control may result.

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

### **Barnyardgrass (*Echinochloa crus-galli*) Control in Rice Using Renovation Treatment Only**

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

**PRECAUTIONS:** The crop receiving spray in the treated area will be killed. Care must be taken to prevent drift or spray outside target area for the same reason.

**RESTRICTIONS:** The rice straw and stubble from the treated area, including a 25-foot buffer zone on all sides, are not to be used for grazing, animal bedding or any feed purposes. No Aerial applications are permitted for rice renovation with this product.

### **Spot treatment (except rice)**

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

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

#### **Wiper applications (wheat and feed barley only)**

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

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

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

**USE INSTRUCTIONS:** This product provides weed control when applied prior to harvest of wheat or feed barley. For wheat, apply after the hard-dough stage of grain (30 percent or less grain moisture). For feed barley, apply after the hard-dough stage and when the grain contains 20 percent moisture or less. Stubble may be grazed immediately after harvest.

This product may be applied using either aerial or ground spray equipment. For ground applications, apply this product in 10 to 20 gallons of water per acre. For aerial applications, apply this product in 3 to 10 gallons of water per acre.

**RESTRICTIONS:** Do not apply more than 26 fluid ounces of this product per acre. Allow 7 days between application and harvest or grazing.

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

#### **Post-harvest**

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

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

#### **Conservation Reserve Program (CRP)**

**TYPES OF APPLICATIONS:** Renovation (rotating out of CRP), site preparation, postemergence weed control in dormant CRP grasses, wipers.

#### **Rotating out of CRP, Site preparation:**

**USE INSTRUCTIONS:** This product may be used to prepare CRP land for crop production. Refer to Federal, state or local guides for CRP renovation specifications.

#### **Postemergence Weed Control in dormant CRP grasses: Wiper Applications:**

**USE INSTRUCTIONS:** This product may be used to suppress competitive growth and seed production of undesirable vegetation in CRP acres. Such applications may be made with wiper application equipment or as a broadcast or spot treatment to dormant CRP grasses. For selective applications with broadcast spray equipment, apply 10 to 13 fluid ounces of this product per acre in early spring before desirable CRP grasses, such as crested and tall wheatgrass, break dormancy and initiate green growth. Late fall applications can be made after desirable perennial grasses have reached dormancy.

**RESTRICTION:** Do not apply more than 2.25 quarts per acre per year onto CRP grasses.

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

## Citrus

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

### USE INSTRUCTIONS:

Florida and Texas only: For burndown or control of the weeds listed below, apply the specified rates of this product in 3 to 30 gallons of water per acre. Where weed foliage is dense, use 10 to 30 gallons of water per acre. For goatweed, apply 1.75 to 2.5 quarts of this product per acre. Apply in 20 to 30 gallons of water per acre when plants are actively growing. Use 1.75 quarts per acre when plants are less than 8 inches tall and 2.5 quarts per acre when plants are greater than 8 inches tall. If goatweed is greater than 8 inches tall, the addition of Krovar™ I or Karmex™ may improve control. Refer to the individual product labels for specific crops, rates, geographic restrictions and precautionary statements. Perennial weeds:

S = Suppression

B = Burndown

PC = Partial control

C = Control

WEED SPECIES	TOP DOG® GLYCEL ULTRA MAX HERBICIDE RATE PER ACRE	1 QT	1.75 QT	2.5 QT	4 QT
Bermudagrass		B	-	PC	C
Guineagrass					
Texas and Florida Ridge		B	C	C	C
Florida Flatwoods		-	B	C	C
Paragrass		B	C	C	C
Torpedograss		S	-	PC	C

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

## Miscellaneous Tree Food Crops

**LABELLED CROPS:** Cactus (fruit and pads), Palm (heart, leaves), Palm (oil).

## Non-Food Tree Crops

**LABELLED CROPS:** Pine, Poplar, Eucalyptus, Christmas Trees, Other non-food tree crops.

## Post-directed, Spot treatment, Wipers

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

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

**RESTRICTION:** DO NOT USE AS AN OVER-THE-TOP BROADCAST SPRAY IN CHRISTMAS TREES AND OTHER PINE TREES.

## Site preparation

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

**PRECAUTION:** Precautions must be taken to protect nontarget plants during site preparation applications.

## Corn

**TYPES OF CORN:** Field corn, Seed corn, Silage corn, Sweet corn and Popcorn.

**TYPES OF APPLICATIONS:** Those listed in Annual and Perennial Crops Use Instructions.

### Preplant, Preemergence and At-planting

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

**NOTE:** For preplanting treatment of corn, tank mixtures of Top Dog® Glycel Ultra Max Herbicide (26 fluid ounces per acre) and AIM™ (0.144 ounce per acre) may be used. For best results make applications to actively growing weeds. Ammonium sulfate at 1 to 2 percent by weight or 8.5 to 17 pounds per 100 gallons of water may be added. The addition of 2,4-D or dicamba is not recommended.

**TANK MIXTURES:** Apply these tank mixtures in 10 to 20 gallons of water or 10 to 60 gallons of nitrogen solution per acre.

2,4-D	DISTINC™	
LARIAT®	AIM	
DUAL MAGNUM™	LASSO®/ALACHLOR	
ATRAZINE	DUAL II MAGNUM™ LINEX™/LOROXTM	AXIOM™
EPIC™	TOPNOTCH™	
MARKSMAN™	BALANCE™ FRONTIER™/OUTLOOK™	MICRO-TECH®
BANVEL™/CLARITY™	FULTIME™	
PROWL™	BICEP MAGNUM™ GUARDSMAN™/LEADOFF™ PYTHON™	
BICEP II MAGNUM™	HARNESS®	
SIMAZINE	BULLET®	
HARNESS XTRA	DEGREE XTRA®	
DEGREE®	HARNESS XTRA 5.6L	
BLADEX®	EXTRAZINE™	
RESOURCE®		

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

### Control and Management of Glyphosate Resistant Horseweed

For control and management of glyphosate resistant horseweed apply a tank mixture of this product (26 fluid ounces per acre) plus 2,4-D before horseweed exceeds 6 inches in height. See the 2,4-D product label for time intervals that are required between application and planting and rates. Atrazine may be included in the tank-mixture to provide residual control. Refer to the atrazine product label for specific use instructions.

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

**Annual Weeds** - For difficult-to-control annual weeds such as fall panicum, barnyardgrass, crabgrass, shattercane and broadleaf signal grass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 26 fluid ounces per acre in these tank mixtures. For other labeled annual weeds, apply 20 to 26 fluid ounces of this product per acre when weeds are less than 6 inches tall, and 26 to 40 fluid ounces when weeds are over 6 inches tall. When using nitrogen solutions as the carrier, use rate may need to be increased for acceptable weed control.

**RESTRICTIONS:** Applications of 2,4-D or dicamba must be made at least 7 days prior to planting corn. For Southern states, do not apply in nitrogen solutions to tough-to-control grasses such as barnyard grass, fall panicum, broad leaf signal grass, annual ryegrass and any perennial weeds. The area covered by this specification includes from Route 50 South in Illinois and Indiana and the following states: Alabama, Arkansas,

Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, New Jersey, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia and West Virginia.

### **Hooded sprayers**

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

**PRECAUTIONS:** Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage. To the extent consistent with applicable law, such damage shall be the sole responsibility of the applicator.

**RESTRICTIONS:** Corn must be at least 12 inches tall, measured without extending leaves. Do not graze or feed corn forage or fodder following applications of this product through hooded sprayers. Do not apply more than 26 fluid ounces of this product per acre for each application and no more than 2.4 quarts per acre per year for hooded sprayer applications.

### **Spot treatment**

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

**RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in the treated area will be killed.

**PRECAUTION:** Care must be taken to prevent drift or spray outside target area for the same reason.

### **Preharvest**

**USE INSTRUCTIONS:** Make applications at 35 percent grain moisture or less. Ensure that maximum kernel fill is complete and the corn is physiologically mature (black layer formed). For ground applications, apply up to 2.4 quarts of this product per acre. For aerial applications, apply up to 52 fluid ounces of this product per acre.

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

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

### **Post-harvest**

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

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

### **Fallow Systems**

**TYPES OF APPLICATIONS:** Chemical fallow, aid-to-tillage

#### **Chemical fallow**

**USE INSTRUCTIONS:** This product may be applied during the fallow period prior to planting or emergence of any crop listed on this label. For any crop not listed on this label, applications must be made at least 30 days prior to planting. This product may be used as a substitute for tillage to control annual weeds in fallow fields. Also, broadcast or spot treatments will control or suppress many perennial weeds in fallow fields. Ground or aerial application equipment may be used. Tank mixtures with 2,4-D and dicamba may be used. Refer to the specific product labels for crop rotation restrictions and cautionary statements of all products used in tank mixtures. Some crop injury may occur if Banvel is applied within 45 days of planting.

## **Aid-to-tillage**

**USE INSTRUCTIONS:** This product may be used in conjunction with tillage practices in fallow systems or preplant to labeled crops to control downy brome, cheat, volunteer wheat, tansy mustard and foxtail. Apply 6.5 fluid ounces of this product in 3 to 10 gallons of water per acre. Make applications before weeds are 6 inches in height.

Applications must be followed by conventional tillage practices no later than 15 days after treatment and before regrowth occurs. Allow at least 1 day after application before tillage.

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

## **Cotton**

**TYPES OF APPLICATIONS:** Those listed in Annual and Perennial Crops Use Instructions plus the following: Selective equipment, Spot treatment, Preharvest.

### **Preplant, Preemergence, and At-planting**

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

### **Preplant Control and Management of Glyphosate Resistant Horseweed**

Apply this product (26 fluid ounces per acre) in a tank-mix with an approved herbicide for preplant control and management of Glyphosate resistant Horseweed (for example Clarity®). This application must be made 21 to 35 days before planting and before horseweed reaches 6 inches in height. In order to avoid crop injury, a minimum interval of 21 days during which there is at least 1 inch of cumulative rainfall that must be observed between the application and planting of cotton.

### **Hooded sprayer, Selective equipment**

**USE INSTRUCTIONS:** This product may be applied through hooded sprayers, recirculating sprayers, shielded applicators or wiper applicators in cotton. Allow at least 7 days between application and harvest. See the “SELECTIVE EQUIPMENT” part of the “APPLICATION EQUIPMENT AND TECHNIQUES” section of this label for information on proper use and calibration of this equipment.

### **Spot treatment**

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

**RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in treated area will be killed.

**PRECAUTION:** Care must be taken to prevent drift or spray outside target area for the same reason.

### **Preharvest**

**USE INSTRUCTIONS:** This product provides weed control and cotton regrowth inhibition when applied prior to harvest of cotton. For weed control, apply at rates given in the “**ANNUAL, PERENNIAL and WOODY BRUSH WEED CONTROL TABLE**” sections of this label. For cotton regrowth inhibition, apply 13 to 52 fluid ounces of this product per acre. Up to 52 fluid ounces of this product may be applied using either aerial or ground spray equipment. Apply after sufficient bolls have developed to produce the desired yield of cotton. Applications made prior to this time could affect maximum yield potential.

**TANK MIXTURES:** This product may be tank mixed with DEP 6, Folex-, Ginstar, or Prep- to provide additional enhancement of cotton leaf drop.

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

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

### **Fallow Systems**

**LABELLED CROPS:** This product may be applied during the fallow period prior to planting or emergence of any crop on this label.

**TYPES OF APPLICATIONS:** Chemical fallow, Preplant fallow beds, Aid-to-tillage.

### **Chemical fallow**

**USE INSTRUCTIONS:** This product may be applied during the fallow period prior to planting or emergence of any crop listed on this label. This product may be used as a substitute for tillage to control annual weeds in fallow fields. Also, broadcast or spot treatments will control or suppress many perennial weeds in fallow fields. Ground or aerial application equipment may be used. Tank mixtures with 2,4-D and dicamba may be used. Applications up to 52 fluid ounces per acre may be made by aerial application in fallow sites where there is sufficient buffer to prevent injury due to drift onto adjacent crops.

**RESTRICTIONS:** For any crop not listed on this label, applications must be made at least 30 days prior to planting. Do not apply dicamba tank mixtures by air in California. Refer to the specific product labels for crop rotation restrictions and cautionary statements of all products used in tank mixtures.

**PRECAUTION:** Some crop injury may occur if dicamba is applied within 45 days of planting.

### **Preplant fallow beds**

**USE INSTRUCTIONS:** This product may be applied to fallow beds prior to planting or emergence of any crop listed on this label. For any crop not listed on this label, applications must be made at least 30 days prior to planting. This product will control weeds listed in the "ANNUAL, PERENNIAL and WOODY BRUSH WEED CONTROL TABLE" sections of this label.

**TANK MIXTURES:** In addition, 10 fluid ounces of this product plus 2 to 3 fluid ounces of Goal 2XL per acre will control the following weeds with the maximum height or length indicated: 3" -- common cheeseweed, chickweed, groundsel; 6" -- London rocket, shepherd's-purse. 13 fluid ounces of this product plus 2 to 3 fluid ounces of Goal 2XL per acre will control the following weeds with the maximum height or length indicated: 6" -- common cheese weed, groundsel, marestail (*Conyza canadensis*), 12" -- chickweed, London rocket, shepherd's-purse.

### **Aid-to-tillage**

**USE INSTRUCTIONS:** This product may be used in conjunction with tillage practices in fallow systems or preplant to labeled crops to control downy brome, cheat, volunteer wheat, tansy mustard and foxtail. Apply 10 fluid ounces of this product in 3 to 10 gallons of water per acre. Make applications before weeds are 6 inches in height. Application must be followed by conventional tillage practices no later than 15 days after treatment and before regrowth occurs. Allow at least 1 day after application before tillage.

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

### **Grain Sorghum (Milo)**

**TYPES OF APPLICATIONS:** Those listed in the Annual and Perennial Crops Use Instructions as well as Spot treatment, Over-the-top wiper applicators, Preharvest.

### **Preplant, Preemergence, At-planting**

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



**TANK MIXTURES:** Apply these tank mixtures in 10 to 20 gallons of water or 10 to 60 gallons of nitrogen solution per acre.

ATRAZINE	BICEP II MAGNUM
BULLET	DUAL II MAGNUM
LARIAT	LASSO
MICRO-TECH	

For difficult-to-control annual weeds such as fall panicum, barnyard grass, crabgrass, shattercane and broadleaf signal grass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 26 fluid ounces per acre in these tank mixtures. For other labeled annual weeds, apply 20 to 26 fluid ounces of this product per acre when weeds are less than 6 inches tall, and 26 to 40 fluid ounces when weeds are over 6 inches tall. When using nitrogen solutions as the carrier, the use rate may need to be increased for acceptable weed control.

### **Spot treatment and Wiper applications**

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

**RESTRICTIONS:** For spot treatment, do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in treated area will be killed. For wiper applicators, allow at least 40 days between application and harvest. Do not use roller applicators. Do not feed or graze treated milo fodder. Do not ensile treated vegetation.

**PRECAUTION:** Care must be taken to prevent drift or spray outside target area.

### **Hooded Sprayers**

**USE INSTRUCTIONS:** This product may be used through hooded sprayers for weed control between the rows of corn. Only hooded sprayers that completely enclose the spray pattern may be used. See additional instructions for the use of hooded sprayers in the “APPLICATION EQUIPMENT AND TECHNIQUES” section of this label.

**RESTRICTIONS:** Milo must be at least 12 inches tall, measured without extending leaves. Do not apply more than 26 fluid ounces of this product per acre per application and no more than 2.4 quarts per acre per year for hooded sprayer applications. Do not graze or feed milo forage or fodder following applications of this product through hooded sprayers.

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

### **Preharvest**

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

**RESTRICTIONS:** Do not apply more than 52 fluid ounces of this product per acre. The use of this product for preharvest grain sorghum (milo) is not registered in California.

**PRECAUTIONS:** As with other herbicides that cause sudden plant death, avoid preharvest applications of this product to milo infected with charcoal rot as lodging can occur. Preharvest application is not specified for sorghum grown for seed, as a reduction in germination or vigor may occur.

### **Postharvest**

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

This product may be applied to grain sorghum (milo) stubble following harvest to suppress or control regrowth. Apply 26 fluid ounces of this product per acre for control, or 20 fluid ounces of this product per acre for suppression.

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

## **Herbs and Spices**

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

**TYPES OF APPLICATIONS:** Those listed in the Annual and Perennial Crops Use Instructions as well as Spot treatment (peppermint and spearmint only), Over-the-top wiper applicators (peppermint and spearmint only)

**PRECAUTIONS:** When applying this product prior to transplanting or direct-seeding crops into plastic mulch, care must be taken to remove residues of this product, which could cause crop injury, from the plastic prior to planting. Residues can be removed by a single 0.5-inch application of water, either by natural rainfall or via a sprinkler system. For certain crops make applications 3 days before transplanting or planting as directed below, to avoid injury.

## **Over-the-top wiper applicators or Spot treatments (peppermint and spearmint only)**

**USE INSTRUCTIONS:** This product may be used as a spot treatment or wiper application in spearmint and peppermint. Apply spot treatments on a spray-to-wet basis with hand-held equipment, such as backpack and knapsack sprayers, pump-up pressure sprayers, hand-guns, hand-wands or any other hand-held or motorized spray equipment used to direct the spray solution to a limited area. In wiper applications, the applicator must be adjusted so that the wiper contact point is at least 2 inches above the crop. Weeds must be a minimum of 6 inches taller than the crop. Better results may be obtained when more of the weed is exposed to the herbicide solution. Weeds not contacted by the herbicide solution will not be affected. This may occur in dense clumps, severe infestations, or when height of weeds varies so that not all weeds are contacted. In these instances, repeat treatments may be necessary. Better results may be obtained if 2 applications are made in opposite directions.

**RESTRICTIONS:** Allow at least 7 days between application and harvest. Further applications may be made in the same area at 30-day intervals. In spot treatment applications, no more than 10 percent of the total field area to be harvested may be treated at one time. The crop receiving spray in the treated area will be killed.

**PRECAUTIONS:** Care must be taken to prevent drift or spray outside the target area for this reason. In wiper applications, contact of the herbicide solution with the crop may result in damage or destruction.

## **Medicinal Herbs: Burdock, Dandelion, Echinacea, Feverfew, Golden Seal, Stinging Nettle, St. Johnswort, Valerian, and Blue Vervain.**

For specific rates of application and instructions for control of various annual and perennial weeds, see the “Annual and Perennial Weeds Rate Tables”

**TYPES OF APPLICATIONS:** Chemical fallow, preplant fallow beds, preplant, preemergence, post directed hooded applications and postharvest.

## **Chemical Fallow, Pre plant Fallow Beds**

**USE INSTRUCTIONS:** This product may be applied during the fallow period prior to planting or emergence of any crop listed on this label. This product may be used as a substitute for tillage to control annual weeds in fallow fields. Also, broadcast or spot treatments will control or suppress many perennial weeds in fallow fields.

## **Preplant, Preemergence**

**USE INSTRUCTIONS:** This product may be applied before, during or after planting by direct seeding and prior to transplanting the crops listed above. Applications must be made prior to emergence of the crop.

**RESTRICTIONS:** Preplant applications must be made at least 3 days prior to transplanting. **EXTREME CARE MUST BE TAKEN TO ENSURE THAT THERE IS NO PART OF A SEED OR EMERGING SEEDLING CAPABLE OF BEING CONTACTED AND THAT THE SOIL IS TOTALLY COVERING THE SEED OR DEVELOPING SEEDLING AT APPLICATION. ENSURE THAT NO PART OF ANY SEED OR EMERGING SEEDLING IS CONTACTED BY HERBICIDE SOLUTION, SPRAY DRIFT OR MIST.**

For preemergence applications prior to the emergence of established perennial crops do not apply within one week prior to emergence of any plant part.

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

## **Post Directed Hooded Applications, Post-Harvest**

**USE INSTRUCTIONS:** Post directed hooded applications of this product may be made to mulched or unmulched row middles after crop establishment.

This product may be applied after final harvest to control weeds, suppress regrowth of annual crops or for renovation of biennial or perennial crop beds. Higher rates may be needed to control large weeds which were growing in the crop at the time of harvest.

**RESTRICTIONS:** Post directed applications may be made at a maximum of 1 quart per acre and a maximum of 1 application per growing season. Post directed and post-harvest applications must be made at least 14 days prior to planting the next crop. Do not harvest or feed treated vegetation. **EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF HERBICIDE SOLUTION, SPRAY, DRIFT OR MIST WITH FOLIAGE OR GREEN BARK OF TRUNK, BRANCHES, SUCKERS, FRUIT OR OTHER PARTS OF DESIRABLE PLANTS. CONTACT OF THIS PRODUCT WITH OTHER THAN MATURED BROWN BARK CAN RESULT IN SERIOUS CROP DAMAGE.**

**PRECAUTION:** To the extent within applicable law, Grower assumes all responsibility for crop losses from misapplication.

## **Oil Seed Crops**

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

**TYPES OF APPLICATIONS:** Those listed in the Annual and Perennial Crops Use Instructions.

**USE INSTRUCTIONS:** This product may be applied before, during or after planting oil seed crops. Broadcast applications must be made prior to emergence of the listed oil seed crops. Wiper applicators or hooded sprayers may be used between the rows once the crop is established.

**TANK MIXTURES:** For sunflowers, a tank mixture with Prowl may be applied before, during or after planting in conventional tillage systems, into a cover crop, established sod or in previous crop residue.

**RESTRICTIONS:** Do not apply more than 52 fluid ounces of this product per acre on canola. Do not apply more than 26 fluid ounces of this product per acre for sunflowers as a single preplant or preemergent application per year. Do not feed or graze sunflower forage following application of this product.

## Pasture Grasses, Forage Legumes and Rangelands

### Alfalfa, Clover, and Other Forage Legumes

**LABELED CROPS:** Alfalfa, Clover, Kenaf, Kudzu, Lespedeza, Leucaena, Lupin, Sainfoin, Trefoil, Velvet bean, Vetch (all types).

**TYPES OF APPLICATIONS:** Preplant, Preemergence, At-planting, Spot treatment, Wiper applications (alfalfa and clover only), Renovation, Preharvest (alfalfa only), and postmergent weed control in dormant alfalfa.

### Preplant, Preemergence and At-Planting

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

**RESTRICTIONS:** Remove domestic livestock before application.

The crop may be fed or grazed as soon as it reaches sufficient maturity.

### Preharvest (except Kenaf and Leucaena)

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

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

	<b>Minimum Single Application Rate</b>	<b>Minimum Interval between Application and harvesting/grazing</b>
Alfalfa	52 fluid ounces	36 hours
All other labeled legumes above	40 fluid ounces	3 days

**PRECAUTIONS:** This application may destroy alfalfa stand and may severely injure or destroy other labeled crops such as clover. Preharvest application of alfalfa grown for seed, may lead to a reduction in germination or vigor.

### Postemergent weed control in dormant alfalfa

**DIRECTIONS:** This product will control or suppress many weeds, including quackgrass, downy brome and cheatgrass in dormant alfalfa.

Apply 6 to 10 fluid ounces per acre of this product. Apply in the spring to alfalfa that is dormant. Applications must be made after spring temperatures have warmed enough to encourage resumption of weed growth, but prior to initiation of trifoliolate leaf expansion of the alfalfa. Applications made after expansion of the first trifoliolate leaf of the alfalfa will cause growth reduction and reduced crop yield.

Do not use ammonium sulfate when spraying dormant alfalfa with Top Dog® Glycel Ultra Max Herbicide.

Do not use this product where a slight yield reduction in the first cutting of alfalfa cannot be tolerated.

Do not make more than one application per year.

Allow 36 hours after application before grazing livestock or harvesting.

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

Application of this product can cause crop injury. Any crop injury is the sole responsibility of the applicator.

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

**USE INSTRUCTIONS:** This product may be applied as a spot treatment or with wiper applicators in alfalfa and clover. For wipers, see the “Wiper Applicators” in the “SELECTIVE EQUIPMENT” section. Applications may be made in the same area at 30-day intervals.

**RESTRICTIONS:** For spot treatment and wiper applications, apply in areas where the movement of domestic livestock can be controlled. No more than 10 percent of the total field area must be treated at one time. Remove domestic livestock before application and wait 3 days after application before grazing livestock or harvesting

### **Renovation**

**USE INSTRUCTIONS:** This product may be applied as a broadcast spray to renovate existing stands of alfalfa, clover, and other labeled forage legumes. If the crop is to be grazed or harvested for feed, use up to 56 fluid ounces per acre in alfalfa and up to 40 fluid ounces per acre in other labeled legumes. For complete removal of established stands of clover, it may be necessary to use the higher treatment rates listed in the “PERENNIAL WEEDS RATE TABLE”.

When treatment rates of 52 fluid ounces per acre for alfalfa or 40 fluid ounces per acre for other forage legumes are used, remove domestic livestock before application and wait 3 days after application before reintroduction. If treatment rates above these levels are necessary, do not graze or harvest treated foliage for livestock feed. Crops listed for treatment in this label booklet may be planted into the treated area at any time; for other crops, wait 30 days between application and planting.

### **Conservation Reserve Program (CRP) Lands**

**TYPES OF APPLICATIONS:** Renovation (rotating out of CRP), Site preparation, Postemergence weed control in dormant CRP grasses, Wiper Applications Over-the-Top.

#### **Renovation (rotating out of CRP), Site preparation:**

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

#### **Postemergence weed control in dormant CRP grasses, Wiper applications Over-the Top:**

**USE INSTRUCTIONS:** This product may be used to suppress competitive growth and seed production of undesirable vegetation in CRP acres. Such applications may be made with wiper application equipment or as a broadcast or spot treatment to dormant CRP grasses. For selective applications with broadcast spray equipment, apply 10 to 13 fluid ounces of this product per acre in early spring before desirable CRP grasses, such as crested and tall wheatgrass, break dormancy and initiate green growth. Late fall applications can be made after desirable perennial grasses have reached dormancy.

**PRECAUTIONS:** Some stunting of CRP perennial grasses will occur if broadcast applications are made when plants are not dormant. No waiting period is required between application and grazing or harvesting for feed.

**RESTRICTION:** Do not apply more than 2.25 quarts per acre per year onto CRP grasses.

### **Grass Seed or Sod Production**

**LABELED CROPS:** Any grass (Gramineae family) except corn, sorghum, sugarcane and those listed above under “CEREAL AND GRAIN CROPS”.

**TYPES OF APPLICATIONS:** Preplant, Preemergence, Renovation, Site preparation, Shielded sprayers, Wiper applications, Spot treatments, creating rows in annual ryegrass.

## **Preplant, Preemergence, At-Planting, Renovation, Site Preparation**

**USE INSTRUCTIONS:** This product controls most existing vegetation prior to renovating turf or forage grass seed areas or establishing turf grass grown for sod. Make applications before, during, or after planting or for renovation. For maximum control of existing vegetation, delay planting to determine if any regrowth from escaped underground plant parts occurs. Where existing vegetation is growing under mowed turfgrass management, apply this product after omitting at least one regular mowing to allow sufficient growth for good interception of the spray. Where repeat treatments are necessary, sufficient regrowth must be attained prior to application. For warm-season grasses, such as Bermudagrass, summer or fall applications provide best control. Broadcast equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested. Tillage or renovation techniques such as vertical mowing, coring or slicing must be delayed for 7 days after application to allow proper translocation into underground plant parts. If application rates total 2.25 quarts per acre or less, no waiting period between treatment and feeding or livestock grazing is required.

**RESTRICTIONS:** Do not disturb soil or underground plant parts before treatment. If the rate is greater than 2.25 quarts per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting. For any crop not listed for treatment in this label booklet, applications must be made at least 30 days prior to planting. Applications must be made prior to the emergence of the crop to avoid crop injury.

## **Shielded sprayers**

**USE INSTRUCTIONS:** Apply 26 fluid ounces to 2.25 quarts of this product in 10 to 20 gallons of water per acre to control weeds between grass seed rows. Uniform planting in straight rows aid in shielded sprayer applications. Best results are obtained when the grass seed crop is small enough to easily pass by the protective shields. For additional instructions, see "Hooded and Shielded Applicators" in the "SELECTIVE EQUIPMENT" section.

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

## **Wiper applications**

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

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

## **Spot treatments**

**USE INSTRUCTIONS:** Use a 1 to 1.6 percent solution.

**RESTRICTIONS:** Apply this product prior to heading of grasses. Do not treat more than 10 percent of the total field to be harvested. The crop receiving the spray in the treated area will be killed.

**PRECAUTIONS:** Care must be taken to prevent drift or spray outside the target area for the same reason. Handheld equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested.

## **Creating rows in annual ryegrass**

**USE INSTRUCTIONS:** Use 13 to 26 fluid ounces of this product per acre. Use the higher rate when the ryegrass is greater than 6 inches tall. Best results are obtained when applications are made before the ryegrass reaches 6 inches in height.

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

**To the extent consistent with applicable law, grower assumes all responsibility for crop losses from misapplication.**

### **Pastures**

**LABELLED CROPS:** Any grass (Gramineae family) except corn, sorghum, sugarcane and those listed above under "CEREAL AND GRAIN CROPS". Including Bahiagrass, Bermudagrass, Bluegrass, Bromegrass, Fescue, Guinea grass, Kikuya grass, Orchardgrass, Pangola grass, Ryegrass, Timothy, Wheatgrass.

**TYPES OF APPLICATIONS:** Preplant, Preemergence, Spot Treatment, Wiper Applications Over-the-Top, Pasture renovation, Postemergent Weed Control (Broadcast Treatments).

### **Spot treatment and Wiper application**

**USE INSTRUCTIONS:** This product may be applied as a spot treatment or with wiper applicators in pastures. Applications may be made in the same area at 30-day intervals. For spot treatments or wiper application methods using rates of 2.25 quarts per acre or less, the entire field or any portion of it may be treated. For spot treatments or wiper application made using rates above 2.25 quarts per acre, apply in areas where the movement of domestic livestock can be controlled.

**RESTRICTIONS:** No more than 10 percent of the total pasture may be treated at any one time. To achieve maximum performance, remove domestic livestock before application and wait 7 days after application before grazing livestock or harvesting.

### **Preplant, Preemergence and Pasture renovation**

**USE INSTRUCTIONS:** This product may be applied prior to planting or emergence of forage grasses and legumes. In addition, this product may be used to control perennial pasture species listed on this label prior to re-planting. If application rates total 2.25 quarts per acre or less, no waiting period between treatment and feeding of livestock grazing is required. If the rate is greater than 2.25 quarts per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting. **RESTRICTIONS:** Crops listed for treatment in this label may be planted into the treated area at any time; for other crops, wait 30 days between application and planting.

### **Postemergent Weed Control (Broadcast Treatments)**

**USE INSTRUCTIONS:** This product may be used to suppress competitive growth and seed production of annual weeds and undesirable vegetation in pastures. For selective applications with broadcast spray equipment, apply 10 to 13 fluid ounces of this product per acre in early spring before desirable perennial grasses break dormancy and initiate green growth. Late fall applications can be made after desirable perennial grasses have reached dormancy. No waiting period is required between application and grazing or harvesting for feed.

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

**RESTRICTIONS:** Do not apply more than 2.25 quarts per acre per year onto pasture grasses except for renovation uses (see instructions above). If replanting is needed due to severe stand reduction, applications must be made at least 30 days prior to planting any crop not listed for treatment in this label booklet.

### **Pastures in Hawaii Only**

This product may be used in Hawaiian pastures, including kikuya grass, pangola grass and guineagrass pastures.

**TYPES OF APPLICATION:** Spot treatment, wiper application, preplant, preemergence and pasture renovation applications may be made.

### **Spot treatment or Wiper Application**

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

**RESTRICTIONS:** For spot treatment and wiper applications, apply in areas where the movement of domestic livestock can be controlled. No more than one-tenth of any acre must be treated at one time. Remove domestic livestock before application and wait 14 days after application before grazing livestock or harvesting.

See the Weed Control Tables for Top Dog® Glycel Ultra Max Herbicide for information about rates and timings for specific weeds.

## **Rangelands**

**TYPES OF APPLICATIONS:** Postemergence.

This product will control or suppress many annual weeds growing in perennial cool and warm-season grass rangelands. Preventing viable seed production is key to the successful control and invasion of annual grassy weeds in rangelands. Follow-up applications in sequential years must eliminate most of the viable seeds.

Grazing of treated areas must be delayed to encourage growth of desirable perennials. Allowing desirable perennials to flower and reseed in the treated area will encourage successful transition.

## **Postemergence**

**USE INSTRUCTIONS:** Apply 10 to 13 fluid ounces of this product per acre to control or suppress many weeds, including downy brome, cheatgrass, cereal rye and jointed goatgrass in rangelands. Apply when most mature brome plants are in early flower and before the plants, including seedheads, turn color. Allowing for secondary weed flushes to occur in the spring following rain events further depletes the seed reserve and encourages perennial grass conversion on weedy sites. Fall applications are possible and specified, where spring moisture is usually limited and fall germination allows for good weed growth. For medusahead, apply 13 fluid ounces of this product per acre at the 3-leaf stage. Delaying applications beyond this stage will result in reduced or unacceptable control. Controlled burning may be useful in eliminating the thatch layer produced by slow decaying culms prior to application. Allow new growth to occur before spraying after a burn. Repeat applications in subsequent years may be necessary to eliminate the seedbank before reestablishing desirable perennial grasses in medusahead-dominated rangelands. No waiting period between treatment and feeding of livestock grazing is required.

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

**RESTRICTIONS:** Do not use ammonium sulfate when spraying rangeland grasses with this product. Do not apply more than 2.25 quarts per acre per year.

## **Turf Grass Sod Production**

**TYPES OF APPLICATIONS:** Preplant, preemergence, renovation, site preparation, spot treatments.

### **Preplant, preemergence, renovation, site preparation**

**USE INSTRUCTIONS:** This product controls most existing vegetation prior to renovating turf grass areas or establishing turf grass grown for seed or sod. Broadcast or hand-held equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested. For maximum control of existing vegetation, delay planting or sodding to determine if any regrowth from escaped underground plant parts occurs. For warm-season grasses such as Bermudagrass, summer or fall applications provide the best control. Desirable turf grasses may be planted following the above procedures.

**RESTRICTION:** Do not feed or graze turf grass grown for seed or sod production for 8 weeks following application.

### **Spot treatments**

Hand-held equipment may be used for spot treatment of unwanted vegetation growing in existing turf grass.

## **Pome Fruit**

**LABELED CROPS:** Apple, Crabapple, Loquat, Mayhaw, Pear (including oriental pear), Quince.

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



## Soybeans

**TYPES OF APPLICATIONS:** Those listed in the Annual and Perennial Crops Use Instructions as well as spot treatment, preharvest, selective equipment.

### Preplant, Preemergence and At-planting

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

**NOTE:** For preplanting treatment of soybeans, tank mixtures of Top Dog® Glycel Ultra Max Herbicide (26 fluid ounces per acre) and AIM™ may be used. For best results make applications to actively growing weeds. Ammonium sulfate at 1 to 2 percent by weight or 8.5 to 17 pounds per 100 gallons of water may be added. The addition of 2,4-D or dicamba is not recommended by Repar, LLC.

### Preplant Control and Management of Glyphosate Resistant Horseweed

Apply a tank mixture of this product (26 fluid ounces per acre) with 2,4-D before horseweed exceeds 6 inches in height. See the 2,4-D product label for time intervals that are required between application and planting. For areas where 2,4-D cannot be applied due to application restrictions or proximity to a sensitive crop, contact your local retailer and Repar, LLC representative.

**TANK MIXTURES:** The following products may be applied in tank mix with this product in 10 to 20 gallons of water per acre.

AIM™	DUAL II MAGNUM
MICRO-TECH	AMPLIFY™
FIRSTRATE™	PROWL
ASSURE II™	FLEXSTAR™
PURSUIT™	AUTHORITY™
PURSUIT PLUS	FUSION™
REFLEX™	FRONTIER™/OUTLOOK™
CANOPY™	GAUNTLET™
SCEPTER™	CANOPYXL™
LASSO/ALACHLOR	MILEXONE™
COMMAND™	LINEX™
SQUADRON™	COMMAND XTRA™
DOMAIN™	LOROX PLUS™
DUAL MAGNUM	LOROX/LINURON BOUNDARY™
VALOR™	STEEL™
GEMINI™	MICRO-TECH
PARTNER	PREVIEW™
TURBO™	RESOURCE®
SENCOR™/LEXONE™	

**NOTE:** When preparing tank mixtures with AIM or Resource for preplant applications combine Top Dog® Glycel Ultra Max Herbicide (26 fluid ounces per acre) and AIM™ or Resource®.

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

**Annual weeds:** For difficult-to-control annual weeds such as fall panicum, barnyard grass, crabgrass, shattercane and broadleaf signal grass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 26 fluid ounces per acre in these tank mixtures. For other labeled annual weeds, apply 20 to 26 fluid ounces of this product per acre when weeds are less than 6 inches tall, and 26 to 40 fluid ounces when weeds are over 6 inches tall.

**RESTRICTIONS:** The tank mixes in this section are not registered in California.

**PRECAUTIONS:** Tank mixtures with some of the above listed herbicides may result in reduced weed control due to antagonism. Read and carefully observe the cautionary statements and all other information appearing on the product labels, supplemental labeling or fact sheets published separately for all herbicides used. Use according to the most restrictive directions for each product in the mixture.

### **Spot treatment**

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

**RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in treated area will be killed.

**PRECAUTION:** Care must be taken to prevent drift or spray outside target area for the same reason.

### **Preharvest**

**USE INSTRUCTIONS:** This product provides weed control when applied prior to harvest of soybeans. Apply at rates given in the “ANNUAL WEEDS, PERENNIAL WEEDS AND WOODY BRUSH RATE TABLES”. This product may be applied using either aerial or ground spray equipment. For ground applications, apply this product in 10 to 20 gallons of water per acre. For aerial applications apply this product in 3 to 10 gallons of water per acre.

Apply after pods have set and lost all green color. Care must be taken to avoid excessive seed shatter loss due to ground application equipment.

**RESTRICTIONS:** Do not apply more than 4 quarts per acre of this product for preharvest applications. Do not apply more than 52 fluid ounces per acre of this product by air. Allow a minimum of 7 days between application and harvest of soybeans. Do not graze or harvest treated hay or fodder for livestock feed within 25 days of last preharvest application. (If the application rate is 26 fluid ounces per acre or lower, the grazing restriction is reduced to 14 days after last preharvest application.)

**PRECAUTION:** A reduction in germination or vigor may occur if this product is applied preharvest to soybeans grown for seeds.

### **Selective equipment**

**USE INSTRUCTIONS:** This product may be applied through recirculating sprayers, shielded applicators, hooded sprayers, wiper applicators or sponge bars in soybeans. Allow at least 7 days between application and harvest. See the “SELECTIVE EQUIPMENT” part of the “APPLICATION EQUIPMENT AND TECHNIQUES” section of this label for information on proper use and calibration of this equipment.

### **Stone Fruit**

**LABELED CROPS:** Apricot, Cherry (sweet, tart), Nectarine, Olive, Peach, Plum/Prune (all types), Plumcot.

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

**NOTE:** FOR USE DIRECTIONS, SEE THE “TREE, VINE, AND SHRUB CROPS” SECTION. THE FOLLOWING DIRECTIONS ARE SPECIFIC TO POME AND STONE TREE FRUITS.

### **Restrictions on application equipment**

For cherries, any application equipment listed in this section may be used in all states.

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

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

## **Sugarcane**

**TYPES OF APPLICATIONS:** Those listed in the Annual and Perennial Crops Use Instructions.

### **Preplant, At-planting, Preemergence**

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

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

### **Spot treatment**

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

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

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

### **Fallow treatments**

**USE INSTRUCTIONS:** This product may be used as a replacement for tillage in fields that are lying fallow between sugarcane crops. This product may also be used to remove the last stubble of ratoon cane. For removal of last stubble of ratoon cane, apply 3.2 to 4 quarts of this product in 10 to 40 gallons of water per acre to new growth having at least 7 new leaves. Allow 7 or more days after application before tillage. Ground or aerial application equipment may be used. Applications up to 2.4 quarts of this product per acre may be made by aerial application in fallow sites where there is sufficient buffer to prevent injury due to drift onto adjacent crops. Tank mixtures with 2,4-D and dicamba may be used.

### **Hooded sprayers**

**USE INSTRUCTIONS:** This product may be used through hooded sprayers for weed control between the rows of sugarcane. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional use instructions.

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

**PRECAUTIONS:** Droplets, mist, foam or splatter of the herbicide solution settling on the crop may result in discoloration, stunting or destruction. Such damage shall be the sole responsibility of the applicator.

### **Tree Nuts**

**LABELED CROPS:** Almond, Beechnut, Betelnut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Coconut, Filbert (hazelnut), Hickory nut, Macadamia, Pecan, Pine nut, Pistachio, Walnut (black, English)

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

### **Tree, Vine, and Shrub Crops (Alphabetical)**

**NOTE: THIS SECTION GIVES USE DIRECTIONS THAT APPLY TO ALL LISTED TREE, VINE, AND SHRUB CROPS WITHIN THIS SECTION GROUPED ALPHABETICALLY BELOW. SEE THE INDIVIDUAL CROP CATEGORIES FOR SPECIFIC INSTRUCTIONS, PREHARVEST INTERVALS, PRECAUTIONS AND RESTRICTIONS.**

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

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

**USE INSTRUCTIONS:** This product may be applied in middles (between rows of trees or vines), strips (within rows of trees or vines), and for weed control or perennial grass suppression in established tree fruit and nut groves, orchards, berries, and vineyards. It may also be used for site preparation prior to planting or transplanting these crops. Apply 13 fluid ounces to 4 quarts per acre according to the "ANNUAL and PERENNIAL WEEDS RATE TABLES" sections of this label. Utilize rates at the higher end of the specified rate range when weeds are stressed, growing in dense populations or are greater than 12 inches tall. Repeat applications may be made up to a maximum of 8.5 quarts per acre per year.

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

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

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

### **Middles (between rows)**

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

**TANK MIXTURES:** A tank mixture of this product plus Goal 2XL may be used for annual weeds in middles between rows of citrus crops, tree fruits, tree nuts and vine crops. This mixture is to be used as directed when weeds are stressed or growing in dense populations. 13 to 26 fluid ounces per acre of this product plus 3 to 12 fluid ounces per acre of Goal 2XL will control annual weeds with a maximum height or diameter of 6 inches, including crabgrass, common groundsel, junglerice, common lambsquarters, redroot pigweed, London rocket, common ryegrass, shepherd's-purse, annual sowthistle, common cheeseweed (malva) filaree (suppression), horseweed/marestail, stinging nettle and common purslane (suppression). 13 to 26 fluid ounces per acre of this product plus 3 to 12 fluid ounces per acre of Goal 2XL will control common cheeseweed (malva) or hairy fleabane with a maximum height or diameter of 3 inches.

### **Strips (in rows)**

**USE INSTRUCTIONS:** This product may be applied in rows of tree or vine crops in tank mixtures with the following products:

DEVRINOL 50 DF	SIMAZINE 4L
DIREX™ 4L	SIMAZINE 80W
GOAL2XL	SIM-TROL™ 4L
KARMEX DF	SOLICAM™ DF
KROVAR I	SURFLAN™ AS
KROVAR II	PROWL
SURFLAN75W	
PRINCEP CALIBER™ 90	

Do not apply these tank mixtures for tree, vine and shrub crops in Puerto Rico.

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

### **Perennial grass suppression**

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

For suppression of tall fescue, fine fescue, orchardgrass and quackgrass, apply 6.5 fluid ounces of this product in 10 to 20 gallons of water per acre.

For suppression of Kentucky bluegrass covers, apply 5 fluid ounces of this product per acre. Do not add ammonium sulfate.

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

For suppression of vegetative growth and seedhead inhibition of bahiagrass for approximately 45 days, apply 5 fluid ounces of this product in 10 to 25 gallons of water per acre. Apply 1 to 2 weeks after full green-up or after mowing to a uniform height of 3 to 4 inches. This application must be made prior to seedhead emergence. For suppression up to 120 days, apply 3.25 fluid ounces of this product per acre, followed by an application of 1.5 to 3.25 fluid ounces per acre about 45 days later. Make no more than 2 applications per year.

For burndown of Bermudagrass, apply 26 to 52 fluid ounces of this product in 3 to 20 gallons of water per acre. Use this treatment only if reduction of the Bermudagrass stand can be tolerated. When burndown is required prior to harvest, allow at least 21 days ensuring sufficient time for burndown to occur.

For suppression of Bermudagrass, apply 5 to 13 fluid ounces of this product per acre east of the Rocky Mountains and 13 fluid ounces of this product per acre west of the Rocky Mountains. Apply in a total spray volume of 3 to 20 gallons per acre, no sooner than 1 to 2 weeks after full green-up. If the Bermudagrass is mowed prior to application, maintain a minimum of 3 inches in height. Sequential applications may be made when regrowth occurs and Bermudagrass injury and stand reduction can be tolerated. East of the Rocky Mountains, rates of 5 to 8 fluid ounces of this product per acre must be used in shaded conditions or where a lesser degree of suppression is desired.

### **Vine Crops**

**LABELED CROPS:** Grapes (raisin, table, wine) Hops, Kiwi, Passion fruit

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

**NOTE:** FOR USE DIRECTIONS, SEE THE “TREE, VINE, SHRUB CROPS” SECTION. THE FOLLOWING DIRECTIONS ARE SPECIFIC TO VINE CROPS.

Applications must not be made when green shoots, canes or foliage are in the spray zone.

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

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

### **Tropical and Subtropical Trees and Fruits**

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

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

### **Vegetable Crops**

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

**TYPES OF APPLICATIONS:** Chemical Fallow, Preplant Fallow Beds, Preplant, Preemergence, Prior to transplanting vegetables, At-Planting, Hooded Sprayers in row-middles, Shielded Sprayers in row-middles, Wiper Applicators in row-middles, and Post-harvest, Directed applications (nonbearing ginseng), Over-the-top wipers (rutabagas only).

**PRECAUTIONS:** Avoid contact of herbicide with foliage, green shoots or stems, bark, exposed roots (including those emerging from plastic mulch), or fruit of crops because severe injury or destruction may result. When applying this product prior to transplanting or direct-seeding crops into plastic mulch, care must be taken to remove residues of this product, which could cause crop injury, from the plastic prior to planting. Residues can be removed by a single 0.5-inch application of water, either by natural rainfall or via a sprinkler system. Applications made at emergence will result in injury or death to emerged seedlings.

**RESTRICTIONS:** In crops with vines, hooded sprayer, shielded sprayer and wiper applications to row middles must be made prior to vine development otherwise severe injury or destruction may result. Unless otherwise specified in this product's labeling, treatments with selective equipment including wipers and hooded sprayers must be made at least 14 days prior to harvest.

### **Brassica Vegetables**

**LABELED CROPS:** Broccoli (All), Brussels sprouts, Cabbage (All), Cauliflower, Cavalo broccolo, Collards, Kale, Kohlrabi, Mizuna, Mustard greens, Mustard spinach, Rape greens.

### **Bulb Vegetables**

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

### **Cucurbit Vegetables and fruits**

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

calabaza, hubbard squash, acorn squash, spaghetti squash), Watermelon.

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

### Leafy Vegetables

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

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

### Fruiting Vegetables

**LABELLED CROPS:** Eggplant, Groundcherry (*Physalis spp*), Pepino, Pepper (All), Tomatillo, Tomato (wipers only).

**RESTRICTION:** For Eggplant, Ground cherry, Pepper (all), and Tomatillo, allow at least 3 days between application and planting.

### Legume Vegetables (succulent or dried)

**LABELLED CROPS:** Bean (*Lupinus*: includes grain lupin, sweet lupin, white lupin, and white sweet lupin), Bean (*Phaseolus*: includes field bean, kidney bean, lima bean, navy bean, pinto bean, runner bean, snap bean, tepary bean, wax bean), Bean (*Vigna*: includes adzuki bean, asparagus bean, blackeyed pea, catjang, Chinese longbean, cowpea, crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean, yardlong bean), Broad bean (fava), Chickpea (garbanzo), Guar, Jackbean, Lablab bean, Lentil, Pea (*Pisum*: includes dwarf pea, edible-podded pea, English pea, field pea, garden pea, green pea, snowpea, sugar snap pea), Pigeon pea, Soybean (immature seed), Sword bean.

### Broadcast Spray

**USE INSTRUCTIONS:** This product may be applied as an over-the-top broadcast spray to control labeled weeds prior to the harvest of dry beans, dry peas, lentils, and chickpeas. Apply up to 21 fluid ounces in 3 to 20 gallons of water per acre at the hard dough stage of the legume seed (30 percent grain moisture or less) for dry peas, lentils and chickpeas. Apply up to 26 fluid ounces in 3 to 20 gallons of water per acre at the hard dough stage of legume seed (30 percent grain moisture or less) for dry peas. Either ground broadcast or aerial applications may be made.

**RESTRICTIONS:** Apply at least 14 days before harvest. Only one application per year may be made; do not combine a preharvest spray with a spot treatment on the same crop area. Employ at least a 30-day plant-back interval between treatment and replanting for any crop not listed in the Top Dog® Glycel Ultra Max Herbicide label. Do not feed treated vines and hay from these crops to livestock. Do not apply this product through any type of irrigation system. Do not treat field (feed) peas or cowpeas, since these are considered to be grown as livestock feed.

**PRECAUTION:** Preharvest application to dry beans, peas, lentils, or chickpeas grown for seed, may result in reduction in germination or vigor.

### Spot Treatment

**USE INSTRUCTIONS:** This product may be applied as a spot treatment to control troublesome weeds such as Canada thistle, quackgrass, mayweed (dog fennel), and milkweed in dry beans, peas, lentils, and chickpeas. Apply up to 21 fluid ounces for peas lentils and chick peas and up to 26 fluid ounces for dry beans in 10 to 20 gallons of water through ground spray equipment or use a 2 percent solution in a hand-held sprayer. For best

results, applications must be made at or beyond the bud stage of growth. The crop receiving spray in treated areas will be killed.

**RESTRICTIONS:** Apply at least 14 days before harvest. Only one application per year may be made; do not combine spot treatments with a preharvest broadcast spray on the same crop area. Employ at least a 30-day plantback interval between treatment and replanting for any crop not listed in the Top Dog® Glycel Ultra Max Herbicide label. Do not feed treated vines and hay from these crops to livestock. Do not treat field (feed) peas or cowpeas, since these are considered to be grown as livestock feed.

### **Root and Tuber Vegetables**

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

### **Directed applications (non-bearing ginseng only)**

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

**RESTRICTIONS:** Direct applications so that there is no contact of this product with the ginseng plant. Applications must be made at least one year prior to harvest.

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

### **Over-the-top wiper applications (rutabagas only)**

**USE INSTRUCTIONS:** Wiper applicators may be used over-the-top of rutabagas.

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

### **Miscellaneous Crops**

**LABELED CROPS:** Aloe vera, Asparagus, Bamboo shoots, Globe artichoke, Okra, Peanut (ground nut), Pineapple, Strawberry, Sugar beet.

**TYPES OF APPLICATIONS:** Those listed in the Annual and Perennial Crops Use Instructions plus the following:

### **Weed control, site preparation**

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

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

**RESTRICTIONS:** Do not apply within a week before the first asparagus spears emerge. Do not feed or graze treated pineapple forage following application. Do not apply more than 52 fl oz per acre in strawberries.

### **Spot treatment (Asparagus)**

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



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

### **Post-harvest (Asparagus)**

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

**PRECAUTIONS:** Direct contact of the spray with the asparagus may result in serious crop injury. Select and use as directed for types of spray equipment for postemergence post-harvest applications. A directed spray is any application where the spray pattern is aligned in such a way as to avoid direct contact of the spray with the crop. A shielded spray is any application where a physical barrier is positioned and maintained between the spray and the crop to prevent contact of spray with the crop.

### **ROUNDUP READY CROPS**

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

### **REPAR, LLC RECOMMENDS USE OF THIS PRODUCT FOR POSTEMERGENCE APPLICATION ONLY ON CROP VARIETIES DESIGNATED AS CONTAINING THE ROUNDUP READY GENE.**

Applying this product to crop varieties that are not designated as Roundup Ready will result in severe crop injury and yield loss. Avoid contact with foliage, green stems, or fruit of crops, or any desirable plants that do not contain the Roundup Ready gene, since severe injury or destruction will result. The Roundup Ready designation indicates that the crop variety contains a patented gene that provides tolerance to this product. Information on Roundup Ready crop varieties may be obtained from your seed supplier or Repar- Glypho, LLC representative. Roundup Ready crop varieties must be purchased from an authorized licensed seed supplier.

NOTE: Roundup Ready seed and the method of selectively controlling weeds in a Roundup Ready crop by applying glyphosate to the weeds and Roundup Ready crop are protected under several U.S. Patents, including 5,352,605 and 5,633,435. A license to use Roundup Ready seed must be obtained prior to use. Monsanto retains ownership of the gene and process technologies, and the Purchaser of the seed receives the right to use the licensed genes and technologies subject to the limited use license conditions. Seed containing the Roundup Ready trait cannot be used for research and demonstration. Reverse engineering or in connection with herbicide registration. Progeny seed containing the Roundup Ready trait cannot be saved for replanting or transferred to others for replanting. Contact your Authorized Monsanto Retailer for information on obtaining a limited use license.

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

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

For proper stewardship of aerial applications over-the-top of Roundup Ready crops, Repar - Glypho, LLC directs that growers and applicators read and follow all precautions and procedures contained in the use guide “A Guide to On-Target Aerial Application” available by calling 1-800-ROUNDUP (1-800-768-6387) or on the internet at [www.FARMSOURCETM.com](http://www.FARMSOURCETM.com).

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

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

Tank mixtures with other herbicides, insecticides, fungicides, micronutrients or foliar fertilizers may result in reduced weed control or crop injury and are NOT specified for over-the-top applications of this product unless otherwise noted in this product label, supplemental labeling or fact sheets published separately by Repar -Glypho, LLC .

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

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

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

## **Alfalfa with Roundup Ready Gene**

### **Weeds controlled**

For specific rates of application and instructions for control of various annual and perennial weeds, refer to the "ANNUAL WEEDS RATE TABLE" and the "PERENNIAL WEEDS RATE TABLE". Some weeds with multiple germination times or suppressed (stunted) weeds may require a second application of this product for complete control. The second application must be made after some re-growth of weeds has occurred. In addition to those weeds listed in the table, this product will suppress or control the following parasitic weeds in Roundup Ready alfalfa seed production. Repeat applications may be necessary for complete control.

Dodder (*Cuscuta spp.*)

Broomrape (*Orabanche spp.*)

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

During stand establishment, for applications made prior to the 4-trifoliate growth stage, the use of ammonium sulfate may result in crop injury and is not to be used. Refer to the "MIXING" section for use instructions for ammonium sulfate.

**RESTRICTIONS:** Do not make broadcast applications of this product between the initiation of alfalfa budding and the harvest of Roundup Ready alfalfa seed. If a spot treatment of this product is made after the late vegetative stage, do not use harvested Roundup Ready alfalfa seed for alfalfa sprout production.

## **Alfalfa Forage and Hay Production with Roundup Ready Gene**

### **Use Information**

**REPAR-GLYPHO, LLC RECOMMENDS USE OF THIS PRODUCT FOR POSTEMERGENCE IN-CROP APPLICATIONS ONLY ON ALFALFA VARIETIES DESIGNATED AS CONTAINING THE ROUNDUP READY GENE.**

See the "ROUNDUP READY CROPS" section for precautionary instructions for use in Roundup Ready crops. DO NOT combine these instructions with other specifications made for crop varieties that do not contain the Roundup

Ready gene listed in the “ANNUAL AND PERENNIAL CROPS (ALPHABETICAL)” section.

### Application Instructions

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

### For ground applications

With broadcast equipment, apply this product in 5 to 30 gallons of spray solution per acre. Carefully select proper nozzle and spray pressure to avoid spraying a fine mist. For best results with ground application, equipment use flat fan nozzles. Check for even distribution of spray droplets.

### For aerial application

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

**DO NOT EXCEED 52 FLUID OUNCES OF THIS PRODUCT PER ACRE WHEN MAKING APPLICATIONS BY AIR. FOR AERIAL APPLICATION IN CALIFORNIA, REFER TO “STATE INFORMATION ON AERIAL APPLICATIONS: “CALIFORNIA”, SECTION OF THIS LABEL.. AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS WHICH DO NOT CONTAIN THE ROUNDUP READY GENE.**

Do not apply during low-level inversion conditions, when winds are gusty or under any other conditions which favor drift. Drift may cause damage to any vegetation contacted to which treatment is not intended. To prevent injury to adjacent desirable vegetation, appropriate buffer zones must be maintained.

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

### Sprayer Preparation

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

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

#### Maximum Allowable Combined Application Rates

Combined total per year for all applications	6.5 quarts per acre
Preplant, At-planting and Preemergence application	52 fl oz per acre

#### Prior to First Cutting During New Stand Establishment:

From emergence up to 4 trifoliolate leaves	52 fl oz per acre
From 5 trifoliolate leaves up to 5 days before first cutting	52 fl oz per acre

### After First Cutting In Established Stands:

In-crop application per cutting, up to 5 days before cutting	52 fl. oz. per acre
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**There are no rotational crop restrictions following applications of this product. For any crop NOT listed in this label (refer to the “CROPS” section ), applications must be at least 30 days prior to planting.**

### Over-the-top applications

This product may be applied postemergence to Roundup Ready alfalfa from emergence until 5 days prior to cutting. Any single over-the-top application of this product must not exceed 52 fluid ounces per acre. Sequential applications of this production must be at least 7 days apart.

### Attention

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

*During stand establishment*, due to the biology and breeding constraints of alfalfa, up to 10% of the seedlings may not contain the Roundup Ready gene and will not survive or thrive after the first application of this product. To eliminate the undesirable effects of stand gaps created by the loss of plants not containing the Roundup Ready gene, a single application of at least 26 fluid ounces per acre of this product must be applied at the 3 to 4 trifoliolate growth stage.

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

### Weeds controlled

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

In addition to those weeds listed in this label, this product will suppress or control the following parasitic weeds in Roundup Ready alfalfa. Repeat applications may be necessary for complete control.

Dodder (*Cuscuta spp.*)

Broomrape (*Orabanche spp.*)

Tank mixtures with other herbicides, insecticides, or fungicides may result in crop injury or reduced weed control and are NOT specified for over-the-top applications of this product. During stand establishment, for applications made prior to the 4-trifoliolate stage, use of ammonium sulfate may result in crop injury and is not to be used. Refer to the “MIXING” section for use instructions for ammonium sulfate.

**RESTRICTION:** Remove domestic livestock before application and wait a minimum of 5 days after last application before grazing, or cutting and feeding of Roundup Ready alfalfa forage and hay.

### Alfalfa Seed Production with Roundup Ready Gene

**Use Information:** REPAR-GLYPHO, LLC RECOMMENDS USE OF THIS PRODUCT FOR POSTEMERGENCE IN-CROP APPLICATIONS ONLY ON ALFALFA VARIETIES DESIGNATED AS CONTAINING THE ROUNDUP READY GENE.

The Roundup Ready designation indicates that the alfalfa contains a patented gene, which provides tolerance to this product. Information on Roundup Ready alfalfa varieties may be obtained from your seed supplier or Repar, LLC representative. Roundup Ready crop varieties must be purchased from an authorized licensed seed supplier.

See the “ROUNDUP READY CROPS” section for precautionary instructions for use in Roundup Ready crops. DO NOT combine these instructions with other directions made for crop varieties that do not contain the Roundup Ready gene listed in the “ANNUAL AND PERENNIAL CROPS (ALPHABETICAL)” section.

### Application Instructions

This product will control many troublesome emerged weeds with over-the-top applications in Roundup Ready alfalfa grown for seed. In-crop applications may be made from emergence through the late vegetative stage and spot treatments may be made from early bud stage through seed harvest.

### For ground applications

With broadcast equipment, apply this product in 5 to 30 gallons of spray solution per acre. Carefully select proper nozzle and spray pressure to avoid spraying a fine mist. For best results with ground application equipment, use flat fan nozzles. Check for even distribution of spray droplets.

### For aerial application

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

**RESTRICTIONS:** DO NOT EXCEED 52 FLUID OUNCES OF THIS PRODUCT PER ACRE WHEN MAKING APPLICATIONS BY AIR. FOR AERIAL APPLICATION IN CALIFORNIA, REFER TO THE TO “STATE INFORMATION ON AERIAL APPLICATIONS: “CALIFORNIA”, SECTION OF THIS LABEL. AVOID DRIFT.

Do not apply during low-level inversion conditions, when winds are gusty or under any other conditions which favor drift.

EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS WHICH DO NOT CONTAIN THE ROUNDUP READY GENE. Drift may cause damage to any vegetation contacted to which treatment is not intended. To prevent injury to adjacent desirable vegetation, appropriate buffer zones must be maintained.

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

### Sprayer Preparation

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

**Types of applications:** Preplant, At-planting, Preemergence, Postemergence, Post-harvest of seed, and control of non-Roundup Ready Alfalfa

### Maximum Allowable Combined Application Rates

Combined total per year for all applications	6.5 quarts per acre
Preplant, At-planting and Preemergence application	52 fl oz per acre
Total in-crop application rate from emergence through the late vegetative stage.	4.8 quarts per acre
Spot-treatment during early bud stage through seed harvest (See “Spot Treatment after late vegetative stage” section and the “APPLICATION INSTRUCTIONS” section of this label for complete instructions)	Apply spray-to-wet; do not apply to the point of runoff.

**There are no rotational crop restrictions following applications of this product. For any crop NOT listed in this label (refer to the “CROPS” section, applications must be at least 30 days prior to planting).**

### **Over-the-top applications**

Broadcast applications of this product may be made using ground or aerial equipment, incrop to Roundup Ready alfalfa from emergence through the late vegetative stage. Do not make broadcast applications of this product between the initiation of alfalfa budding and the harvest of seed. Any single over-the-top broadcast application of this product must not exceed 52 fluid ounces per acre. Sequential applications of this product must be at least 7 days apart.

Due to the biology and breeding constraints of alfalfa, up to 10% of the seedlings may not contain the Roundup Ready gene and will not survive or thrive after the first application of this product. To limit undesirable effects of stand gaps created by the loss of plants not containing the Roundup Ready gene, a single application of at least 26 fluid ounces per acre of this product must be applied at the 3 to 4 trifoliate growth stage.

### **Spot Treatment after late vegetative stage**

For late emerging weeds, this product may be applied as a spot treatment in Roundup Ready alfalfa grown for seed, during the early bud stage through sowed harvest. Applications, made during this stage may result in reduced seed yield and quality and are the responsibility of the grower. Make applications on a spray-to-wet basis. Do not spray to the point of runoff. If a spot treatment is made after the late vegetative stage, harvested seed must not be used for alfalfa sprout production.

### **Postharvest applications**

Following harvests of Roundup Ready alfalfa seed, the stand may be managed for forage and hay production. Refer to the Top Dog® Glycel Ultra Max Herbicide “Alfalfa Forage Hay Production with Roundup Ready Gene” section of this label.

### **Control of Non-Roundup Ready Alfalfa**

**NOTE: THIS PRODUCT MAY BE USED FOR CONTROL OF NON-GLYPHOSATE TOLERANT ALFALFA IN PRODUCTION FIELDS OF ALFALFA CONTAINING THE ROUNDUP READY GENE. SEVERE INJURY OR DEATH OF ALFALFA WILL RESULT IF ALFALFA VARIETIES THAT DO NOT CONTAIN THE ROUNDUP READY GENE ARE SPRAYED WITH THIS PRODUCT.**

**USE DIRECTIONS:** This product will control non-glyphosate tolerant alfalfa in seed production fields of alfalfa containing the Roundup Ready gene. Apply up to 52 fluid ounces of this product in 5 to 20 gallons of spray solution per acre as a broadcast spray. Subsequent applications of up to 52 fluid ounces per acre each may be applied, if needed to control non-glyphosate tolerant alfalfa plants.

**RESTRICTION:** DO NOT EXCEED A MAXIMUM RATE OF 6.5 QUARTS OF THIS PRODUCT PER ACRE PER SEASON.

### **Application timing**

This product can be applied to Roundup Ready alfalfa from emergence to harvest. Treated alfalfa or the resulting seed may not be used for food or feed. Do not feed or graze treated alfalfa. Do not process treated alfalfa or resulting seed for food or feed.

### **Canola with the Roundup Ready Gene**

**TYPES OF APPLICATIONS:** Preplant, At-planting, Preemergence, Postemergence

**DO NOT USE THIS PRODUCT ON CANOLA WITH THE ROUNDUP READY GENE PLANTED IN THE FOLLOWING STATES: ALABAMA, DELAWARE, FLORIDA, GEORGIA, KENTUCKY, MARYLAND, NEW JERSEY, NORTH CAROLINA, SOUTH CAROLINA, TENNESSEE, VIRGINIA AND WEST VIRGINIA.**

### **Maximum Allowable Combined Application Quantities Per Season**

Preplant, At-planting, Preemergence applications:

52 fluid ounces per acre

Total in-crop application from emergence to 6-leaf stage:

52 fluid ounces per acre

### **Preplant, At-planting and Preemergence**

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

### **Postemergence**

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

Weeds Controlled: For specific rates of application and instructions, refer to the “ANNUAL and PERENNIAL WEEDS RATE TABLES” in this booklet.

**Single Application** - Apply 13 to 26 fluid ounces per acre no later than the 6-leaf stage for the control of annual weeds. Avoid overlapping applications that may result in temporary yellowing, delayed flowering, and or growth reduction. Similar injury may result when applications of more than 13 fluid ounces per acre are applied after the 4-leaf stage.

**Sequential Application** - Apply 26 fluid ounces per acre to 1- to 3-leaf canola followed by a sequential application at a minimum interval of 10 days, but no later than the 6-leaf stage. Sequential applications are to be used as directed for early emerging annual weeds and perennial weeds such as Canada thistle and quackgrass or when controlling weeds with multiple application times.

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

**RESTRICTIONS:** No more than two over-the-top broadcast applications may be made from crop emergence through the 6-leaf stage of development and the total in-crop application must not exceed 52 fluid ounces per acre. Allow a minimum of 60 days between last application and canola harvest.

### **Corn with the Roundup Ready Gene**

**TYPES OF APPLICATIONS:** Preplant, At-planting, Preemergence, Postemergence, In-crop, Spot treatment, Preharvest, Post-harvest.

### **Maximum Allowable Combined Application Quantities Per Season**

Combined total per year for all applications:

6.5 quarts per acre

Preplant, At-planting, Preemergence applications:

4 quarts per acre

Total in-crop applications from emergence through the V8 stage or 30 inches:

52 fluid ounces per acre

Maximum preharvest application rate after maximum kernel fill is complete and the crop is physiologically mature

(black layer formation) until 7 days before harvest:

26 fluid ounces per acre

### **Preplant, Preemergence and At-planting**

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

**TANK MIXTURES:** This product may be tank mixed with Bullet, Degree, Degree Xtra, Harness, Harness Xtra, Harness Xtra 5.6L, Lariat, Lasso or Micro-Tech. Tank mixtures of Top Dog<sup>®</sup> Glycel Ultra Max Herbicide (26 fluid ounces per acre) and AIM<sup>™</sup> may also be prepared for preplant applications. For best results make applications to actively growing weeds. Ammonium sulfate at 1 to 2 percent by weight or 8.5 to 17 pounds per 100 gallons of water may be added. The addition of 2,4-D or dicamba is not recommended.

Refer to the specific product label and observe all precautions and limitations on the label for any preemergence herbicide application, including application timing restrictions, soil restrictions, minimum recropping interval and rotational guidelines - the more restrictive requirements apply.

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

### **Postemergence with Drop Nozzles**

**NOTE:** The instructions provided allow applications to Roundup Ready corn using drop nozzles through 48 inches.

**USE INSTRUCTIONS:** For Roundup Ready corn from emergence through the V8 stage (8 leaves with collars) or until corn height reaches 30 inches, whichever comes first, this product may be applied over-the-top broadcast or *with drop nozzles*. When corn height is 24 to 30 inches (free standing), for optimum spray coverage and weed control drop nozzles are to be used as directed. For corn heights 30 to 48 inches (free standing), apply this product *only* using ground application equipment *with drop nozzles* adjusted to avoid spraying into the whorls of the corn plants.

**RESTRICTIONS:** Single in-crop applications of this product must not exceed 26 fluid ounces per acre. The maximum combined total of multiple in-crop applications from emergence through the 48 inch stage is 52 fluid ounces per acre.

### **Postemergence (in-crop)**

**USE INSTRUCTIONS:** This product may be applied postemergence to Roundup Ready corn from emergence through the V8 stage (8 leaves with collars) or until corn height reaches 30 inches, whichever comes first. When applied as directed, this product controls labeled annual grass and broadleaf weeds in Roundup Ready corn. Many perennial grasses and broadleaf weeds will be controlled or suppressed with one or more application of this product. The postemergent application of 20 to 26 fluid ounces per acre of this product must be made before the weeds reach a height and or density that the weeds become competitive with the crop, generally 4 inch tall weeds or less.

This product may be applied alone as a postemergence in-crop application to provide control of emerged weeds listed on this label. If new flushes of weeds occur, a sequential application of this product at 20 to 26 fluid ounces per acre will control the labeled grasses and broadleaf weeds.

**TANK MIXTURES:** This product may be applied in tank mixture with Bullet, Degree, Degree Xtra, Harness, Harness Xtra, Harness Xtra 5.6L, and Micro-Tech. This product may be applied in tank mixture with Permit and Atrazine at labeled rates. Refer to the specific product label and observe all precautions and limitations on the label for all products used in tank mixtures, including application timing restrictions, soil restrictions, minimum recropping interval and rotational guidelines; the more restrictive requirements apply.



<b>Tank Mix Partner</b>	<b>Maximum Height Of Corn For Application</b>
Degree	11 Inches
Degree Xtra	
Harness	
Harness Xtra	
Harness Xtra 5.6	
Bullet*	5 inches
Micro-Tech*	
Permit	30 inches
Atrazine	12 inches

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

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

**RESTRICTIONS:** Single in-crop applications of this product are not to exceed 26 fluid ounces per acre. Sequential in-crop applications of this product from emergence through the V8 stage or 30 inches are permitted, but total must not exceed 52 fluid ounces per acre per growing season. Allow a minimum of 10 days between in-crop applications of this product. Allow a minimum of 50 days between application of this product and harvest of corn forage.

#### **In-crop Control and Management of Glyphosate Resistant Horseweed**

In-crop Roundup Ready corn, apply this product (26 fluid ounces per acre) in a tank mix with an approved herbicide from control management of Glyphosate resistant Horseweed (for example Clarity or 2,4 D). Apply between corn emergence and the 5-leafstage of growth (approximately 8 inches tall).

#### **Preharvest**

**USE INSTRUCTIONS:** In Roundup Ready corn, up to 26 fluid ounces per acre of this product can be applied preharvest. Make applications at 35 percent grain moisture or less. Ensure that maximum kernel fill is complete and the corn is physiologically mature (black layer formed).

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

#### **Post-harvest**

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

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

#### **Corn with the Roundup Ready 603 Gene**

**REPAR - GLYPHO, LLC RECOMMENDS THE USE OF THIS PRODUCT ONLY ON CORN HYBRIDS DESIGNATED AS CONTAINING THE ROUNDUP READY GENE.**

- Applying this product to corn hybrids which are not designated as Roundup Ready will result in severe crop injury and yield loss.
- The Roundup Ready designation indicates that the corn contains a patented gene which provides tolerance to this product. Information on Roundup Ready Corn may be obtained from your seed supplier or Repar - Glypho, LLC representative.

**Note:** The instructions provided in this section of the label are specific to, and must only be used with, Roundup Ready 603 Corn hybrids. Do Not combine the instructions in this section of the label with those in the “Corn with

the Roundup Ready Gene” section, or with any other Roundup Ready corn instructions on labeling for this or other glyphosate-containing product. See “Annual Maximum Use Rate” in the “PRODUCT INFORMATION” section, for additional information.

**The use of the higher In-crop over the top rates described in this section of the label on *other* than Roundup Ready 603 corn may cause crop injury and reduce yields.**

### **Application Instructions**

For Roundup Ready 603 corn from emergence through the V8 stage (8 leaves with collars) or until corn height reaches 30 inches, whichever comes first, this product may be applied over-the-top broadcast or with drop nozzles. When corn height is 24 to 30 inches (free standing), for optimum spray coverage and weed control, drop nozzles are to be used as directed. For corn heights 30 to 48 inches (free standing), apply this product only using ground application equipment with drop nozzles adjusted to avoid spraying into the whorls of the corn plants. Single in-crop applications of this product must not exceed 40 fluid ounces per acre.

### **Maximum Allowed Combined Application Quantities Per Season**

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

Maximum amount of this product which can be applied prior to crop emergence is 4.0 quarts per acre.

#### **In-crop**

Maximum combined total of multiple in-crop applications from emergence through the 48 inch stage is 2.4 quarts per acre.

#### **Preharvest**

Maximum preharvest application rate after maximum kernel fill is complete and the crop is physiologically mature (black layer formation) with 35 percent grain moisture or less until 7 days before harvest is 26 fluid ounces per acre.

### **Cropping Season**

Combined total per year for all applications may not exceed 6.5 quarts per acre. The addition of 1 to 2 percent dry ammonium sulfate by weight or 8.5 to 17 pounds per 100 gallons of water may increase the performance of this product under hard water conditions, drought conditions or when tank mixed with Bullet® or Micro-Tech® herbicides. Ensure that ammonium sulfate is completely dissolved in the spray tank before adding herbicides. Thoroughly rinse the spray system with clean water after use to reduce corrosion. Repair-Glypho, LLC does not recommend the addition of other additives, including fertilizers and micro-nutrients with this product since this may result in increased potential for crop injury.

**ATTENTION: AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS WHICH DO NOT CONTAIN THE ROUNDUP READY GENE. THOROUGHLY CLEAN THE SPRAY TANK AND ALL LINES AND FILTERS TO ELIMINATE POTENTIAL CONTAMINATION FROM OTHER HERBICIDES PRIOR TO MIXING AND APPLYING THIS PRODUCT.**

### **For ground applications**

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

## For aerial applications

Use the specified rates of this product in 3 to 15 gallons of spray solution per acre. Do not exceed 26 fluid ounces per acre. See “WEEDS CONTROLLED” section on this label. AVOID DRIFT - DO NOT APPLY DURING INVERSION CONDITIONS, WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITIONS WHICH FAVOR DRIFT. DRIFT MAY CAUSE DAMAGE TO ANY VEGETATION CONTACTED TO WHICH TREATMENT IS NOT INTENDED. TO PREVENT INJURY TO ADJACENT VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.

## Weed Control Directions

Apply 20 to 26 fluid ounces of this product per acre for control of labeled grasses and broadleaf weeds in conventional and no-till corn production systems. Refer to the “Annual Weeds Rate Table” for rate specifications for specific annual weeds. Top Dog® Glycel Ultra Max Herbicide applied at up to 40 fluid ounces per acre will control or suppress the growth of perennial weeds such as: bermudagrass, Canada thistle, common milkweed, field bindweed, hemp dogbane, horsenettle, nutsedge, quackgrass, rhizome, Johnsongrass, redvine, trumpetcreeper, swamp smartweed, and wirestem muhly. For additional information on perennial weeds, see the “PERENNIAL WEED RATE TABLE”.

## Preplant, Preemergence, At Planting

This product may be applied alone or in a tank-mixture before, during or after planting corn.

**TANK MIXTURES:** This product may be tank mixed with Bullet, Degree, Degree Xtra, Harness, Harness Xtra, Harness Xtra 5.6L, Lariat, Lasso or Micro-Tech. Refer to the specific product label and observe all precautions and limitations on the label for any preemergence herbicide application, including application timing restrictions, soil restrictions, minimum recropping interval and rotational guidelines - the more restrictive requirements apply.

## Preemergence followed by Postemergence Weed Control Program

**USE INSTRUCTIONS:** This product may be applied postemergence in-crop following any labeled preemergence herbicide application. The post application of this product must be made before the weeds reach a height and/or density that the weeds become competitive with the crop. An in-crop application of this product at the specified rate will provide control of emerged weeds listed on the label. This product may be applied over-the top broadcast or with drop nozzles postemergence to Roundup Ready 603 corn from emergence through the V8 stage (8 leaves with collars) or until corn height reaches 30 inches (free standing), whichever comes first.

When corn height is 24 to 30 inches drop nozzles are to be used as directed for optimum spray coverage and weed control. For corn heights 30 to 48 inches (free standing), apply this product only using ground application equipment with drop nozzles and avoid spraying into the whorls of the corn plants.

## Postemergence (In-crop) Only Weed Control Program

**USE INSTRUCTIONS:** This product may be applied alone as a postemergence in-crop application to provide control of emerged weeds listed on the label. The postemergence application of this product must be made before the weeds reach a height and/or density that the weeds become competitive with the crop. If new flushes of weeds occur, a sequential application of this product at 20 to 26 fluid ounces per acre will control the labeled grasses and broad leaf weeds. This product may be applied over-the-top broadcast or with drop nozzles postemergence to Roundup Ready 603 corn from emergence through the V8 stage or until corn height reaches 30 inches (free standing), whichever comes first. For corn height 30 to 48 inches (free standing), apply this product only using ground application equipment with drop nozzles and avoid spraying into the whorls of the corn plants. When corn height is 24 to 48 inches (free standing), for optimum spray coverage and weed control, drop nozzles are to be used as directed.

**TANK MIXTURES:** This product may be applied in tank mixture with a labeled rate of Degree, Degree Xtra, Harness, Harness Xtra, Harness Xtra 5.6L, Micro-Tech, and Bullet. This product may be applied in tank mixture with Permit® and atrazine at labeled rates. Refer to the specific product label and observe all precautions and

limitations on the label for all products used in tank mixtures, including application timing restrictions, soil restrictions, minimum re-cropping interval and rotational guidelines - the more restrictive requirements apply. Tank mixtures with other products may result in increased potential for crop injury and/or weed antagonism. Refer to the table below for height limitation for tank mix partner.

<b>Tank Mix Partner</b>	<b>Maximum Height of Corn For Application</b>
Degree Degree Xtra Harness Harness Xtra Harness Xtra 5.6L	11 inches
Bullet® Micro-Tech®	5 inches
Permit	30 inches
atrazine	12 inches

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

See the “ROUNDUP READY CROPS” section for precautionary instructions for use in Roundup Ready Crops. **RESTRICTIONS:** Single in-crop applications of this product must not exceed 40 fluid ounces per acre. Allow a minimum of 10 days between in-crop applications of this product. Allow a minimum of 50 days between application of this product and harvest of corn forage or grain. For applications at a preharvest timing (see Preharvest section, following section in this label), allow a minimum of 7 days between application and harvest or feeding of corn stover or corn grain. There are no rotational crop restrictions following applications of this product.

### **Preharvest**

**USE INSTRUCTIONS:** A single preharvest application of up to 26 fluid ounces per acre of this product may be made, if no more than a total of 52 fluid ounces of this product has been previously applied in over-the-top or drop nozzle applications. Make a preharvest application at 35 percent grain moisture or less. Ensure that maximum kernel fill is complete and the corn is physiologically mature (black layer formed).

**RESTRICTIONS:** Do not make a preharvest application of this product if more than a combined total of 52 fluid ounces of this liquid has been previously applied in over-the-top or drop nozzle applications. Allow a minimum of 7 days between a preharvest application and harvest or feeding of corn stover or grain.

### **Postharvest**

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

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

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

**TYPES OF APPLICATIONS:** Preplant, At-planting, Preemergence, Post directed, Over-the-top, Selective Equipment, Preharvest

## **Maximum Allowable Combined Application Quantities Per Season**

Combined total per year for all applications:

6.5 quarts per acre

Preplant, At-planting, Preemergence applications:

4 quarts per acre

Total in-crop applications from ground cracking to layby:

3.2 quarts per acre

Maximum preharvest application rate:

52 fluid ounces per acre

**RESTRICTIONS:** See the “ROUNDUP READY CROPS” section of this label for instructions for use in Roundup Ready crops. The combined total application of this product from cotton emergence until harvest must not exceed 4.8 quarts per acre. **NO MORE THAN TWO OVER-THE-TOP BROADCAST APPLICATIONS MAY BE MADE FROM CROP EMERGENCE THROUGH THE 4-LEAF (NODE) STAGE OF DEVELOPMENT. NO MORE THAN TWO APPLICATIONS MUST BE MADE FROM THE 5-LEAF STAGE THROUGH LAYBY. SEQUENTIAL IN-CROP OVER-THE-TOP OR POST -DIRECTED APPLICATIONS OF THIS PRODUCT MUST BE AT LEAST 10 DAYS APART AND COTTON MUST HAVE AT LEAST TWO NODES OF INCREMENTAL GROWTH BETWEEN APPLICATIONS. ALLOW A MINIMUM OF 7 DAYS BETWEEN APPLICATION AND HARVEST.**

## **Preplant, At-planting and Preemergence**

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

## **Post Emergent Control and Management of Glyphosate Resistant Horseweed**

Management of early season weed competition and the development of a crop height differential between cotton and the horseweed is often achieved by a combination of preplant burndown and post emergent over-the-top and/or directed applications of Top Dog<sup>®</sup> Glycel Ultra Max Herbicide. These measures enhance the development of a height differential that is necessary to successfully make post-directed treatments. In-crop post-directed applications of MSMA tank-mixed with diuron must be made when the temperature is 80°F or higher.

## **Over-the-Top**

**USE INSTRUCTIONS:** This product may be applied by aerial or ground application equipment at rates up to 26 fluid ounces per acre per application postemergence to Roundup Ready cotton from the ground cracking stage until the 4-leaf (node) stage of development (until the fifth true leaf reaches the size of a quarter). Over-the-top applications made after the 4-leaf (node) stage of development may result in boll loss, delayed maturity and/ or yield loss.

## **Salvage Treatment**

This treatment may be used after the 4-leaf stage of development and must only be used where weeds threaten to cause the loss of the crop. 26 fluid ounces per acre may be applied either as an over-the- top applications or as a post-directed treatments sprayed higher on the cotton plants and over the weeds.

**NOTE: SALVAGE TREATMENTS WILL RESULT IN SIGNIFICANT BOLL LOSS, DELAYED MATURITY AND/ OR YIELD LOSS. NO MORE THAN ONE SALVAGE TREATMENT MUST BE USED PER GROWING SEASON.**

**NOTE:** For specific rates of application and instructions, refer to the “ANNUAL and PERENNIAL WEEDS RATE TABLES” in this booklet. See the “ROUNDUP READY CROPS” section of this label for instructions for use in Roundup Ready crops.

## Selective equipment

**USE INSTRUCTIONS:** This product may be applied using precision post-directed or hooded sprayers at rates up to 26 fluid ounces per acre per application to Roundup Ready cotton through layby. At this stage, postdirected equipment must be used which directs the spray to the base of the cotton plants. Contact of the spray with cotton leaves must be avoided to the maximum extent possible. To minimize spray onto the leaves of the cotton plants, place nozzles in a low position directing a horizontal spray pattern under the cotton leaves to contact weeds in the row, and maintain low spray pressure (less than 30 psi). For best results, make applications while weeds are small (less than 3 inches).

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

## Preharvest

**USE INSTRUCTIONS:** This product may be applied for preharvest annual and perennial weed control as a broadcast treatment to Roundup Ready cotton after 20 percent boll crack. Up to 52 fluid ounces of this product may be applied using either aerial or ground spray equipment. NOTE: This product will not enhance the performance of harvest aids when applied to Roundup Ready cotton

**RESTRICTIONS:** Allow a minimum of 7 days between application and harvest of cotton. Do not apply this product to cotton grown for seed, as a reduction in germination or vigor may occur.

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

## Maximum Allowable Combined Application Quantities Per Season

Combined total per year for all applications	6.5 quarts per acre
<b>Calculate the combined rate to be used for all <i>preplant, in-crop and preharvest</i> applications, to ensure that the total does not exceed the maximum allowed rate per acre per year.</b>	
Preplanting, At-planting, Preemergence applications	4 quarts per acre
Total in-crop applications for ground cracking to 60% open bolls	4 quarts per acre
<ul style="list-style-type: none"><li>• Maximum allowed rate from cracking through 8 node stage</li><li>• Maximum allowed rate from 8 nodes through 60% open bolls</li></ul>	<ul style="list-style-type: none"><li>• 2.4 quarts per acre</li><li>• 52 fluid ounces per acre</li></ul>
Maximum allowed rate from 60% bolls open to 14 days prior to harvest.	52 fluid ounces per acre

## Cotton with the Roundup Ready Flex Gene

**The use of the over-the-top applications described in this section of the label on other than Roundup Ready Flex cotton will cause crop injury and reduced yields**

**NOTE:** The instructions provided in this section of the label are specific to, and must only be used with, Roundup Ready *Flex* cotton varieties. Do Not combine the instructions in this section with those in the “Cotton With The Roundup Ready Gene” section of the Top Dog® Glycel Ultra Max Herbicide label, booklet, or with any other Roundup Ready cotton instructions on labeling for this or other glyphosate-containing product. See “Annual Maximum Use Rate” in “PRODUCT INFORMATION” section for additional information.

**TYPES OF APPLICATIONS:** Preplant, At-planting, Preemergence, Postemergence, Preharvest. See the “ROUNDUP READY CROPS” section for instructions for use in Roundup Ready crops.

### **Preplant, Preemergence, At-Planting**

**USE INSTRUCTIONS:** This product may be applied before, during or after planting cotton. Always plant into a weed free seedbed. In no-till and stale seedbed systems, always burn down existing weeds before cotton emerges.

### **Postemergence**

**USE INSTRUCTIONS:** When applied as directed, this product will control labeled annual grasses and broadleaf weeds in Roundup Ready Flex cotton. To maximize yield potential spray cotton early to eliminate competing weeds. Many perennial weeds will be controlled or suppressed with one or more applications of this product. In general, an initial application of 26 fluid ounces per acre on 1 to 3 inch tall weeds is to be used as directed. This product may be applied by aerial or ground application equipment at rates up to 52 fluid ounces per acre per application postemergence to Roundup Ready Flex cotton.

**NOTE:** For specific rates of application and instructions, refer to the “ANNUAL WEEDS” and “PERENNIAL WEEDS RATE TABLES”.

**RESTRICTIONS:** After cotton begins to bloom, allow a minimum of 14 days between sequential in-crop applications of this product. The combined total application from crop emergence through 60% open bolls must not exceed 4 quarts per acre.

### **Preharvest**

**USE INSTRUCTIONS:** This product may be applied for preharvest annual and perennial weed control as a broadcast treatment to Roundup Ready Flex cotton after 60% boll crack. Up to 52 fluid ounces of this product may be applied using either aerial or ground spray equipment. NOTE: This product will not enhance the performance of harvest aids when applied to Roundup Ready Flex cotton.

**RESTRICTIONS:** Allow a minimum of 14 days between application and harvest of cotton. Do not apply this product as a preharvest application to cotton grown for seed, as a reduction in germination or vigor may occur.

### **Ground Broadcast Equipment**

Use the specified rates of Top Dog® Glycel Ultra Max Herbicide in 5 to 20 gallons of spray solution per acre. As density of weeds increases, spray volume must be increased within the specified range to ensure complete and uniform coverage of the target. Carefully select proper nozzle and spray pressure to avoid spraying a fine mist. Check for even distribution of spray droplets.

### **Aerial Equipment**

Apply this product in 3 to 15 gallons of water per acre. **DO NOT EXCEED A MAXIMUM RATE OF 52 FLUID OUNCES PER ACRE OF THIS PRODUCT WHEN MAKING APPLICATIONS BY AIR. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS WHICH DO NOT CONTAIN THE ROUNDUP READY OR ROUNDUP READY FLEX GENE.** Drift may cause damage to any vegetation contacted to which treatment is not intended. See the “AERIAL EQUIPMENT” part of the “APPLICATION EQUIPMENT AND TECHNIQUES” section for information on proper use and calibration of this equipment.

### **Sprayer Preparation**

Cotton is very sensitive to many herbicides at extremely low concentrations and care must be taken to thoroughly clean all equipment prior to use. It is important that the sprayer, including tank and hoses, and mixing equipment be clean and free of pesticide residue before making applications of this product to Roundup Ready Flex cotton. Follow the cleaning procedures specified on the label of the product(s) previously used.

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

### **Cotton (New Lines) with Roundup Ready Gene – In-Crop Applications**

**ATTENTION:** REPAR, LLC SPECIFIES THIS PRODUCT FOR USE ONLY OVER-THE-TOP OF OR DIRECTED ONTO IMPROVED COTTON VARIETIES THAT ARE DESIGNATED AS COTTON WITH THE ROUNDUP READY GENE. SEVERE INJURY OR DEATH OF COTTON WILL RESULT IF ANY COTTON VARIETIES NOT PROPERLY DESIGNATED AS HAVING THE ROUNDUP READY GENE ARE SPRAYED WITH THIS PRODUCT. AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, OR FRUIT OF CROPS, OR ANY DESIRABLE PLANTS AND TREES, OTHER THAN CROPS WITH THE ROUNDUP READY GENE. SINCE SEVERE INJURY OR DESTRUCTION WILL RESULT, ROUNDUP READY COTTON VARIETIES MUST BE PURCHASED FROM AN AUTHORIZED LICENSED SEED SUPPLIER. THE DESIGNATION, "ROUNDUP READY" INDICATES THE COTTON VARIETY CONTAINS A PATENTED PROPRIETARY TRAIT.

### **Application Instructions**

This product will control many troublesome weeds with over-the-top, post-directed, hooded sprayer, or preharvest applications in Roundup Ready cotton. See the APPLICATION EQUIPMENT AND TECHNIQUES section for more information.

### **Maximum Allowable Yearly Rates**

Combined total per year for all applications:

6.5 quarts per acre

Preplant, Preemergence applications:

4 quarts per acre

Total over-the-top applications from cracking to layby:

2 quarts per acre

Total precision post-directed or hooded applications through layby:

52 fluid ounces per acre

Maximum preharvest application rate:

52 fluid ounces per acre

**NOTE:** Always plant into a weed free seedbed. In no-till and stale seedbed systems. Always burn down existing weeds before cotton emerges. Apply a preplant burndown treatment of 13 to 40 fluid ounces per acre of this product.

Sprayer Preparation: It is important that sprayer and mixing equipment be clean and free of pesticide residue before making applications of this product to Roundup Ready cotton. Follow the cleaning procedures specified on the label of the product(s) previously used.

**PRECAUTION:** Cotton is very sensitive to many herbicides at extremely low concentrations and care must be taken to thoroughly clean all equipment prior to use.

**There are no rotational crop restrictions following applications of this product.**

### **Over-the-top applications**

Up to 2 quarts per sprayed acre of this product may be applied by aerial or ground broadcast application equipment postemergence to Roundup Ready cotton from the ground cracking stage until layby. The Annual and Perennial Weeds Rate Tables must be used to determine application rate.



**RESTRICTIONS:** Any single over-the-top application must not exceed 52 fluid ounces per sprayed acre. Sequential applications of this product must be at least 7 days apart.

### **With ground broadcast equipment**

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

### **For aerial applications**

Apply this product in 3 to 15 gallons of water per acre. DO NOT EXCEED A MAXIMUM RATE OF 26 FLUID OUNCES PER ACRE OF THIS PRODUCT WHEN MAKING APPLICATIONS BY AIR. AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS WHICH DO NOT CONTAIN THE ROUNDUP READY GENE. Do not apply during low-level inversion conditions. When winds are gusty or under any other conditions that favor drift. Drift may cause damage to any vegetation contacted to which treatment is not intended. To prevent injury to adjacent desirable vegetation appropriate buffer zones must be maintained.

### **Post-directed or hooded applications**

In addition to the over-the-top applications, up to 52 fluid ounces per sprayed acre may be applied as a post-directed or hooded application to Roundup Ready cotton through layby. These application methods may be preferred when there is a need to direct the spray onto weeds that are growing under the crop canopy. Equipment must be used which directs the spray into the lower crop canopy so that weeds in the row are covered. For best results, make applications while weeds are small (less than 3 inches). Sequential in-crop applications must be at least 7 days apart from any other in-crop application of this product.

***ATTENTION: USE OF TOP DOG® GLYCEL ULTRA MAX HERBICIDE IN ACCORDANCE WITH LABEL DIRECTIONS IS EXPECTED TO RESULT IN NORMAL GROWTH OF ROUNDUP READY COTTON, HOWEVER, VARIOUS ENVIRONMENTAL CONDITIONS, AGRONOMIC PRACTICES AND OTHER FACTORS MAKE IT IMPOSSIBLE TO ELIMINATE ALL RISKS ASSOCIATED WITH THIS PRODUCT, EVEN WHEN APPLICATIONS ARE MADE IN CONFORMANCE WITH THE LABEL SPECIFICATIONS. IN SOME CASES, THESE FACTORS CAN RESULT IN UNANTICIPATED RESULTS INCLUDING YIELD LOSS.***

### **Weeds controlled**

For specific rates of application and instructions for control of various annual and perennial weeds, refer to the "ANNUAL and PERENNIAL WEEDS RATE TABLE" sections. Top Dog® Glycel Ultra Max Herbicide applied at 26 to 52 fluid ounces per acre will control or suppress the growth of the following perennial weeds and reduce crop competition: yellow and purple nutsedge, rhizome, johnsongrass, common Bermudagrass, silverleaf nightshade, trumpet creeper, and redvine. Fall preharvest applications may be required for control of these perennial weeds. Tank mixtures with other herbicides may result in reduced weed control, or may cause crop injury and are not specified for applications where the spray contacts the cotton plant. Some weeds with multiple germination times or suppressed (stunted) weeds may require sequential applications of this product for control.

### **Preharvest applications**

This product may be applied for preharvest annual and perennial weed control as a broadcast treatment to Roundup Ready cotton any time after layby up to 7 days prior to harvest. This product may be tank mixed with DEF™ 6, Folex™, Ginstar™, or Prep™ to enhance cotton leaf drop.

**RESTRICTIONS:** Allow a minimum of 7 days between final application and harvest. No more than 52 fluid ounces of this product per acre may be applied preharvest (between layby and 7 days prior to harvest). Do not apply more than 26 fluid ounces of this product per acre by air. The combined total application from crop emergence until harvest must not exceed 6.5 quarts per acre. Allow a minimum of 7 days between final

application and harvest. Do not apply Top Dog® Glycel Ultra Max Herbicide preharvest to cotton grown for seed. **NOTE:** This product will not enhance the performance of harvest aids when applied to Roundup Ready cotton. **PRECAUTION:** Tank mixtures with other herbicides may result in reduced weed control, or may cause crop injury and are not specified for applications where the spray contacts the cotton plant.

### **Lettuce Seed Production with Roundup Ready Gene**

**NOTE: THIS PRODUCT MAY BE USED FOR CONTROL OF NON-GLYPHOSATE TOLERANT LETTUCE IN PRODUCTION FIELDS OF LETTUCE CONTAINING THE ROUNDUP READY GENE. SEVERE INJURY OR DEATH OF LETTUCE WILL RESULT IF LETTUCE VARIETIES THAT DO NOT CONTAIN THE ROUNDUP READY GENE ARE SPRAYED WITH THIS PRODUCT.**

**USE DIRECTIONS:** This product will control non-glyphosate tolerant lettuce in seed production fields of lettuce containing the Roundup Ready gene. Apply up to 52 fluid ounces of this product in 5 to 20 gallons of spray solution per acre as a broadcast spray. A second application up to 52 fluid ounces per acre may be applied, if needed to control non-glyphosate tolerant lettuce plants.

**DO NOT EXCEED A MAXIMUM RATE OF 3.25 QUARTS OF THIS PRODUCT PER ACRE PER SEASON.**

### **Application timing**

This product can be applied to Roundup Ready lettuce from emergence to harvest. Treated lettuce may not be used for food or feed. Do not feed or graze treated lettuce. Do not process treated lettuce for food or feed.

### **Rice Seed Production with Roundup Ready Gene**

**NOTE: THIS PRODUCT MAYBE USED FOR CONTROL OF NON-GLYPHOSATE TOLERANT RICE IN PRODUCTION FIELDS OF RICE CONTAINING THE ROUNDUP READY GENE. SEVERE INJURY OR DEATH WILL RESULT IF RICE VARIETIES THAT DO NOT CONTAIN THE ROUNDUP READY GENE ARE SPRAYED WITH THIS PRODUCT.**

**USE DIRECTIONS:** This product will control non-glyphosate tolerant rice in seed production fields of rice containing the Roundup Ready gene. Apply up to 52 fluid ounces of this product in 5 to 20 gallons of spray solution per acre as a broadcast spray. A second application up to 52 fluid ounces per acre may be applied, if needed to control non-glyphosate tolerant rice plants.

**DO NOT EXCEED A MAXIMUM RATE OF 3.25 QUARTS OF THIS PRODUCT PER ACRE PER SEASON.**

**Application timing** - This product can be applied to Roundup Ready rice from emergence to harvest. Treated rice may not be used for food or feed. Do not feed or graze treated rice. Do not process treated rice for food or feed.

### **Soybeans with the Roundup Ready Gene**

**TYPES OF APPLICATIONS:** Preplant, At-planting, Preemergence, Postemergence, In-crop, Preharvest, Postharvest.

### **Maximum Allowable Combined Application Quantities Per Season**

Combined total per year for all applications:

6.5 quarts per acre

Preplant, At-planting, Preemergence applications:

4 quarts per acre

Total in-crop applications from cracking throughout flowering:

2.4 quarts per acre

Maximum preharvest application rate

26 fluid ounces per acre

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

### **Preplant, Preemergence and At-planting**

**USE INSTRUCTIONS:** This product may be applied before, during or after planting soybeans. Tank mixtures of Top Dog® Glycel Ultra Max Herbicide (26 fluid ounces per acre) and AIM™ (0.144 ounce per acre) or RESOURCE® (2.08 fluid ounces per acre) may be prepared for preplant applications. For best results make applications to actively growing weeds. Ammonium sulfate at 1 to 2 percent by weight or 8.5 to 17 pounds per 100 gallons of water may be added. The addition of 2,4-D or dicamba is not recommended.

### **Postemergence**

**USE INSTRUCTIONS:** When applied as directed, this product will control labeled annual grasses and broad leaf weeds in Roundup Ready soybeans. Applications of this product can be made in Roundup Ready soybeans from emergence (cracking) throughout flowering. Refer to the “ANNUAL WEEDS RATE TABLE” in this label for rates for specific annual weeds. In general, an initial application of 26 fluid ounces per acre on 2 to 8 inch tall weeds is to be used as directed. Weeds will generally be 2 to 8 inches tall, 2 to 5 weeks after planting. If the initial application is delayed and weeds are larger, apply a higher rate of this product. This product may be used up to 52 fluid ounces per acre in any single in-crop application for control of annual weeds and where heavy weed densities exist. A 26- to 52-fluid-ounce per acre rate (single or multiple applications) of this product will control or suppress perennial weeds such as: Bermudagrass, Canada thistle, common milkweed, field bindweed, hemp dogbane, Horsenettle, marestalk (horseweed), nutsedge, quackgrass, rhizome johnsongrass, redvine, trumpetcreeper, swamp smartweed and wirestem muhly. For best results, allow perennial weed species to achieve at least 6 inches of growth before spraying with this product.

Under adverse growing conditions such as drought, hail, wind damage or a poor soybean stand that slows or delays canopy closure, a sequential application of this may be necessary to control late flushes of weeds.

**IN THE SOUTHERN STATES, A SEQUENTIAL APPLICATION OF THIS PRODUCT WILL BE REQUIRED TO CONTROL NEW FLUSHES OF WEEDS IN THE ROUNDUP READY SOYBEAN CROP.** To control giant ragweed, apply 26 fluid ounces per acre of this product when the weed is 8 to 12 inches tall to increase control and possibly avoid the need for a sequential application.

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

**RESTRICTIONS:** The combined total application from crop emergence through harvest must not exceed 2.4 quarts per acre. The maximum rate for any single in-crop application is 52 fluid ounces per acre. The maximum combined total of this product that can be applied during flowering is 52 fluid ounces per acre.

### **In-crop Control and Management of Glyphosate Resistant Horseweed**

It is strongly encouraged that horseweed must be controlled prior to planting using the specified preplant burndown treatments. In-crop Roundup Ready soybeans, apply a tank mixture of this product (26 fluid ounces per acre) with Amplify™ (0.3 ounces per acre). This treatment must be used as a salvage treatment only for a horseweed infestation that was not controlled. Preplant application must be made between full emergence of the first trifoliate leaf and 50% flowering stage of soybeans. At the time of treatment, horseweed must not exceed 6 inches in height.

### **Preharvest**

**USE INSTRUCTIONS:** This product provides weed control when applied prior to harvest of soybeans. Up to 26 fluid ounces per acre of this product can be applied by aerial or ground application.

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

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

## **Post-harvest**

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

## **Sugar beets with the Roundup Ready Gene**

**TYPES OF APPLICATIONS:** Preplant, At-planting, Preemergence, Postemergence.

### **Maximum Allowable Combined Application Quantities Per Season**

Combined total per year for all applications:

6.5 quarts per acre

Preplant, At-planting, Preemergence applications:

4 quarts per acre

Emergence to 8-leaf stage

2 quarts per acre

Between 8-leaf stage and canopy closure:

52 fluid ounces per acre

**RESTRICTIONS:** The combined total application from crop emergence through harvest must not exceed 3.6 quarts per acre. The maximum rate for any single application from crop emergence until the 8-leaf stage is 40 fluid ounces per acre. The maximum rate for any single application between the 8-leaf stage and canopy closure is 26 fluid ounces per acre. Allow a minimum of 30 days between last application and sugar beet harvest.

## **Preplant, At-planting and Preemergence**

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

## **Postemergence**

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

## **Wheat Seed Production with Roundup Ready Gene**

**NOTE: THIS PRODUCT MAYBE USED FOR CONTROL OF NON-GLYPHOSATE TOLERANT WHEAT IN PRODUCTION FIELDS OF WHEAT CONTAINING THE ROUNDUP READY GENE. SEVERE INJURY OR DEATH WILL RESULT IF WHEAT VARIETIES THAT DO NOT CONTAIN THE ROUNDUP READY GENE ARE SPRAYED WITH THIS PRODUCT.**

**USE DIRECTIONS:** This product will control non-glyphosate tolerant wheat in seed production fields of wheat containing the Roundup Ready gene. Apply up to 26 fluid ounces of this product in 5 to 20 gallons of spray solution per acre as a broadcast spray. A second application up to 26 fluid ounces per acre may be applied, if needed to control non-glyphosate tolerant wheat plants.

**DO NOT EXCEED A MAXIMUM RATE OF 52 FLUID OUNCES OF THIS PRODUCT PER ACRE PER SEASON.**

Application timing-This product can be applied to Roundup Ready wheat from emergence to harvest. Treated wheat may not be used for food or feed. Do not feed or graze treated wheat. Do not process treated wheat for food or feed.

## Wildlife food plots

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

## ANNUAL WEEDS RATE TABLE (Alphabetically by Species)

### WATER CARRIER VOLUMES OF 3 TO 10 GALLONS PER ACRE FOR GROUND APPLICATIONS AND 3 TO 5 GALLONS PER ACRE FOR AERIAL APPLICATIONS ARE TO USED AS DIRECTED.

Apply to actively growing annual weeds. Annual weeds are generally easiest to control when they are small. Older, mature (hardened) annual weed species may require higher rates even if they meet the size requirements. Do not tank mix with soil residual herbicides when using these rates unless otherwise specified. For weeds that have been mowed, grazed or cut, allow regrowth to occur prior to treatment.

This product may be used up to 40 fluid ounces per acre where heavy weed densities exist.

## ANNUAL WEEDS RATE TABLE

Weed Species	RATE (Fluid Ounces per Acre)				
	13	20	26	32	40
	<b>Maximum Height/Length (in inches)</b>				
Ammannia, purple	3	6	12	-	18
Annoda, spurred	-	2	3	5	8
Barley	18	18+	-	-	-
Barnyardgrass	-	3	6	7	9
Bassia, fivehook	-	-	6	-	-
Beggarweed, Florida	-	5	8	-	-
Bittercress	12	20	-	-	-
Bluegrass, annual	10	-	-	-	-
Bluegrass, bulbous	6	-	-	-	-
Brome, downy <sup>1,2</sup>	6	12	-	-	-
Brome, Japanese	6	12	24	-	-
Browntop panicum	6	8	12	-	24
Buckwheat, wild <sup>3</sup>	-	1	2	-	-
Burcucumber	-	6	12	-	18
Buttercup	12	20	-	-	-
Carolina foxtail	10	-	-	-	-
Carolina geranium	-	-	4	-	9
Carpetweed	-	6	12	-	-
Cheat <sup>2</sup>	6	20	-	-	-
Chervil	20	-	-	-	-
Chickweed	-	12	18	-	-
Cocklebur	12	18	24	-	36

Copperleaf, hophornbeam	-	2	4	-	6
Copperleaf, Virginia	-	2	4	-	6
Coreopsis, plains	-	6	12	-	18
Corn, Volunteer	6	12	20	-	-
Corn speedwell	12	-	-	-	-
Crabgrass	3	6	12	-	-
Crowfootgrass	-	-	6	-	12
Cutleaf evening primrose	-	-	3	-	6
Devilsclaw (unicorn plant)	-	3	6	-	-
Dwarf dandelion	12	-	-	-	-
Eastern manna grass	8	12	-	-	-
Eclipta	-	4	8	12	-
Fall panicum	4	-	6	-	12
Falsedandelion	-	20	-	-	-
Falseflax, smallseed	12	-	-	-	-
Fiddleneck	-	6	12	-	-
Field pennycress	6	12	-	-	-
Filaree	-	-	6	-	12
Flaebane, annual	6	20	-	-	-
Fleabane, hairy ( <i>Conyza bonariensis</i> )	-	-	6	-	10
Fleabane, rough	3	6	12	-	-
Florida pusley	-	-	4	-	6
Foxtail, giant, bristly, yellow	6	12	20	-	-
Foxtail, Carolina	10	-	-	-	-
Foxtail, green	12	-	-	-	-
Goatgrass, jointed	6	12	-	-	-
Goosegrass	-	3	6	-	12
Grain sorghum (milo)	6	12	20	-	-
Groundcherry	-	3	6	-	9
Groundsel, common	-	6	10	-	-
Hemp sesbania	-	2	4	6	8
Henbit	-	-	6	-	12
Horseweed/ Maretail ( <i>Conyza canadensis</i> )	-	6	12	-	18
Itchgrass	6	8	12	-	18
Jimsonweed	-	-	12	-	18
Johnsongrass, seedling	6	12	18	-	24
Junglerice	-	3	6	7	9
Knotweed	-	-	6	-	12
Kochia <sup>4</sup>	-	3 to 6	12	-	-
Lambsquarters	-	6	12	-	20
Little barley	6	12	-	-	-
London rocket	6	-	24	-	-

Mayweed	-	2	6	12	18
Morning glory, annual ( <i>Ipomoea spp.</i> )	-	-	3	-	6
Mustard, blue	6	12	18	-	-
Mustard, tansy	6	12	18	-	-
Mustard, tumble	6	12	18	-	-
Mustard, wild	6	12	18	-	-
Nightshade, black	-	4	6	-	12
Nightshade, hairy	-	4	6	-	12
Oats	3	6	18	-	-
Pigweed species	-	12	18	24	-
Prickly lettuce	-	6	12	-	-
Purslane	-	-	3	-	6
Ragweed, common	-	6	12	-	18
Ragweed, giant	-	6	12	-	18
Red Rice	-	-	4	-	-
Russian thistle	-	6	12	-	-
Rye, volunteer/cereal <sup>2</sup>	6	18	18+	-	-
Ryegrass	-	-	6	-	12
Sandbur, field	6	12	-	-	-
Sandbur, longspine	6	12	-	-	-
Shattercane	6	12	20	-	-
Shepherd's-purse	6	12	-	-	-
Sicklepod	-	2	4	-	8
Signalgrass broadleaf	-	3	6	7	9
Smartweed, ladysthumb	-	-	6	-	9
Smartweed, Pennsylvania	-	-	6	-	9
Sowthistle, annual	-	-	6	-	12
Spanishneedles	-	-	6	-	12
Speedwell, purslane	12	-	-	-	-
Sprangletop	6	12	20	-	-
Spurge, prostrate	-	6	12	-	-
Spurge, spotted	-	6	12	-	-
Spurry, Umbrella	6	-	-	-	-
Stinkgrass	-	12	-	-	-
Sunflower	12	18	-	-	-
Swinecress	-	5	12	-	-
Teaweed/Prickly sida	-	2	4	-	6
Texas panicum	6	8	12	-	24
Thistle, Russian <sup>5</sup>	-	6	12	-	-
Velvetleaf	-	-	6	-	12
Virginia Pepperweed	-	18	-	-	-
Waterhemp	-	-	6	-	12
Wheat <sup>2</sup>	6	12	18	-	-

Wheat (overwintered)	-	6	12	-	18
Wild oats	3	6	18	-	-
Wild Proso Millet	-	6	12	-	18
Witchgrass	-	12	-	-	-
Woolly cupgrass	-	6	12	-	-
Yellow rocket	-	12	20	-	-

<sup>1</sup>For control of Downy Brome in no-till systems, use 20 fluid ounces per acre.

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

<sup>3</sup>Use 20 fluid ounces per acre of this product to control wild buckwheat in the cotyledon to 2-leaf stage. Use 26 fluid ounces per acre to control 2- to 4-leaf wild buckwheat. For improved control of wild buckwheat over 2 inches in size, use sequential treatments of 26- fluid ounces followed by 26 fluid ounces of this product per acre.

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

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

### **Annual Weeds -- Rates for 10 to 40 Gallons per Acre**

Apply 26 to 52 fluid ounces of this product per acre. Use 26 fluid ounces per acre if weeds are less than 6 inches tall, 40 fluid ounces per acre if weeds are 6 to 12 inches tall and 52 fluid ounces per acre if weeds are greater than 12 inches tall.

These rates will provide control of weeds listed in the annual weed control tables when water carrier volumes are 10 to 40 gallons per acre for ground applications. Older, mature (hardened) annual weed species may require higher rates even if they meet the size requirements.

### **Annual Weeds -- Tank Mixtures with 2,4-D or Dicamba or Tordon 22K**

10 to 13 fluid ounces of this product plus 1/4 pound of dicamba or 1/2 pound of 2,4-D or 1 to 2 fluid ounces of Tordon 22K per acre will control the following weeds with the maximum height or length indicated: 6"-prickly lettuce, marestail/horseweed, morning glory, kochia (dicamba only) wild buckwheat (Tordon 22K only); 12" -- cocklebur, lambsquarters, pigweed, Russian thistle (2,4-D only). 13 fluid ounces of this product plus 1/2 pound of 2,4-D per acre will control the following weeds when they are a maximum height or length of 6 inches: common ragweed, giant ragweed, Pennsylvania smart weed, and velvetleaf.

10 fluid ounces of this product plus 0.25 pound a.i. of Banvel or 0.5 pound a.i. of 2,4-D per acre will control foxtail up to 18 inches.

Refer to the specific product labels for crop rotation restrictions and cautionary statements of all products used in tank mixtures. Some crop injury may occur if dicamba or Tordon 22K is applied within 45 days of planting.

DO NOT APPLY DICAMBA TANK MIXTURES BY AIR IN CALIFORNIA.

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

For control of weeds listed in the "ANNUAL WEEDS RATE TABLES", apply a 0.4 percent solution of this product to weeds less than 6 inches in height or runner length. Apply prior to seedhead formation in grass or bud formation in broad leaf weeds. For annual weeds over 6 inches tall, or unless otherwise specified, use a 0.8 percent solution. For best results, use a 1.6 percent solution on harder -to-control perennials, such as Bermudagrass, dock, field bindweed, hemp dogbane, milkweed and Canada thistle.

When using application methods that result in less than complete coverage, use a 4 percent solution for annual and perennial weeds and a 4 to 8 percent solution for woody brush and trees.



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

For use only in Colorado, Kansas, Nebraska, Oklahoma, Oregon, South Dakota, and Washington. In Oregon and Washington do not exceed 1 pound of atrazine per acre. 20 to 24 fluid ounces of this product plus 1 to 2 pounds of atrazine per acre will control the following weeds: Barnyardgrass (requires 24 fluid ounces for control), Downy brome, Green foxtail, Lambsquarters, Prickly lettuce, Tansy mustard, Pigweed, Field sandbur, Stinkgrass, Russian thistle, Volunteer wheat, Witchgrass and Kochia (add 1/8 pound of dicamba for control).

## **Annual Weeds - Coastal Bermudagrass Pastures Prior to Spring Growth or Immediately After First Cutting**

**USE INSTRUCTIONS:** This product may be applied at 13 fluid ounces per acre to control the weeds listed below and most other winter annual grass and broadleaf weeds in established coastal Bermudagrass pastures.

Annual bluegrass	Oats
Cheat	Ryegrass, Italian
Crabgrass	Sandbur, field
Henbit	Sunflower
Johnsongrass, seedling	Wheat
Little barley	Wild mustard

### **TIMING OF APPLICATION:**

#### **Applications prior to spring growth**

Apply this product in the late winter or early spring but before new coastal Bermudagrass growth begins in the spring. Applications to new growth can damage the Bermudagrass.

**RESTRICTIONS:** Remove domestic livestock from the pasture before making the application. Wait 60 days after making this application before grazing or harvesting the treated area.

#### **Applications following the first cutting**

Apply this product after the first Bermudagrass cutting when the Bermudagrass has not yet begun to regrow. Applications made after regrowth has begun can damage the Bermudagrass.

**RESTRICTIONS:** Remove domestic livestock from the pasture before making the application. Wait 28 days after making this application before grazing or harvesting the treated area.

**NOTE: ONLY ONE APPLICATION PER YEAR MAYBE MADE TO ANY ONE FIELD. A SPRING APPLICATION PRIOR TO GROWTH AND AN APPLICATION FOLLOWING THE FIRST CUTTING MAY NOT BE MADE ON THE FIELD DURING THE SAME YEAR.**

## **Annual Weeds – Nonselective Control in Small Grain Cropping Systems (For Distribution and Use Only Within South Dakota).**

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

**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 herbicide 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 is greatest when winds are gusty or in excess of 5 miles per hour or when other conditions, including lesser wind velocities, will allow spray drift to occur. When spraying, avoid combinations of pressure and nozzle type that will result in splatter or fine particles (mist) that are likely to drift. AVOID APPLYING AT EXCESSIVE SPEED OR PRESSURE.

**NOTE:**

- To prevent injury to adjacent desirable vegetation, appropriate buffer zones must be maintained.
- Adjust boom height on ground equipment to prevent streaked, overlapped or uneven applications. Coarse sprays are less likely to drift; therefore, do not use nozzles or nozzle configurations that dispense spray as fine spray droplets.
- In aerial applications, do not angle nozzles forward into the airstream and do not increase spray volume by increasing nozzle pressure.
- Ensure uniform application. Use appropriate marking devices when applying herbicides by air.
- Avoid spraying when weeds are subject to moisture stress, when dust is on foliage, or when straw canopy covers the weeds.
- Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove residue 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 PART. LANDING GEAR IS MOST SUSCEPTIBLE.** The maintenance of an organic coating (paint) which meets aerospace specification MIL-C-38413 may prevent corrosion.

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

Apply to actively growing perennial weeds.

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

Best control of most perennial weeds is obtained when treatment is made at late growth stages approaching maturity. Repeat treatments may be necessary to control weeds regenerating from underground parts or seed. Repeat treatments must be made prior to crop emergence for non-glyphosate resistant crops.

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

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

<b>Weed Species</b>	<b>Rate (QT/A)</b>	<b>Water Volume (GPA)</b>	<b>Hand-Held % Solution</b>
Alfalfa	1-1.75	3-10	1.6%

Make applications after the last hay cutting in the fall. Allow alfalfa to regrow to a height of 6 to 8 inches or more prior to treatment. Applications must be followed with deep tillage at least 7 days after treatment, but before soil freezes-up.

Alligatorweed	3.2	3-20	1.2%
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Partial control. Apply when most of the plants are in bloom. Repeat applications will be required to maintain control.

Anise (fennel)	1.75-3.2	3-20	0.8-1.6%
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For hand-held, apply as a spray-to-wet treatment. Optimum results are obtained when plants are treated at the bud to full-bloom stage of growth.

Bahiagrass	2.5-4	3-20	1.6%
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Apply when most plants have reached the early head stage.

Bentgrass	1.25	10-20	1.6%
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For suppression in grass seed production areas. For ground applications only, ensure entire crown area has resumed growth prior to a fall application. Bentgrass must have at least 3 inches of growth. Tillage prior to treatment must be avoided. Tillage 7 to 10 days after application is preferred for best results.

Bermudagrass	2.5-4	3-20	1.6%
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For control, apply 4 quarts of this product per acre. For partial control, apply 2.5 quarts per acre. Treat when bermudagrass is actively growing and seedheads are present. Retreatment may be necessary to maintain control.

Bermudagrass, water (knotgrass)	1-1.25	5-10	1.6%
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Apply 40 fluid ounces of this product in 5 to 10 gallons of water per acre. Apply when water Bermudagrass is 12 to 18 inches in length. Allow 7 or more days before tilling, flushing or flooding the field.

Fall applications only: Apply 32 fluid ounces of this product in 5 to 10 gallons of water per acre. Fallow fields must be tilled prior to application. Apply prior to frost on water Bermudagrass that is 12 to 18 inches in length.

This product is not registered in California for use on water Bermudagrass.

Bindweed, field	0.5-4	3-20	1.6%
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Do not treat when weeds are under drought stress as good soil moisture is necessary for active growth.

For control, apply 3.25 to 4 quarts of this product per acre. Apply when the weeds are at or beyond full bloom. For best results, apply in the late summer or fall. Fall treatments must be applied before a killing frost.

Also for control, apply 1.75 quarts of this product plus 0.5 pound a.i. of Banvel in 10 to 20 gallons of water per acre.

Do not apply by air.

For suppression on irrigated agricultural land, apply 1 to 1.75 quarts of this product plus 1 pound a.i. of 2,4-D in 10 to 20 gallons of water per acre with ground equipment only.

Applications must be made following harvest or in fall fallow ground when the bindweed is actively growing and the majority of runners are 12 inches or more in length. The use of at least one irrigation will promote active bindweed growth.

For suppression, apply 13 fluid ounces of this product plus 0.5 pound a.i. of 2,4-D in 3 to 10 gallons of water per acre for ground applications and 3 to 5 gallons of water per acre for aerial applications. Apply by air in fallow and reduced tillage systems only.

Applications must be delayed until maximum emergence has occurred and when vines are between 6 to 18 inches in length.

**In California only**, apply 1 to 4 quarts of this product per acre. Actual rate needed for suppression or control will vary within this range depending on local conditions. For suppression on irrigated land where annual tillage is performed, apply 32 fluid ounces of this product in 3 to 10 gallons of water per acre. Apply to bindweed that has reached a length of 12 inches or greater. Allow maximum weed emergence and runner growth. Allow 3 or more days after application before tillage.

Bluegrass	1.25	10-20	2.0%
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For suppression in grass seed production areas. For ground applications only. Ensure entire crown area has resumed growth prior to a fall application. Bentgrass must have at least 3 inches of growth. Tillage prior to treatment must be avoided. Tillage 7 to 10 days after application is directed for best results.

Bluegrass, Kentucky	1-1.75	3-40	1.6%
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Apply 1.75 quarts of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1 to 1.25 quarts of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.

Blueweed, Texas	2.5-4	3-40	1.6%
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Apply 3.25 to 4 quarts of this product per acre west of the Mississippi River and 2.5 to 3.25 quarts per acre east of the Mississippi River. Apply when plants are at or beyond full bloom. New leaf development indicates active growth. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost.

Brakenfern	2.5-3.25	3-40	0.8-1.2%
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Apply to fully expanded fronds which are at least 18 inches long.

Bromegrass, smooth	1-1.75	3-30	1.6%
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Apply 1.75 quarts of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1 to 1.25 quarts of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.

Bursage, woolly-leaf	-	3-20	1.6%
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For control, apply 52 fluid ounces of this product plus 1/2, pound of dicamba per acre. For partial control, apply 32 fluid ounces of this product plus 1/2 pound of dicamba per acre. Apply when plants are producing new active growth which has been initiated by moisture for at least 2 weeks and when plants are at or beyond flowering.

Canarygrass, reed	1.75-2.5	3-40	1.6%
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For best results, apply when most plants have reached the boot-to-head stage of growth.

Cattail	2.5-4	3-40	1.6%
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Apply when most plants have reached the early head stage.

Clover; red or white	2.5-4	3-20	1.6%
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Apply when most plants have reached the early bud stage.

Also for control apply 13 fluid ounces of this product plus 1/2 to 1 pound 2,4-D in 3 to 10 gallons of water per acre

Cogongrass	2.5-4	10-40	1.6%
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Apply when cogongrass is at least 18 inches tall in late summer or fall. Due to uneven stages of growth and the dense nature of vegetation preventing good spray coverage, repeat treatments may be necessary to maintain control.

Dallisgrass	2.5-4	3-20	1.6%
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Apply when most plants have reached the early head stage.

Dandelion	2.5-4	3-40	1.6%
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Apply when most plants have reached the early bud stage of growth.

Also for control, apply 13 fluid ounces of this product plus 0.5 pound a.i. 2,4-D in 3 to 10 gallons of water per acre.

Dock, curly	2.5-4	3-40	1.6%
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Apply when most plants have reached the early bud stage of growth.

Also for control, apply 13 fluid ounces of this product plus 0.5 pound a.i. 2,4-D in 3 to 10 gallons of water per acre.

Dogbane, hemp	3.25	3-40	1.6%
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Apply when most plants have reached the late bud to flower stage of growth. Following crop harvest or mowing.

Allow weeds to regrow to a mature stage prior to treatment. For best results, apply in late summer or fall. For suppression, apply 13 fluid ounces of this product plus 1/2 pound of 2,4-D in 3 to 10 gallons of water per acre for ground applications and 3 to 5 gallons of water per acre for aerial applications. Delay applications until maximum emergence of dogbane has occurred.

Fescue (except tall)	2.5-4	3-20	1.6%
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Apply when most plants have reached the early head stage.

Fescue (tall)	1-2.5	3-40	1.6%
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Apply 2.5 quarts of this product per acre when most plants have reached boot-to-early seedhead stage of development.

Fall applications only: Apply 1 quart of this product in 3 to 10 gallons of water per acre. Apply to fescue in the fall when plants have 6 to 12 inches of new growth. A sequential application of 1 pint per acre of this product will improve long-term control and control seedlings germinating after fall treatments or the following spring.

Guineagrass	1.75-2.5	3-40	0.8%
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Apply when most plants have reached at least the 7-leaf stage of growth. Ensure thorough coverage when using hand-held equipment. In Texas and ridge of Florida, use 52 fluid ounces for control. In the flatwoods region of Florida, 2.5 quarts is required for control.

Horsenettle	2.5-4	3-20	1.6%
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Apply when most plants have reached the early bud stage.

Horseradish	3.25	3-40	1.6%
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Apply when most plants have reached the late bud to flower stage of growth. For best results, apply in late summer or fall.

Iceplant	1.75	3-20	1.2-1.6%
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Iceplant must be at or beyond the early bud stage of growth. Thorough coverage is necessary for best control.

Jerusalem artichoke	2.5-4	3-20	1.6%
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Apply when most plants are in the early bud stage.

Johnsongrass	0.5-2.5	3-40	0.8%
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In annual cropping systems apply 1 to 1.75 quarts of this product per acre. Apply 1 quart of this product in 3 to 10 gallons of water per acre. Use 1.75 quarts of this product when applying 10 to 40 gallons of water per acre. In noncrop, or areas where annual tillage (no-till) is not practiced, apply 1.75 to 2.5 quarts of this product in 10 to 40 gallons of water per acre.

For best results, apply when most plants have reached the boot-to-head stage of growth or in the fall prior to frost. Allow 7 or more days after application before tillage. Do not tank mix with residual herbicides when using the 1 quart per acre rate.

For burndown of Johnsongrass, apply 13 fluid ounces of this product in 3 to 10 gallons of water per acre before the plants reach a height of 12 inches. For this use, allow at least 3 days after treatment before tillage.

Spot treatment (partial control or suppression) – Apply a 0.8 percent solution of this product when Johnsongrass is 12 to 18 inches in height. Coverage must be uniform and complete.

Kikuyugrass	1.75-2.5	3-40	1.6%
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Spray when most kikuyu grass is at least 8 inches in height (3- or 4-leaf stage of growth). Allow 3 or more days after application before tillage.

Knapweed	3.25	3-40	1.6%
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Apply when most plants have reached the late bud to flower stage of growth. For best results apply in late summer or fall.

Lantana	-	-	1.2%
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Apply at or beyond the bloom stage of growth. Use the higher application rate for plants that have reached the woody stage of growth.

Lespedeza	2.5-4	3-20	1.6%
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Apply when most plants have reached the early bud stage.

Milkweed, common	2.5	3-40	1.6%
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Apply when most plants have reached the late bud to flower stage of growth.

Muhly, wirestem	2.5	3-40	1.6%
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Use 32 fluid ounces of this product in 3 to 10 gallons of water per acre. Use 52 fluid ounces of this product when applying 10 to 40 gallons of water per acre or in pasture, sod, or non-crop areas. Spray when the wirestem muhly is 8 inches or more in height. Do not till between harvest and fall applications or in the fall or spring prior to spring applications. Allow 3 or more days after application before tillage.

Mullein, common	2.5-4	3-20	1.6%
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Apply when most plants are in the early bud stage.

Napiergrass	2.5-4	3-20	1.6%
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Apply when most plants are in early head stage.

Nightshade, silverleaf	1.75	3-10	1.6%
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Applications must be made when at least 60 percent of the plants have berries. Fall treatments must be applied before a killing frost.

Nutsedge; purple, yellow	0.5-2.5	3-40	0.8-1.6%
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Apply 2.5 quarts of this product per acre or apply a 0.8 to 1.6 percent solution for control of nutsedge plants and immature nutlets attached to treated plants. Treat when plants are in flower or when new nutlets can be found at rhizome tips. Nutlets that have not germinated will not be controlled and may germinate following treatment. Repeat treatments will be required for long-term control of ungerminated tubers.

Sequential applications: 32 to 52 fluid ounces of this product in 3 to 10 gallons of water per acre will also provide control. Make applications when a majority of the plants are in the 3- to 5-leaf stage (less than 6 inches tall). Repeat this application, as necessary, when newly emerging plants reach the 3- to 5-leaf stage. Subsequent applications will be necessary for long-term control.

For partial control of existing plants, apply 13 to 52 fluid ounces of this product in 3 to 40 gallons of water per acre. Treat when plants have 3 to 5 leaves and most are less than 6 inches tall. Repeat treatments will be required to control subsequent emerging plants or regrowth of existing plants.

Orchardgrass	1-1.75	3-40	1.6%
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Apply 1.75 quarts of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1 to 1.25 quarts of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.

Orchardgrass sods going to no-till corn: Apply 1 to 1.25 quarts of this product in 3 to 10 gallons of water per acre. Apply to orchardgrass that is a minimum of 12 inches tall for spring applications and 6 inches tall for fall applications. Allow at least 3 days following application before planting. A sequential application of atrazine will be necessary for optimum results.

Pampasgrass	2.5-4	3-20	1.2-1.6%
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Pampasgrass must be at or beyond the boot stage of growth. Thorough coverage is necessary for best control.

Paragrass	2.5-4	3-20	1.6%
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Apply when most plants are in early head stage.

Phragmites	2.5-4	10-40	1.2-1.6%
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For partial control. For best results, treat during late summer or fall when plants are actively growing and in full bloom. Treatment before or after this stage may lead to reduced control. Due to the dense nature of the vegetation which may prevent good spray coverage or uneven stages of growth, repeat treatments may be necessary to maintain control. Visual control symptoms will be slow to develop.

Poison hemlock	1.75-3.25	3-20	1.2-1.6%
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For hand-held, apply as a spray-to-wet treatment. Optimum results are obtained when plants are treated at the bud to full-bloom stage of growth. Thorough coverage is necessary for best control.

Pokeweed, common	1	3-40	1.6%
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Apply to actively growing plants up to 24 inches tall.

Quackgrass	1-2.5	3-40	1.6%
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In annual cropping systems, or in pastures and sods followed by deep tillage: Apply 1 quart of this product in 3 to 10 gallons of water per acre. For 10 to 40 gallons of water per acre, apply 1.75 quarts of this product. Do not tank mix with residual herbicides when using the 1 quart rate. Spray when quackgrass is 6 to 8 inches in height. Do not till between harvest and fall applications or in fall or spring prior to spring application. Allow 3 or more days after application before tillage. In pastures or sods, use a moldboard plow for best results.

In pastures, sods or noncrop areas where deep tillage does not follow application: Apply 1.75 to 2.5 quarts of this product in 10 to 40 gallons of water per acre when the quackgrass is greater than 8 inches tall.

Red vine	0.75-1.75	5-10	1.6%
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For suppression, apply 20 fluid ounces of this product per acre at each of two applications 7 to 14 days apart or a single application of 52 fluid ounces per acre. Apply specified rates in 5 to 10 gallons of water per acre. Apply in late September or early October to plants that are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.

Reed, giant	3.25-4	3-20	1.6%
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Best results are obtained when applications are made in late summer to fall.

Ryegrass, perennial	1-2.5	3-40	0.8%
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In annual cropping systems apply 1 to 1.75 quarts of this product per acre. Apply 1 quart of this product in 3 to 10 gallons of water per acre. Use 1.75 quarts of this product when applying 10 to 40 gallons of water per acre. In noncrop, or areas where annual tillage (no-till) is not practiced, apply 1.75 to 2.5 quarts of this product in 10 to 40 gallons of water per acre.

For best results, apply when most plants have reached the boot-to-head stage of growth or in the fall prior to frost.

Do not tank-mix with residual herbicides when using the 1 quart per acre rate.

Smartweed, swamp	2.5-4	3-40	1.6%
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Apply when most plants have reached the early stage of growth. Also for control, apply 13 fluid ounces of this product plus 0.5 pound a.i. of 2,4-D in 3 to 10 gallons of water per acre in the late summer or fall.

Sowthistle, perennial	1.75-2.5	3-40	1.6%
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Apply when most plants are at or beyond the bud stage of growth. After harvest, mowing or tillage in the late summer or fall, allow at least 4 weeks for initiation of active growth and rosette development prior to the application of this product. Fall treatments must be applied before a killing frost. Allow 3 or more days after application before tillage.

Spurge, leafy	-	3-10	1.6%
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For suppression, apply 13 fluid ounces of this product plus 0.5 pounds a.i. 2,4-D in 3 to 10 gallons of water per acre in the late summer or fall. If mowing has occurred prior to treatment, apply when most of the plants are 12 inches tall.

Starthistle, yellow	1.75	10-40	1.6%
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Best results are obtained when applications are made during the rosette, bolting and early flower stages.

Sweet potato, wild	-	-	2%
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Partial control: Apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.

Thistle, artichoke	1.75-2.5	3-20	1.6%
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Partial control: Apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.

Thistle, Canada	1.75-2.5	3-40	1.6%
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Apply when most plants are at or beyond the bud stage of growth. After harvest, mowing or tillage in the late summer or fall, allow at least 4 weeks for initiation of active growth and rosette development prior to the application of this product. Fall treatments must be applied before a killing frost. Allow 3 or more days after application before tillage.

For suppression, apply 1 quart of this product, or 13 fluid ounces of this product plus 0.5 pound a.i. 2,4-D, in 3 to 10 gallons of water per acre in the late summer or fall after harvest, mowing or tillage. Allow rosette regrowth to a minimum of 6 inches in diameter before treating. Applications can be made as long as leaves are still green and plants are actively growing at the time of application. Allow 3 or more days after application before tillage.



Timothy	1.75-2.5	3-40	1.6%
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For best results, apply when most plants have reached the boot-to-head stage of growth.

Torpedograss	3.25-4	3-40	1.6%
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For partial control. Apply when most plants are at or beyond the seedhead stage of growth. Repeat applications will be required to maintain control. Fall treatments must be applied before frost.

Trumpet creeper	1.75	5-10	1.6%
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Partial control. Apply in late September or October, to plants that are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.

Vaseygrass	2.5- 4	3-20	1.6%
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Apply when most plants are in the early head stage.

Velvetgrass	2.5-4	3-20	1.6%
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Apply when most plants are in early head stage.

Wheatgrass, western	1.75-2.5	3-40	1.6%
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For best results, apply when most plants have reached the boot-to-head stage of growth.

#### WOODY BRUSH AND TREES RATE TABLE

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

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

Unless otherwise directed, apply broadcast treatments in 3 to 40 gallons of water per acre. Ensure thorough coverage when using hand-held equipment. Symptoms may not appear prior to frost or senescence with fall treatments.

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

Weed Species	Rate (QT/A)	Hand-Held %		Comments
		Solution		
Alder	2.5-3.25	1.2%		C
Ash	1.75-4	0.8-1.6%		PC
Aspen, quaking	1.75-2.5	1.2%		C
Bearmat (Bearclover)	1.75-4	0.8-1.6%		PC
Beech	1.75-4	0.8-1.6%		PC
Birch	1.75-2.5	1.2%		C
Blackberry	2.5-3.25	1.2%		C

For Blackberry, make applications after plants have reached full leaf maturity. Best results are obtained when applications are made in late summer or fall. Applications may also be made after leaf drop and until a killing frost or as long as stems are green. After berries have set or dropped in late fall, blackberry can be controlled by applying a 0.8 percent solution of this product. For control of blackberries after leaf drop and until killing frost or as long as stems are green, apply 2.5 to 3.25 quarts of this product in 10 to 40 gallons of water per acre.

Blackgum	1.75-4	0.8-1.6%	C
Bracken	1.75-4	0.8-1.6%	C
Broom; French Scotch	1.75-4	0.8-1.6%	C
Buckwheat, California	1.75-3.25	0.8-1.6%	PC

Thorough coverage of foliage is necessary for best results.

Cascara	1.75-4	0.8-1.6%	PC
Catsclaw	-	1.2%	PC
Ceanothus	1.75-4	0.8-1.6%	PC
Chamise	-	1.2%	C

Thorough coverage of foliage is necessary for best results.

Cherry; bitter, black, pin	1.75-2.5	1.2%	C
Coyote brush	2.5-3.25	0.8-1.6%	C

Apply when at least 50 percent of new leaves are fully developed.

Dogwood	1.75-4	0.8-1.6%	PC
Elderberry	1.75-2.5	1.2%	C
Elm	1.75-4	0.8-1.6%	PC
Eucalyptus	-	1.6%	C

For control of eucalyptus resprouts, apply when resprouts are 6 to 12 feet tall. Ensure complete coverage. Avoid application to drought-stressed plants.

Florida holly (Brazilian Peppertree)	1.75-4	0.8-1.6%	PC
Gorse	1.75-4	0.8-1.6%	PC
Hasardia	1.75-3.25	0.8-1.6%	PC

Thorough coverage of foliage is necessary for best results

Hawthorn	1.75-2.5	1.2%	C
Hazel	1.75-2.5	1.2%	C
Hickory	1.75-4	0.8-1.6%	PC
Honeysuckle	2.5-3.25	1.2%	C
Hornbeam, American	1.75-4	0.8-1.6%	PC
Kudzu	3.25-4	1.6%	C

Repeat applications may be required to maintain control.

Locust, black	1.75-3.25	0.8-1.6%	PC
Madrone resprouts	-	1.6%	PC

Apply to resprouts that are 3 to 6 feet tall. Best results are obtained with spring/early summer treatments.

Manzanita	1.75-4	0.8-1.6%	PC
Maple, red	1.75-3.25	1.2%	C

Apply a 1.2 percent solution when at least 5- percent of the new leaves are fully developed. For partial control, apply 1.75 to 3.25 quarts of this product per acre.

Maple, sugar	-	1.2%	C
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Apply when at least 50 percent of new leaves are fully developed.

Monkey flower	1.75-3.25	0.8-1.6%	PC
Thorough coverage of foliage is necessary for best results.			
Oak; black, white	1.75-3.25	0.8-1.6%	PC
Oak, post	2.5-3.25	1.2%	C
Oak, northern	-	1.2%	C
Apply when at least 50 percent of new leaves are fully developed.			
Oak; southern red	1.75-2.5	1.2%	C
Persimmon	1.75-4	0.8-1.6%	PC
Pine	1.75-4	0.8-1.6%	C
Poison ivy/Poison oak	3.25-4	1.6%	C
Repeat Applications may be required to maintain control. Fall treatments must be applied before leaves lose green color.			
Poplar, yellow	1.75-4	0.8-1.6%	PC
Redbud, eastern	1.75-4	0.8-1.6%	C
Rose, multiflora	1.75	1.2%	C
Treatments must be made prior to leaf deterioration by leaf eating insects.			
Russian olive	1.75-4	0.8-1.6%	PC
Sage, black	1.75-3.25	1.2%	C
Thorough coverage of foliage is necessary for best results			
Sage, white	1.75-4	0.8-1.6%	PC
Sagebrush, California	1.75-3.25	1.2%	C
Thorough coverage of foliage is necessary for best results.			
Salmonberry	1.75-2.5	1.2%	C
Salt-cedar	1.75-4	0.8-1.6%	C
Sassafras	1.75-4	0.8-1.6%	PC
Sourwood	1.75-4	0.8-1.6%	PC
Sumac; poison, smooth,winged	1.75-3.25	0.8-1.6%	PC
Sweetgurn	1.75-2.5	1.2%	C
Swordfern	1.75-4	0.8-1.6%	PC
Tallowtree, Chinese	-	1.2%	C
Thorough coverage of foliage is necessary for best results.			
Tan oak resprouts	-	1.6%	PC
Apply to resprouts that are less than 3 to 6 feet tall. Best results are obtained with fall applications.			
Thimbleberry	1.75-2.5	1.2%	C
Tobacco, tree	1.75-3.25	0.8-1.6%	PC
Trumpetcreeper	1.75-2.5	1.2%	C
Vine maple	1.75-4	0.8-1.6%	PC
Virginia creeper	1.75-4	0.8-1.6%	C
Waxmyrtle, southern	1.75-4	0.8-1.6%	PC
Willow	2.5-3.25	1.2%	C

\*C= For Control, PC = For Partial Control

## **LIMIT OF WARRANTY AND LIABILITY**

This company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes set forth in the Complete Directions for Use label booklet ("Directions") when used in accordance with those Directions under the conditions described therein. **TO THE EXTENT CONSISTENT WITH APPLICABLE LAW NO OTHER EXPRESS WARRANTY OR IMPLIED WARRANTY OF FITNESS FOR PARTICULAR PURPOSE OR MERCHANT-ABILITY IS MADE.** This warranty is also subject to the conditions and limitations stated herein.

To the extent consistent with applicable law, buyer and all users shall promptly notify this Company of any claims whether based in contract, negligence, strict liability, and other tort or otherwise.

To the extent consistent with applicable law, buyer and all users are responsible for all loss or damage from use or handling which results from conditions beyond the control of this Company, including but not limited to, incompatibility with products other than those set forth in the Directions, application to or contact with desirable vegetation, unusual weather, weather conditions which are outside the range considered normal at the application site and for the time period when the product is applied, as well as weather conditions which are outside the application ranges set forth in the Directions, applications in any manner not explicitly set forth in the Directions, moisture conditions outside the moisture range specified in the Directions, or the presence of products other than those set forth in the Directions in or on the soil, crop or treated vegetation.

To the extent consistent with applicable law, this Company does not warrant any product reformulated or repackaged from this product except in accordance with this Company's stewardship requirements and with express written permission from this Company.

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

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