



U.S. ENVIRONMENTAL PROTECTION AGENCY  
 Office of Pesticide Programs  
 Registration Division (7505P)  
 1200 Pennsylvania Ave., N.W.  
 Washington, D.C. 20460

EPA Reg. Number:

93138-1

Date of Issuance:

12/18/17

NOTICE OF PESTICIDE:

Registration  
 Reregistration  
 (under FIFRA, as amended)

Term of Issuance:

Unconditional

Name of Pesticide Product:

Good Harvest Glyphosate 53.8%

Name and Address of Registrant (include ZIP Code):

GH Holding USA Corporation  
 1660 3<sup>rd</sup> Avenue SW  
 LeMars, IA 51031

**Note:** Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered under the Federal Insecticide, Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is unconditionally registered in accordance with FIFRA section 3(c)(5) provided that you:

1. Submit and/or cite all data required for registration/reregistration/registration review of your product when the Agency requires all registrants of similar products to submit such data.
2. Make the following label changes before you release the product for shipment:
  - Revise the EPA Registration Number to read, "EPA Reg. No. 93138-1."

Signature of Approving Official:

*Shanta Adeb*  
*fix*

Reuben Baris, Product Manager 25  
 Herbicide Branch, Registration Division (7505P)

Date:

12/18/17

3. Submit one copy of the revised final printed label for the record before you release the product for shipment.

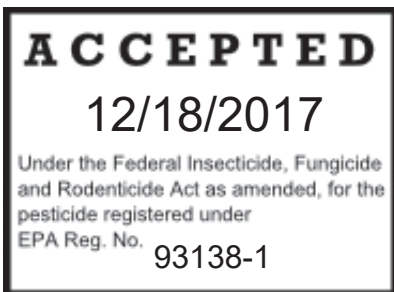
Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6. Your release for shipment of the product constitutes acceptance of these conditions. A stamped copy of the label is enclosed for your records. Please also note that the record for this product currently contains the following CSFs:

- Basic CSF dated 9/6/2017

If you have any questions, please contact Emily Schmid at 703-347-0189 or by email at [schmid.emily@epa.gov](mailto:schmid.emily@epa.gov).

Enclosure



Glyphosate	Group	9	Herbicide
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# GOOD HARVEST™

## Glyphosate 53.8%

Read the entire label before using this product. Use only in accordance to label directions for use.

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

### 1.0 INGREDIENTS

**ACTIVE INGREDIENT:**

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

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

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

\*Contains 648 grams per liter or 5.4 pounds per U.S. gallon of the active ingredient Glyphosate, in the form of its isopropylamine salt. Equivalent to 480 grams per liter or 4.0 pounds per U.S. gallon of the acid glyphosate.

### 2.0 Precautionary Statements

## KEEP OUT OF REACH OF CHILDREN CAUTION

<b>FIRST AID</b>	
<b>If in Eyes:</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15–20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>2.0 IMPORTANT PHONE NUMBER</b>	
<p>Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact the National Poison Control Center at 1-800-222-1222 for emergency medical treatment information.</p>	

**See inside label booklet for DIRECTIONS FOR USE and additional PRECAUTIONARY STATEMENTS**

EPA Reg. No. 93138-  
EPA Est. No.  
Net Contents

Manufactured for  
GH Holding USA Corporation  
281 Hampshire Dr.  
Plainsboro, NJ 08536

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## **2.0 PRECAUTIONARY STATEMENTS**

### **2.1 HAZARDS TO HUMANS AND DOMESTIC ANIMALS Caution.**

Remove and wash contaminated clothing. Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.

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

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

**Important:** When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "applicators and other handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment break-down.

### **USER SAFETY RECOMMENDATIONS**

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

### **2.2 ENVIRONMENTAL HAZARDS**

Do not contaminate water when cleaning equipment or disposing of equipment washwaters and rinsate. Treatment of aquatic weeds can result in oxygen depletion or loss due to decomposition of dead plants. This oxygen loss can cause fish suffocation. In case of spill or leak, soak up and remove to a landfill.

**For products in containers over 5 gallons:** Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

### **2.3 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. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source. Do not mix or allow coming in contact with oxidizing agent. Hazardous chemical reaction may occur.

### **2.4 DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. This product must only be used in accordance with the Directions for Use on this label. 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.

### **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 intervals (REI). The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not allow worker entry into treated areas during the restricted entry interval (REI) of four (4) hours or until solution has dried.

Exception: If the product is soil incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter treated area if there is no contact with anything that has been treated.

PPE required for early entry to treated areas (that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water) is: coveralls, chemical resistant gloves (made of any waterproof material) and shoes plus socks.

## NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of the 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 unprotected persons out of treated areas until sprays have dried.

### 2.5 SEED POTATO PRECAUTION

Potatoes grown for seed are very sensitive to glyphosate at extremely low concentrations. Exposure of the seed potato crop can cause germination failure or deformities. Daughter tuber damage may occur at levels where mother crop symptoms are not visible. Multiple sprouting from eyes, weak and distorted stems, "little potato syndrome", cauliflower sprouts, root distortions, excessive root growth, suppressed tuber initiation and bulking, failure or delay in opening of eyes, and rotting of tubers in the field or store can result. Subsequent plantings of seed pieces from the exposed mother crop can result in delayed or no emergence or produce lower than normal yields. Glyphosate can contaminate seed potato crops through carryover residue in application equipment or drift from applying glyphosate to nearby crops. Always follow good wash-out procedures using detergents or other suitable cleaning agents to remove all residual traces of glyphosate from application equipment that may be used to apply other products to seed potato crops. To avoid contamination from spray drift, follow the directions and precautions in the "SPRAY DRIFT MANAGEMENT" section of the label.

## 3.0 PRODUCT INFORMATION (How this product works)

**Product Description:** This product is a post-emergent, systemic herbicide with no soil residual activity. It is generally non-selective and gives broad-spectrum control of many annual weeds, perennial weeds, woody brush, and trees. It is formulated as a water-soluble liquid. It may be applied through most standard industrial or field-type sprayers after dilution and thorough mixing with water or other carriers according to label directions.

This product requires the use of a nonionic surfactant. See the "SURFACTANTS" section of this label for further directions on the use of surfactants, and see the "MIXING" section of this label for directions regarding other additives.

**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 approaching maturity. Refer to the "ANNUAL WEEDS RATE SECTION", "PERENNIAL WEEDS RATE SECTION" and "WOODYBRUSH AND TREES RATE SECTION" for directions for specific weeds.

Always use the higher labeled rate of this product per acre within the directed 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 listed 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 in Plants:** 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. Un-emerged plants arising from unattached underground rhizomes or root stocks of perennials will not be affected by the herbicide and will continue to grow.

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

**Tank Mixing:** This product does not provide residual weed control. For subsequent residual weed control, follow a label-approved herbicide program. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

To the extent consistent with applicable law, the 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 may result in reduced performance.

**Annual Maximum Use-Rate:** Except as otherwise specified in a specific crop section of this label, the combined total of all treatments must not exceed 6 quarts of this product per acre per year. For applications in non-agricultural sites or in tree, vine, or shrub crops, the combined total of all treatments must not exceed 8 quarts of this product per acre per year. Any single broadcast application made over water must not exceed 7.5 pints per acre. 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.

#### 4.0 MIXING

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.

Apply these spray solutions in properly maintained and calibrated equipment capable of delivering desired volumes. Do not apply when wind or other conditions favor drift. Hand-held applications must be properly directed to avoid spraying desirable plants.

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

Eliminate any risk of siphoning the contents of the tank back into the carrier source while mixing. Use approved anti-back-siphoning devices where required by State or local authorities.



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

#### 4.1 MIXING WITH WATER

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

**For hand-held or backpack sprayers (less than or equal to 5 gal. capacity):** Add the labeled amount of this product to the spray tank. Fill the spray tank with water and ensure thorough mixing. Alternatively, the labeled amount of this product can be mixed with water in a large container. Fill sprayer with the mixed solution.

**For larger tank sprayers (greater than 5 gal. capacity):** Fill the mixing or spray tank one-half full with water and start agitation. Add the labeled amount of this product using a circular motion while pouring. Continue filling the spray tank with water and ensure thorough mixing.

Use caution to avoid siphoning back into the carrier source. Use approved anti-back siphoning devices where required by state or local regulations. During mixing and application, foaming of the spray solution may occur. To prevent or minimize foam, avoid the use of mechanical agitators, terminate bypass and return lines at the bottom of the tank and, if needed, use an approved anti-foam or defoaming agent.

#### 4.2 TANK MIXING PROCEDURES

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 other products.
4. If a wettable powder is used, make a slurry with the water carrier and add it SLOWLY through the screen into the tank. Continue agitation.
5. If a flowable formulation is used, premix one part flowable with one part water. Add diluted mixture SLOWLY through the screen into the tank. Continue agitation.
6. If an emulsifiable concentrate formulation is used, premix one part emulsifiable concentrate with two parts water. Add diluted mixture slowly through the screen into the tank. Continue agitation.
7. Continue filling the spray tank with water and add water-soluble liquids and the required amount of this product near the end of the filling process.
8. Add nonionic surfactant to the spray tank before completing the filling process.
9. Add individual formulations to the spray tank as follows: wettable powder, flowable, emulsifiable concentrate, drift control additive, water-soluble liquid and nonionic surfactant.

Maintain good agitation at all times until the contents of the tank are sprayed. If the spray mixture is allowed to settle, thorough agitation is required to 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 "INFORMATION" for additional, restrictions, precautions and directions.

It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

### 4.3 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	AMOUNT OF PRODUCT					
	0.5%	0.75%	1.0%	1.5%	4.0%	8.0%
1 Gallon	0.7 oz.	1.0 oz.	1.3 oz.	2.0 oz.	5.0 oz.	10.0 oz.
25 Gallons	1.0 pt.	1.5 pt.	1.0 qt.	1.5 qt.	4.0 qt.	2.0 gal.
100 Gallons	2.0 qt.	3.0 qt.	1.0 gal.	1.5 gal.	4.0 gal.	8.0 gal.

**2 tablespoons = 1 fluid ounce**

Above percentages are on a weight-to-weight basis with water as 8.34 pounds/ gallon.

For use in knapsack sprayers, direct mix the appropriate amount of product with water in a larger container. Fill sprayer with the mixed solution.

### 4.4 AMMONIUM SULFATE

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

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

### 4.5 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 labeled rates or dilutions. Use colorants or dyes according to the manufacturer's instructions.

### 4.6 SURFACTANTS

This product requires the use of a nonionic surfactant. Except when prohibited by this label, mix two or more quarts of a nonionic surfactant per 100 gallons of spray solution. Increasing the rate of surfactant may enhance performance. Examples of when to use the higher surfactant rate include, but are not limited to: high water volumes, hard to control woody brush, trees, and vines, adverse environmental conditions, tough to control weeds, weeds under stress, surfactants with less than 70 percent active ingredient, tank mixes, etc. These surfactants must not be used in excess of 1 quart per acre when making broadcast applications.

Always read and follow the surfactant manufacturer's label instructions for best results. Carefully observe all precautionary statements and other information in the surfactant label. When applied as directed under the conditions described, this product controls annual and perennial weeds listed in the label booklet.

Do not reduce rates of this product when adding surfactant. DO NOT add buffering agents or pH adjusting agents to the spray solution when this product is the only pesticide used. When applying this product in ROUND-UP READY® crops, limit nonionic surfactant use to two quarts per 100 gallons of spray solution. Use-rates of nonionic surfactant exceeding two quarts per 100 gallons of spray solution can result in crop injury and reduced yield.

#### 4.7 DRIFT REDUCTION ADDITIVES

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

### 5.0 APPLICATION EQUIPMENT AND TECHNIQUES

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

#### **Aerial – Fixed Wing and Helicopter**

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

**Hand-Held or High-Volume Spray Equipment** – Knapsack and backpack sprayers, pump-up pressure sprayers, handguns, handwands, mistblowers\*, lances and other hand-hand 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.

#### SPRAY DRIFT MANAGEMENT

Avoiding spray drift at the application site is the responsibility of the applicator and the grower. 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 of these factors when making application decisions.

AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS. DO NOT APPLY WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITIONS WHICH WILL ALLOW DRIFT. DRIFT MAY CAUSE DAMAGE TO ANY VEGETATION CONTACTED TO WHICH TREATMENT IS NOT INTENDED. TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.

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.

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

**5.1 AERIAL EQUIPMENT, SPRAY DRIFT MANAGEMENT, AND APPLICATION RESTRICTIONS**  
DO NOT APPLY THIS PRODUCT USING AERIAL SPRAY EQUIPMENT EXCEPT UNDER  
CONDITIONS AS SPECIFIED WITHIN THIS LABEL.

Use the labeled rates of this herbicide in 3 to 15 gallons of water per acre unless otherwise specified on this label. Unless otherwise specified, do not exceed 1.5 pints per acre. Refer to the individual use area sections of this label for volumes, application rates, and further directions.

**IN CALIFORNIA, DO NOT APPLY THIS PRODUCT PLUS DICAMBA AND/OR 2,4-D TANK MIXTURES BY AIR.**

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

**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 recommended 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 evaporate and wind.

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

### **Wind**

Drift potential is lowest between wind speeds of 2 to 10 miles per hour. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application must be avoided below 2 miles per hour 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).

### **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. Do not contaminate water when cleaning equipment or disposing of equipment washwaters. **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.

### **FOR AERIAL APPLICATIONS IN CALIFORNIA ONLY**

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

1. In fallow and reduced tillage systems prior to the emergence or transplanting of labeled crops.
2. In alfalfa and pasture renovation applications.
3. Over-the-top applications in Roundup Ready corn and cotton. Refer to further label directions for Roundup Ready corn and Roundup Ready cotton for specific application directions for over-the-top applications in these crops.
4. Preharvest in alfalfa, corn, cotton, wheat, Roundup Ready corn and Roundup Ready cotton. Refer to label directions for Roundup Ready corn and Roundup Ready cotton for specific preharvest application directions for each individual crop.

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

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

**IN CALIFORNIA, DO NOT APPLY THIS PRODUCT PLUS DICAMBA AND/OR 2,4-D TANK MIXTURES BY AIR.**

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.

DO NOT EXCEED MAXIMUM RATE OF 1.5 PINTS PER ACRE OF THIS PRODUCT WHEN MAKING APPLICATIONS BY AIR WITH THE FOLLOWING EXCEPTIONS:

DO NOT EXCEED A MAXIMUM RATE OF 3 PINTS PER ACRE OF THIS PRODUCT WHEN MAKING APPLICATIONS BY AIR IN FALLOW, PASTURES, AND REDUCED TILLAGE SYSTEMS, AND POSTEMERGENCE AND PRIOR TO HARVEST IN ALFALFA, ROUNDUP READY ALFALFA, COTTON, ROUNDUP READY COTTON, SUGARCANE, AND ROUNDUP READY CORN.

**FOR AERIAL APPLICATIONS IN FRESNO COUNTY CALIFORNIA ONLY:**

From February 15<sup>th</sup> through March 31<sup>st</sup> 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

**Information**

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

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

**Written Directions**

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

**AERIAL APPLICATOR TRAINING AND EQUIPMENT**

Aerial application of this product is limited to pilots who have successfully completed a Fresno County Agricultural Commissioner and California Department of Pesticide Regulation approved training program for aerial application of herbicides. All aircraft must be inspected, critiqued in flight and certified at a Fresno County Agricultural Commissioner approved fly-in. Test and calibrate spray equipment at intervals



sufficient to ensure that proper rates of herbicides and adjuvants are being applied during commercial use. Applicator must document such calibrations and testing. Demonstration of performance at Fresno County Agricultural Commissioner approved fly-ins constitutes such documentation, or other written records showing calculations and measurements of flight and spray parameters acceptable to the Fresno County Agricultural Commissioner.

**Applications at Night** – Do not apply this product by air earlier than 30 minutes prior to sunrise and/or later than 30 minutes after sunset without prior permission from the Fresno County Agricultural Commissioner. **Note:** For aerial application from April 1 through February 14, refer to the “FOR AERIAL APPLICATION IN CALIFORNIA ONLY” section of this label.

#### **AERIAL APPLICATIONS IN ARKANSAS ONLY**

AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS. DO NOT APPLY WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITIONS WHICH WILL ALLOW DRIFT. DRIFT MAY CAUSE DAMAGE TO ANY VEGETATION CONTACTED TO WHICH TREATMENT IS NOT INTENDED. TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.

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

#### **5.2 GROUND BROADCAST EQUIPMENT**

For broadcast ground applications, unless otherwise specified use this product at the rate of 1.5 to 3 pints per acre for annual weeds, 3 to 7.5 pints per acre for perennial weeds and 3 to 7.5 pints per acre for woody brush and trees. Use the labeled 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 listed 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.

#### **5.3 HAND-HELD OR 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 labeled rates and timing, refer to the “ANNUAL WEEDS - HAND-HELD OR HIGH VOLUME EQUIPMENT” section of this product label.

#### **5.4 SELECTIVE EQUIPMENT**

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

In cropping systems, hooded sprayers, shielded sprayers, and wipers may be used in row middles (in between rows of crop plants) where any dropping 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.

AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION.

Contact of the herbicide solution with desirable vegetation may result in damage or destruction. Applications made 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 setting 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 System**

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

### **Shielded and Hooded Applicators**

When applied under the conditions described in the following paragraphs for shielded and hooded applications, this product at labeled rates will control those weeds listed in the "ANNUAL WEEDS RATE SECTION" and "PERENNIAL WEEDS RATE SECTION" 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 of 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 necessary. Spray volume must be 20-30 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 sprayhoods.
- 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**

When applied under the conditions described in the following paragraphs, this product **CONTROLS** many weeds, including volunteer corn, Texas panicum, common rye, shattercane, sicklepod, Spanish needles and bristly starbur; and **SUPPRESSES** many weeds including Florida beggarweed, bermudagrass, hemp dogbane, dogfennel, guineagrass, johnsongrass, milkweed, silverleaf nightshade, redroot pigweed, giant ragweed, smutgrass, sunflower, Canada thistle, musk thistle, vaseygrass, velvetleaf.

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 miles per hour. Performance may be improved by reducing speed in areas of heavy weed infestations to ensure

adequate wiper saturation. Better results may be obtained if two applications are made in opposite directions.

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

Do not use wiper equipment when weeds are wet.

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

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

**For Rope or Sponge Wick Applicators** – Use solutions ranging from 33 to 75 percent of this product in water.

**For Panel Applicators and Pressure-Feed Systems** – Use solutions ranging from 33 to 100 percent of this product in water.

**NOTE:** In preparing these concentrated solutions always allow adequate time for product to dissolve. Use of warm water will shorten dissolution time.

#### **5.5 INJECTION SYSTEMS**

This product may be used in aerial or ground injection spray systems. This product may be injected into the spray stream after dilution and thorough mixing with water. Do not mix this product with the concentration of other products when using injection systems.

#### **5.6 CDA EQUIPMENT**

The rate of this product applied per acre by vehicle-mounted CDA equipment must not be less than the amount listed in this label when applied by conventional broadcast equipment. For vehicle-mounted CDA equipment, apply 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 miles per hour (1.5 pints per acre). For the control of perennial weeds, apply a 20 to 40 percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 0.75 miles per hour (3 to 6 pints per acre).

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

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

THIS SECTION GIVES DIRECTIONS THAT APPLY TO ALL LISTED CROPS WITHIN SECTION 6.0 GROUPED ALPHABETICALLY BELOW. SEE THE INDIVIDUAL CROP CATEGORIES FOR SPECIFIC DIRECTIONS, PREHARVEST INTERVALS, AND ADDITIONAL DIRECTIONS, PRECAUTIONS AND RESTRICTIONS.

See the “ROUNDUP READY® CROPS” section of this label for directions for treating Roundup Ready crops.

**TYPES OF APPLICATIONS:**

Chemical Fallow, Preplant Fallow Beds, Preplant, Preemergence, At-Planting, Hooded Sprayers in Row Middles, Shielded Sprayers in Row Middles, Wiper Applications in Row Middles, and Post-Harvest treatments.

**USE DIRECTIONS:**

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 must be made according to the rates listed in the "ANNUAL WEEDS RATE SECTION", "PERENNIAL WEEDS RATE SECTION", and "WOODY BRUSH AND TREES RATE SECTION" in this label. Repeat applications may be made but must not exceed a maximum of 6 quarts per acre per year.

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

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

**PRECAUTIONS:**

- Avoid contact of herbicide with foliage, green shoots or stems, bark, exposed roots (including those emerging from plastic mulch), or fruit of crops because severe injury or destruction may result.
- Broadcast applications made at emergence will result in injury or death to emerged seedlings.

**RESTRICTIONS:**

- When making preemergence and at-planting applications, applications must be made before crop emergence to avoid severe crop injury.
- Apply before seed germination in coarse sandy soils to further minimize the risk of 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. Take care to avoid drift or spray outside the target area for the same reason.

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

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**6.1 CEREAL AND GRAIN CROPS**

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LABELED CROPS: Barley, Buckwheat, Millet (pearl, proso), Oats, Rice, Rye, Teosinte, Triticale, Wheat (all types), and Wild rice.

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

TYPES OF APPLICATIONS: Those listed in Section 6.0 plus the following: Red Rice Control Prior to Planting Rice, Spot Treatment (except Rice), Over-the-Top Wiper Applications (Feed Barley and Wheat only), Preharvest (Feed Barley and Wheat only).

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

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

### **Red Rice Control Prior to Planting Rice**

USE DIRECTIONS: Apply 3 pints of this product in 5 to 10 gallons of water per acre. Flush field 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 reflood treated fields for 8 days following application.

### **Spot Treatment (except Rice)**

USE DIRECTIONS: 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. Take care to avoid drift or spray outside target area for the same reason.

### **Over-the-Top Wiper Applications (Feed Barley and Wheat Only)**

USE DIRECTIONS: 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: Preharvest Interval (PHI) -Allow at least 35 days between application and harvest. Do not use roller applicators.

### **Preharvest (Feed Barley and Wheat Only)**

USE DIRECTIONS: 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 1.5 pints of this product per acre. Grazing and preharvest interval -Allow 7 days between application and harvest or grazing. Do not apply preharvest to wheat or barley grown for seed, as a reduction in germination or vigor may occur.

### **Post-Harvest**

USE DIRECTIONS: This product may be applied after harvest of cereal crops. Higher labeled 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. It is the pesticide user's responsibility to ensure that all

products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

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

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## 6.2 CORN (Non-Roundup Ready®)

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

TYPES OF APPLICATIONS: Those listed in Section 6.0 plus the following: Spot Treatment, Preharvest. For Roundup Ready corn, see the “ROUNDUP READY® CROPS” section of this label.

### Preplant, Preemergence, At-Planting

USE DIRECTIONS: This product may be applied alone or in a tank mixture before, during or after planting corn. It is the pesticide user’s responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture. 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.

2,4-D	Degree XTRA®	Harness XTRA 5.6L
Aim	Distinct™	Lariat®
Atrazine	Dual Magnum™	Alachlor
Axiom™	Dual II Magnum™	Linex™/Lorox
Balance Pro™	Epic™	Marksman™
Banvel™/Clarity™	Frontier™/Outlook™	Micro-Tech®
Bicep Magnum™	FulTime™	Prowl™
Bicep II Magnum™	Guardman™/Leadoff™	Python™
Bullet	Harness®	Simazine
Degree®	Harness XTRA	Topnotch™

For difficult-to-control annual weeds including fall panicum, barnyardgrass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 1.5 pints per acre in these tank mixtures. For other labeled annual weeds, apply 12 to 18 ounces of this product per acre when weeds are less than 6 inches tall, and 24 to 36 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: Refer to labels of tank mix products for the pre-plant intervals for corn. For Southern states, do not apply in nitrogen solutions to tough-to-control grasses including barnyardgrass, fall panicum, broadleaf signalgrass, annual ryegrass and any perennial weeds. The area covered by this instruction includes 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. It is the pesticide user’s responsibility to ensure that all products in the listed mixtures are registered for the

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

### **Hooded Sprayers**

USE DIRECTIONS: 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 must be used. See additional instruction 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.

RESTRICTIONS: Corn must be at least 12 inches tall, measured without extending leaves. To the extent consistent with applicable law, such damage shall be the sole responsibility of the applicator. Do not apply more than 1.5 pints of this product per acre for each application and no more than 4.5 pints per acre per year for hooded sprayer applications.

### **Spot Treatment**

USE DIRECTIONS: 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. Take care to avoid drift or spray outside target area for the same reason.

### **Preharvest**

USE DIRECTIONS: Make applications at 35 percent grain moisture or less. Ensure that maximum kernel fill is complete and the corn is physiologically mature (black layer formed). For ground applications, apply up to 4.5 pints of this product per acre. For aerial applications, apply up to 3 pints of this product per acre.

RESTRICTIONS: Preharvest internal (PHI) - Allow a minimum of 7 days between application and harvest. Do not apply preharvest to corn grown for seed, as a reduction in germination or vigor may occur.

### **Post-Harvest**

USE DIRECTIONS: This product may be applied after harvest of corn. Higher labeled 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 using their labeled rates. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

RESTRICTION: Preharvest Internal (PHI) -Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation.

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## **6.3 COTTON (Non-Roundup Ready®)**

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TYPES OF APPLICATIONS: Those listed in Section 6.0 plus the following: Selective Equipment, Spot Treatment, Preharvest

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

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

TANK MIXTURES: This product can be tank-mixed with the following products provided that the specific product is registered for application prior to planting cotton. Apply these tank mixtures in 10 to 20 gallons of water per acre.

Caparol®	Direx	Prowl
Clarity	Dual Magnum	Staple®
Command	Dual II Magnum	Zorial®
Cotoran®	Karmex	2,4-D
Cotton-Pro®	Meturon®	

It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

### **Hooded Sprayer, Selective Equipment**

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

#### **Restrictions:**

Preharvest Internal (PHI) -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 DIRECTIONS: 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. Take care to avoid drift spray outside target area for the same reason.

### **Preharvest**

USE DIRECTIONS: 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 WEEDS RATE SECTION", "PERENNIAL WEEDS RATE SECTION" and "WOODY BRUSH AND TREES RATE SECTION" of this label. For cotton regrowth inhibition, apply 12 to 48 ounces of this product per acre.

Up to 48 ounces of this product per year 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 DEF™ 6, Folex™, Ginstar, or Prep™ to provide additional enhancement of cotton leaf drop. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

RESTRICTIONS: Preharvest Internal (PHI) -Allow a minimum of 7 days between application and harvest of cotton. Do not apply preharvest to cotton grown for seed, as a reduction in germination or vigor may occur.

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## **6.4 FALLOW SYSTEMS**

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

Tank mixtures with 2,4-D and dicamba may be used. Applications up to 3 pints 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. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

RESTRICTIONS: For any crop not listed on this label, applications must be made at least 30 days prior to planting. **IN CALIFORNIA, DO NOT APPLY THIS PRODUCT PLUS DICAMBA AND/OR 2,4-D TANK MIXTURES BY AIR.**

It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture. Some crop injury may occur if dicamba is applied within 45 days of planting.

### **Preplant Fallow Beds**

USE DIRECTIONS: 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 WEEDS RATE SECTION", "PERENNIAL WEEDS RATE SECTION", and "WOODY BRUSH AND TREES RATE SECTION" of this label.

TANK MIXTURES: In addition, 9 ounces of this product plus the labeled rate of Goal™ 2XL per acre will control the following weeds with the maximum height or length indicated: 3 inches – common cheeseweed, chickweed, groundsel; 6 inches – London rocket, shepherd's purse.

12 ounces of this product plus the labeled rate of Goal 2XL per acre will control the following weeds with the maximum height or length indicated: 6 inches – common cheeseweed, groundsel, maretail (*Conyza canadensis*); 12 inches – chickweed, London rocket, shepherd's purse.

### **Aid-to-Tillage**

USE DIRECTIONS: 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 ounces of this product in 3 to 10 gallons of water per acre. Make application 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.

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

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## **6.5 GRAIN SORGHUM (MILO)**

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TYPES OF APPLICATIONS: Those listed in Section 6.0 plus the following: Spot Treatment, Over-the-Top Wiper Applications, Preharvest.

### Preplant, Preemergence, At-Planting

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

TANK MIXTURES: Apply these tank mixtures in 10 to 20 gallons of water or 10 to 60 gallons of nitrogen solution per acre. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Atrazine	Dual II Magnum
Bicep II Magnum	Lariat
Bullet	Micro-Tech

For difficult-to-control annual weeds including fall panicum, barnyardgrass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 24 ounces per acre in these tank mixtures. For other labeled annual weeds, apply 12 to 18 ounces of this product per acre when weeds are less than 6 inches tall, and 24 to 36 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, Over-the-Top Wiper Applications

USE DIRECTIONS: This product may be applied as a spot treatment in grain sorghum. Make spot treatments before heading of milo. Apply this product 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. Take care to avoid drift or spray outside target area for the same reason. For wiper applicators: allow at least 40 days between application and harvest. Do not use roller applicators. Do not feed or graze treated milo fodder. Do not ensile treated vegetation.

### Hooded Sprayers

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

PRECAUTIONS: Crop injury may occur when the foliage of treated weeds comes into direct contact with leaves of the crop. Droplets, mist, foam or splatter of the herbicide solution may contact the crop and cause discoloration, stunting or destruction. 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: Do not apply this product when the leaves of the crop are growing in direct contact with weeds to be treated. Milo must be at least 12 inches tall, measured without extending leaves. Treat before milo sends tillers between the drill rows. If such tillers are contacted with the spray solution, the main plant may be killed. Do not graze or feed milo forage or fodder following applications of this product through hooded sprayers. Do not apply more than 1.5 pints of this product per acre per application and no more than 4.5 pints per acre per year for hooded sprayer applications.

## Preharvest

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

PRECAUTION: 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.

RESTRICTIONS: Do not apply more than 3 pints of this product per acre. Preharvest Internal (PHI) - Allow a minimum of 7 days between application and harvest of sorghum. Do not apply preharvest to sorghum grown for seed, as a reduction in germination or vigor may occur.

**The use of this product for preharvest grain sorghum (milo) is not registered in California.**

## Post-Harvest

USE DIRECTIONS: This product may be applied after harvest of grain sorghum. Higher labeled 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. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture

This product may be applied to grain sorghum (milo) stubble following harvest to suppress or control regrowth. Apply 24 ounces of this product per acre for control, or 20 ounces of this product per acre for suppression.

RESTRICTIONS: Preharvest Internal (PHI) -Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation.

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## 6.6 HERBS AND SPICES

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LABELED CROPS: Peppermint and Spearmint.

TYPES OF APPLICATIONS: Those listed in Section 6.0 plus the following: Over-the-Top Wiper Applications (Peppermint and Spearmint only), Spot Treatment (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. Take care to ensure that the washwater flushes off the plastic mulch and does not enter transplant holes.

### **Over-the-top Wiper Applications, Spot Treatment (Peppermint and Spearmint only)**

USE DIRECTIONS: 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, including 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 solutions 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.

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

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## 6.7 OIL SEED CROPS (Non-Roundup Ready®)

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LABELED CROPS: Canola and Sunflower.

For Roundup Ready Canola, see the “ROUNDUP READY® CROPS” section of this label.

TYPES OF APPLICATIONS: Those listed in Section 6.0.

USE DIRECTIONS: 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. Use wiper applicators or hooded sprayers 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. It is the pesticide user’s responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

RESTRICTIONS: Do not apply more than 3 pints of this product per acre on canola. Do not apply more than 1.5 pints 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.

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## 6.8 SOYBEANS (Non-Roundup Ready®)

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TYPES OF APPLICATIONS: Those listed in Section 6.0 plus the following: Spot Treatment, Preharvest, and Selective Equipment.

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

### Preplant, Preemergence, At-Planting

USE DIRECTIONS: Apply this product alone or in a tank mixture before, during or after planting soybeans. Applications must be made prior to emergence of the crop.

TANK MIXTURES: Apply these tank mixtures in 10 to 20 gallons of water per acre.

Aim™	Dual II Magnum	Prowl
Amplify™	Firstrate™	Pursuit™
Assure II™	Flexstar™	Pursuit Plus
Authority™	Frontier™/Outlook™	Reflex™
Boundary™	Fusion™	Resource®
Canopy™	Gauntlet™	Scepter™
Canopy XL™	Linex™	Sencor™/Lexone™
Command™	Lorox/Linuron	Squadron™
Command XTRA™	Lorox Plus™	Steel™
Domain™	Micro-Tech	Valor
Dual Magnum		

This product may be tank-mixed with 2,4-D or 2,4-DB. See the 2,4-D and 2,4-DB labels for intervals between application and planting. It is the pesticide user’s responsibility to ensure that all products in the

listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

For difficult-to-control annual weeds including fall panicum, barnyardgrass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 24 ounces per acre in these tank mixtures. For other labeled annual weeds, apply 12 to 18 ounces of this product per acre when weeds are less than 6 inches tall, and 24 to 36 ounces when weeds are over 6 inches tall.

**PRECAUTIONS:** Tank mixtures with some of the above listed herbicides may result in reduced weed control due to antagonism.

**RESTRICTIONS:** It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

### **Spot Treatment**

**USE DIRECTIONS:** For spot treatment, 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. Take care to avoid drift or spray outside target area for the same reason.

### **Preharvest**

**USE DIRECTIONS:** This product provides weed control when applied prior to harvest of soybeans. Apply at rates given in the "ANNUAL WEEDS RATE SECTION", "PERENNIAL WEEDS RATE SECTION" and "WOODY BRUSH AND TREES RATE SECTION". Apply this product using either aerial or ground spray equipment. 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 4.0 quarts per acre of this product for preharvest applications. Do not apply more than 3.0 pints per acre of this product by air. Preharvest Internal (PHI) -Allow a minimum of 7 days between application and harvest of soybeans. Grazing and Preharvest Internal (PHI) - Do not graze or harvest treated hay or fodder for livestock feed within 25 days of last preharvest application (If the application rate is 1.5 pints per acre or lower, the grazing restriction is reduced to 14 days after last preharvest application.). Preharvest application is not to be used for soybeans grown for seed, as a reduction in germination or vigor may occur.

### **Selective Equipment**

**USE DIRECTIONS:** Apply this product through recirculating sprayers, shielded applicators, hooded sprayers, wiper applicators or sponge bars in soybeans.

**RESTRICTIONS:**  
Preharvest Internal (PHI) -Allow at least 7 days between application and harvest.

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

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## **6.9 SUGARCANE**

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**TYPES OF APPLICATIONS:** Those listed in Section 6.0, Preplant, Preemergence, At-Planting

**USE DIRECTIONS:** Apply this product 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 DIRECTIONS:** For control of volunteer or diseased sugarcane, make a 0.75 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.

**RESTRICTIONS:** Avoid spray contact with healthy cane plants since severe damage or destruction may result. Do not feed or graze treated sugarcane foliage following application.

### **Fallow Treatments**

**USE DIRECTIONS:** 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 6 to 7.5 pints 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. Where there is sufficient buffer to prevent injury due to drift onto adjacent crops, applications up to 3 pints per acre may be made by aerial application in fallow sites. Tank mixtures with 2,4-D and dicamba may be used. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

### **Hooded Sprayers**

**USE DIRECTIONS:** 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 directions.

**RESTRICTIONS:** Do not allow treated weeds to come into contact with the crop. Droplets, mist, foam or splatter of the herbicide solution setting on the crop may result in discoloration, stunting or destruction. To the extent consistent with applicable law, such damage shall be the sole responsibility of the applicator.

### **Foliar Treatment for Plant Growth Regulation**

For use ONLY on sugarcane. Do NOT plant to subsequent crops other than the following for 30 days after application: Corn (All), Soybean, Sorghum (Milo), Cotton, Alfalfa, Beans (All), Forage Grasses, Potatoes (Irish, Sweet), Wheat

For foliar application to hasten ripening and extend the period of high sucrose levels in sugarcane.

**USE DIRECTIONS:** When foliar-applied, this product is a plant growth regulator used to hasten ripening and increase the level of glucose in sugarcane. It is effective in both low and high-tonnage sugarcane. When applied as directed under the conditions described, this product will hasten ripening and extend the period of high sucrose level in sugarcane. As a result of leaf desiccation, improved trash burn can be expected. Within 2 to 3 weeks after application, this product can produce a slight yellowing to pronounced browning and drying of leaves, and a shortening of upper internodes; spindle death may occur. Most of the sucrose increase is concentrated in the top nodes of the treated cane stalk. In order to recover the maximum sugar where topping is practiced during harvest, top at the base of the fourth leaf.

See the following for rates and time of application for the State in which applications are to be made.

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



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

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

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

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

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

**RESTRICTIONS:** Application of this product can initiate development of shooting eyes. This product may not increase the sucrose content of sugarcane under conditions of good natural ripening. Do not apply to sugarcane to be harvested for seed purposes. Do not feed or graze treated sugarcane forage following application.

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## 6.10 VEGETABLE CROPS

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THIS “VEGETABLE CROPS” SECTION GIVES DIRECTIONS THAT APPLY TO ALL LISTED VEGETABLE CROPS WITHIN SECTION 6.10 GROUPED ALPHABETICALLY BELOW. SEE THE INDIVIDUAL CROP CATEGORIES FOR SPECIFIC DIRECTIONS, 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 Applications in Row Middles, and Post-Harvest, Directed Applications (Nonbearing Ginseng), Over-the-Top Wipers (Rutabagas 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. Care must be taken to ensure that the washwater flushes off the plastic mulch and does not enter transplant holes. Applications made at emergence will result in injury or death to emerged seedlings.

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 before crop emergence to avoid severe crop injury. Apply before seed germination in coarse sandy soils to further minimize the risk of injury. In crops with vines, hooded sprayer, shielded sprayer and wiper applications to row middles must be made prior to vine development otherwise severe injury or destruction may result. Unless otherwise specified in this product’s labeling, treatments with selective equipment including wipers and hooded sprayers must be made at least 14 days prior to harvest. Post-harvest or fallow applications must be made at least 30 days prior to planting any non-labeled crop. See “APPLICATION EQUIPMENT AND TECHNIQUES” section of this label for additional information.

### BRASSICA VEGETABLES

**LABELED CROPS:** Broccoli (all), Chinese broccoli (gai lon), Broccoli raab (rapini), Brussels sprouts, Cabbage (all), Chinese cabbage (bok choy, napa), Chinese mustard cabbage (gai choy), Cauliflower, Cavalo broccoli, Collards, Kale, Kohlrabi, Mizuna, Mustard greens, Mustard spinach, and 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), 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, and zucchini). Winter squash (includes butternut squash, calabaza, hubbard squash, acorn squash, and spaghetti squash), and Watermelon.

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

## **LEAFY VEGETABLES**

LABELED CROPS: Amaranth (Chinese spinach), Arugula (roquette), Beet greens, Cardoon, Celery, Chinese celery, Celtuce, Chervil, Edible-leaved chrysanthemum, Garland chrysanthemum, Corn salad, Cress (garden and upland), Dandelion, Dock (sorrel), Endive (escarole), Fennel (Florence), Lettuce (head and leaf), Parsley, Purslane (garden and winter), Rhubarb, Spinach, New Zealand spinach, Vine spinach, Chard (Swiss), and Watercress (upland).

RESTRICTIONS: For Watercress, do not apply within 3 days prior to seeding and during the period between seeding and emergence.

## **FRUITING VEGETABLES**

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

RESTRICTIONS: For Eggplant, Ground cherry, Pepper (all), and Tomatillo, allow at least 3 days between application and planting. For Tomato, do not make hooded or shielded sprayer applications in row middles.

## **LEGUME VEGETABLES (SUCCULENT OR DRIED)**

LABELED 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, snow pea, sugar snap pea), Pigeon pea, Soybean (immature seed), and Sword bean.

## **ROOT AND TUBER VEGETABLES**

LABELED CROPS: Jerusalem artichoke, Beet (garden), Carrot, Celeriac, Chicory, Ginseng, Horseradish, Oriental radish, Parsnip, Potato, Radish, Rutabaga, Salsify, Black salsify, Spanish Salsify, Sweet potato, Turnip, and Yam (True).

### **Directed Applications (Nonbearing Ginseng Only)**

USE DIRECTIONS: This product may be used for weed control in established non-bearing ginseng. Make applications 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. Preharvest Internal (PHI) -Applications must be made at least one year prior to harvest.

### **Over-the-Top Wiper Applications (Rutabagas Only)**

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

RESTRICTION: Preharvest Internal (PHI) -Allow at least 14 days between application and harvest of rutabagas.

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## **6.11 MISCELLANEOUS CROPS**

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LABELED CROPS: Asparagus, Okra, Peanut (ground nut), Pineapple, and Sugar beet (Non-Roundup Ready®).

TYPES OF APPLICATIONS: Those listed in section 6.0 plus the following Weed Control, Site Preparation, Spot Treatment (Asparagus).

For Roundup Ready Sugar Beets, see the "ROUNDUP READY® CROPS" section of this label.

PRECAUTIONS: Avoid contact of herbicide with foliage, green shoots or stems, bark, exposed roots (including those emerging from plastic mulch) or fruit of crops because severe injury or destruction may result. When making preemergence and at-planting applications, applications must be made before crop emergence to avoid severe crop injury. Apply before seed germination in coarse sandy soils to further minimize the risk of injury. In crops with vines, hooded sprayer, shielded sprayer and wiper applications to row middles must be made prior to vine development otherwise severe injury or destruction may result.

RESTRICTIONS: 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.

### **Weed Control, Site Preparation**

USE DIRECTIONS: 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. Care must be taken to ensure that the washwater flushes off the plastic mulch and does not enter transplant holes. Applications made at emergence will result in injury or death to emerged seedlings.

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

### **Spot Treatment (Asparagus)**

USE DIRECTIONS: Apply this product 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. Preharvest Internal (PHI) -Do not harvest within 5 days of treatment.

### **Post-Harvest (Asparagus)**

USE DIRECTIONS: Apply this product after the last harvest and when 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 listed 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.

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

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THIS SECTION GIVES DIRECTIONS THAT APPLY TO ALL LISTED TREE, VINE, AND SHRUB CROPS WITHIN SECTION 7.0 GROUPED ALPHABETICALLY BELOW. SEE THE INDIVIDUAL CROP CATEGORIES FOR SPECIFIC DIRECTIONS, 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 Treatment, Perennial Grass Suppression, Cut Stump.

Make applications 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 DIRECTIONS:**

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 12 ounces to 4 quarts per acre according to the "ANNUAL WEEDS RATE SECTION" and "PERENNIAL WEEDS RATE SECTION" of this label. Utilize rates at the higher end of the rate range when weeds are stressed, growing in dense populations or are greater than 12 inches tall. Repeat applications may be made but must not exceed maximum of 8 quarts per acre per year.

The maximum use-rates stated throughout this product's labeling applying 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 use shielded or directed sprayers 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 crops. For berry crops, hooded or shielded sprayers must be fully enclosed including top, sides, front and back. Use only wipers or shielded applicators capable of

preventing all contact with crop. 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 DIRECTIONS: This product will control or suppress annual and perennial seeds 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. Use this mixture when weeds are stressed or growing in dense population. Apply 12 to 24 ounces per acre of this product plus labeled rate of Goal 2XL to control annual weeds with a maximum height or diameter of 6 inches, including crabgrass, common groundsel, junglerice, common lambsquarters, redroot pigweed, London rocket, common ryegrass, shepherd’s purse, annual sowthistle, filaree (suppression), horseweed/marestail, stinging nettle and common purslane (suppression). Apply 9 to 24 ounces per acre of this product plus the labeled rate of Goal 2XL to control common cheeseweed (malva) or hairy fleabane with a maximum height or diameter of 3 inches. It is the pesticide user’s responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

### Strips (in rows)

TANK MIXTURES: 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
Goal 2XL	Sim-Trol™ 4L
Karmex DF	Solicam™ DF
Krovar I	Surflan™ AS
Prowl	Surflan 75W
Princep Caliber™ 90	

### Do not apply these tank mixtures in Puerto Rico.

It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

### Perennial Grass Suppression

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

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

**For suppression of Kentucky bluegrass covers:** Apply 4.5 ounces of this product per acre. Do not add ammonium sulfate.

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

**For suppression of vegetative growth and seedhead inhibition of bahiagrass:** For approximately 45 days, apply 4.5 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 ounces of this product per acre, followed by an application of 1.5 to 3 ounces per acre about 45 days later. Make no more than 2 applications per year.

**For burndown of Bermudagrass:** Apply 1.5 to 3 pints of this product in 3 to 20 gallons of water per acre. Use this treatment only if reduction of the Bermudagrass stand can be tolerated. When burndown is required prior to harvest, allow at least 21 days to ensure sufficient time for burndown to occur.

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

#### **CUT STUMP:**

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

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

**Fruit Trees:** Apple, Apricot, Cherry (sweet sour), Crabapple, Loquat, Mayhaw, Nectarine, Olive, Peach, Pear, Plum/Prune (all), Quince.

**Nut Trees:** Almond, Beechnut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert (hazelnut), Hickory Nut, Macadamia, Pecan, Pistachio, Walnut (black, English).

Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut trees or resprouts close to the soil surface. Apply a 50 to 100 percent solution of this product to the freshly cut surface immediately after cutting. Delays in applications 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 ADJACENT DESIRABLE TREES ARE GRAFTED TO THE ROOTS OF THE CUT STUMP. INJURY RESULTING FROM ROOT GRAFTING MAY OCCUR IN ADJACENT TREES. Some sprouts, stems, or trees may share the same root system. Adjacent trees having a similar age, height and spacing may signal shared roots. Whether grafted or shared, injury is likely to occur to non-treated stems/trees when one or more trees sharing common roots are treated.

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### **7.1 BERRY CROPS**

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**LABELED CROPS:** Blackberry (including bingleberry, black satin berry, boysenberry, Cherokee blackberry, chesterberry, Cheyenne blackberry, coryberry, darrowberry, dewberry, Dirksen thornless berry, Himalaya berry, hullberry, juneberry, lavacaberry, lowberry, lucretiaberry, marionberry, nectarberry,

ollieberry, Oregon evergreen berry, phenomenalberry, rangeberry, ravenberry, rossberry, Shawnee blackberry, and youngberry). Blueberry, Cranberry, Currant, Elderberry, Gooseberry, Huckleberry, Loganberry, and Raspberry (black, red).

**TYPES OF APPLICATIONS:** Those listed in section 7.0 plus Spot Treatment in Cranberry Production and Post-Harvest Treatments in Cranberry Production.

**USE DIRECTIONS:** See Use Directions under Section 7.0

**RESTRICTIONS:** Herbicide sprays must not be allowed to contact desirable vegetation, including green shoots, canes, or foliage. Preharvest Internal (PHI) -Allow a minimum of 30 days between last application and harvest in cranberries. Preharvest Internal (PHI) -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 DIRECTIONS:** Spot treatments may be used to control weeds growing in dry ditches (interior and perimeter) of cranberry production areas. Use hand-held sprayers or other appropriate application equipment listed under "APPLICATION EQUIPMENT AND TECHNIQUES" in this label. Drop water level to remove standing water in ditches prior to application. In hand-held sprayers, use 0.75 to 1.5 percent solution of this product. Spray to wet vegetation, not to run-off.

**RESTRICTIONS:** 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. Preharvest Internal (PHI) -Allow a minimum of 30 days between last application and harvest of cranberries. Do not apply this material through the irrigation system. Do not make applications by air. Do not apply directly to water. Use nozzles that emit medium to large-sized droplets to minimize drift in order to avoid crop injury.

### **Post-Harvest Treatments in Cranberry Production**

**USE DIRECTIONS:** Apply this product 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). Use hand-held sprayers, wipers, or other appropriate application equipment listed under "APPLICATION EQUIPMENT AND TECHNIQUES" in this label. If using hand-held sprayers, use 0.5 to 0.75 percent solution of this product. Spray to wet vegetation, not to run-off. If using hand-held boom sprayers, apply 1.5 to 3.75 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. Preharvest Internal (PHI) -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. 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.

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## **7.2 CITRUS**

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**LABELED CROPS:** Calamondin, Chironja, Citron, Grapefruit, Kumquat, Lemon, Lime, Mandarin orange, Orange, Pummelo, Tangerine, Tangelo (ugli), Tangor.

**TYPES OF APPLICATIONS:** Those listed in section 7.0.

**USE DIRECTIONS** (The directions below pertain to applications in Florida and Texas): For burndown or control of the weeds listed below, apply the labeled 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.







TYPES OF APPLICATIONS: Those listed in section 7.0

RESTRICTION: Preharvest Internal (PHI) -Allow a minimum of 1 day between last application and harvest in pome crops.

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### 7.5 STONE FRUIT

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

TYPES OF APPLICATIONS: Those listed in section 7.0.

RESTRICTIONS: Preharvest Internal (PHI) -Allow a minimum of 17 days between last application and harvest in stone fruit crops. For olive groves, apply as directed sprays only.

**Restrictions on Application Equipment:**

For cherries, use any application equipment listed in section 7.0 in all states.

Use any application equipment listed in section 7.0 in apricots, nectarines, peaches and plums/ prunes growing in Arizona, California, Colorado, Idaho, Kansas, Kentucky, New Jersey, North Dakota, Oklahoma, Oregon, Texas, Utah and Washington, except for peaches grown in the states specified in the following paragraph. In all other states, use wiper equipment only.

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

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

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### 7.6 TREE NUTS

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

TYPES OF APPLICATIONS: Those listed in section 7.0

RESTRICTIONS: Preharvest Internal (PHI) -Allow a minimum of 3 days between last application and harvest of tree nuts, except coconut. Preharvest Internal (PHI) -Allow 14 days between application and harvest in coconut.

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### 7.7 TROPICAL AND SUBTROPICAL TREES AND FRUITS

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LABELED CROPS: Atemoya, Avocado, Banana (Plantain), Barbados cherry (Acerola), Breadfruit, Cacao (cocoa) bean, Canistel, Carambola (starfruit), Cherimoya, Coffee, Dates, Durian, Figs, Guava, Jaboticaba, Jackfruit, Longan, Lychee, Mango, Mangosteen, Marmaladebox (genip), Papaya, Persimmon, Pomegranate, Rambutan, Sapodilla, Sapote (black, mamey, white), Soursop, Tamarind, and Tea.

TYPES OF APPLICATIONS: Those listed in section 7.0 plus Bananacide (Banana Only).

RESTRICTIONS: Preharvest Internal (PHI) -Allow a minimum of 1 day between last application and harvest in banana, guava, papaya, and plantain crops. Preharvest Internal (PHI) -Allow a minimum of 14 days between last application and harvest for any other tropical or subtropical tree fruit. Preharvest Internal (PHI) -Allow a minimum of 28 days between last application and harvest in

coffee crops. In coffee and banana, delay applications 3 months after transplanting to allow the new coffee or banana plant to become established.

### **BANANACIDE (BANANA ONLY)**

**USE DIRECTIONS:** This product may be used to destroy banana plants infected with the Banana Bunchy Top Virus as well as non-infected banana plants to establish disease free buffers around plantations. Remove all fruit from the plants within the treatment area prior to treatment. Inject 0.04 ounces (1.0 mL) of this product per each 2 to 3 inches of trunk 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.

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

**RESTRICTIONS:** Do not apply more than 0.5 ounces (15 mL) of this product 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.

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## **7.8 VINE CROPS**

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

**TYPES OF APPLICATIONS:** Those listed in section 7.0

**USE DIRECTIONS:** 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:** Preharvest Interval (PHI) -Allow a minimum of 14 days between last application and harvest in vine crops. Do not use selective equipment in kiwi.

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## **8.0 PASTURE GRASSES, FORAGE LEGUMES AND RANGELANDS**

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### **8.1 ALFALFA, CLOVER, AND OTHER FORAGE LEGUMES**

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

**TYPES OF APPLICATIONS:** Preplant, Preemergence, At-Planting, Spot Treatment, Over-the-Top Wiper Applications, Renovation, Preharvest (except Kenaf and Leucaena).

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

**USE DIRECTIONS:** Apply this product 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 DIRECTIONS: 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 according to the intervals below.

	<b>Maximum Single Application Rate (per acre)</b>	<b>Minimum Interval Between application and harvest/grazing</b>
Alfalfa	3 pints	36 hours
All other labeled Legumes above	2.25 pints	3 days

This application may destroy an alfalfa stand and may severely injure or destroy other labeled crops including clover. Do not apply preharvest to alfalfa grown for seed, as a reduction in germination or vigor may occur.

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

USE DIRECTIONS: Apply this product as a spot treatment or with wiper applicators. For wipers, see the "Wiper Applicators" in the "SELECTIVE EQUIPMENT" section of this label. Applications may be made in the same area at 30-day intervals.

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

### Renovation

USE DIRECTIONS: Apply this product 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 3 pints per acre in alfalfa and up to 2.25 pints per acre in other labeled legumes. For complete removal of established stands of clover, it may be necessary to use the higher treatment rates listed in the "PERENNIAL WEEDS RATE SECTION" in this label.

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

## **DORMANT ALFALFA USE**

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

Apply 6 to 9 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.

### **RESTRICTIONS**

- Do not use ammonium sulfate when spraying dormant alfalfa.
- 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 is limited to persons who have attended a GH Holding and USA Corporation approved training program. Application of this product can cause crop injury. Any crop injury is the sole responsibility of the applicator.

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## **8.2 CONSERVATION RESERVE PROGRAM (CRP)**

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TYPES OF APPLICATIONS: Renovation (rotating out of CRP), Site Preparation, Postemergence Weed Control in Dormant CRP Grasses, Over-the-Top Wiper Applications.

### **Renovation (Rotation out of CRP), Site Preparation**

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

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

USE DIRECTIONS: This product may be used to suppress competitive growth and seed production of undesirable vegetation in CRP acres. Make applications with wiper application equipment or as a broadcast or spot treatment to dormant CRP grasses. For selective applications with broadcast spray equipment, apply 7 to 10 ounces of this product per acre in early spring before desirable CRP grasses, including crested and tall wheatgrass, break dormancy and initiate green growth. Late fall applications can be made after desirable perennial grasses have reached dormancy.

RESTRICTIONS: Some stunting of CRP perennial grasses will occur if broadcast applications are made when plants are not dormant. No waiting period is required between application and grazing or harvesting for feed. Do not apply more than 4.5 pints per acre per year onto CRP grasses.

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## **8.3 GRASS SEED OR SOD PRODUCTION**

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LABELED CROPS: Any grass (Gramineae family) except Corn, Sorghum, Sugarcane and those listed in this label under "CEREAL AND GRAIN CROPS".

TYPES OF APPLICATIONS: Preplant, Preemergence, At-Planting, Renovation, Removal of Established Stands, Site Preparation, Shielded Sprayers, Over-the-Top Wiper Applications, Spot Treatments, Creating Rows in Annual Ryegrass.

## **Preplant, Preemergence, At-Planting, Renovation, Removal of Established Stands, Site Preparation**

**USE DIRECTIONS:** This product controls most existing vegetation prior to renovating turf or forage grass seed areas or establishing turf grass grown for sod. It may also be used to destroy remaining undesired grass vegetation when production fields are converted to alternate species or crops. Make applications before, during, or after planting or for renovation. 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, including Bermudagrass, summer or fall applications provide best control. Broadcast equipment maybe used to control sod remnants or other unwanted vegetation after sod is harvested.

**RESTRICTIONS:** Do not disturb soil or underground plant parts before treatment. Tillage or renovation techniques including 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 72 ounces per acre or less, no waiting period between treatment and feeding or livestock grazing is required. If the rate is greater than 4.5 pints per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting. For any crop not listed for treatment in this label, applications must be made at least 30 days prior to planting. Applications must be made prior to the emergence of the crop to avoid crop injury.

### **Shielded Sprayers**

**USE DIRECTIONS:** Apply 1.5 to 4.5 pints of this product in 10 to 20 gallons of water per acre to control weeds between grass seed rows. Uniform planting in straight rows 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 directions, see "Shielded Applicators" 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.

### **Over-the-Top Wiper Applications**

**USE DIRECTIONS:** 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 directions, see "Wiper Applicators" in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**PRECAUTIONS:** Contact of the herbicide solution with desirable vegetation may result in damage or destruction. To the extent consistent with applicable law, such damage shall be the sole responsibility of the applicator.

### **Spot Treatments**

**USE DIRECTIONS:** Use a 1.0 percent solution.

**RESTRICTIONS:** Apply this product prior to heading of grasses grown for seed. The crop receiving the spray in the treated area will be killed. Take care to avoid drift or spray outside the target area for the

same reason. Use hand-held equipment to control sod remnants or other unwanted vegetation after sod is harvested.

### **Creating Rows in Annual Ryegrass**

USE DIRECTIONS: Use 12 to 24 ounces of this product per acre. Use the higher labeled 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.

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.

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## **8.4 PASTURES**

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LABELED CROPS: Any grass (Gramineae family) except Corn, Sorghum, Sugarcane and those listed in this label under "CEREAL AND GRAIN CROPS", Grasses that may be treated include Bahiagrass, Bermudagrass, Bluegrass, Brome, Fescue, Guineagrass, Kikuyagrass, Orchard grass, Pangola grass, Ryegrass, Timothy, and Wheatgrass.

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

### **Preplant, Preemergence, Pasture Renovation**

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

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

### **Spot Treatment, Over-the-Top Wiper Applications**

USE DIRECTIONS: Apply this product 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 treatments or wiper application methods using rates of 4.5 pints per acre or less, the entire field or any portion of it may be treated. When spot treatments or wiper applications are made using rates above 4.5 pints per acre, treat no more than 10 percent of the total pasture at any one time. To achieve maximum performance, remove domestic livestock before application and wait 7 days after application before grazing livestock or harvesting.

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

USE DIRECTIONS: This product may be used to suppress competitive growth and seed production of annual weeds and undesirable vegetation in pastures. For selective applications with broadcast spray equipment, apply 9 to 12 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.



**PRECAUTIONS:** Some stunting of 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. Use of higher application rates will cause stand reductions.

**RESTRICTIONS:** Do not apply more than 4.5 pints per acre per year onto pasture grasses except for renovation uses (see directions 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.

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## 8.5 RANGELANDS

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**TYPES OF APPLICATIONS:** Postemergence

This product will control or suppress many annual weeds growing in perennial cool- and warm-season grass rangelands.

Preventing viable seed production is key to the successful control and invasion of annual grassy weeds in rangelands. Follow-up applications in sequential years 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.

**USE DIRECTIONS:** Apply 9 to 12 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 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, where spring moisture is usually limited and fall germination allows for good weed growth.

For medusahead, apply 12 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.

**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. No waiting period between treatment and feeding of livestock grazing is required. Do not apply more than 4.5 quarts per acre per year.

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## 9.0 ROUNDUP READY® CROPS

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The following directions include all applications which can be made onto the specified Roundup Ready crops during the complete cropping season. Do NOT combine these directions 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.

**THIS PRODUCT IS ONLY FOR POSTEMERGENCE APPLICATION ONLY IN 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 fruits 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. Obtain information on Roundup Ready crop varieties from your seed supplier. 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 an 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.

**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 for use in over-the-top applications of this product unless otherwise noted in this product label.

Ammonium sulfate may be mixed with this product for applications to Roundup Ready crops. Refer to the “MIXING” section for use directions 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 directions 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 can be used to control existing weeds prior to crop emergence. Apply a preplant burndown treatment of 12 to 36 ounces per acre of this product.

Some weeds, including black nightshade, broadleaf signalgrass, sicklepod, Texas panicum, sandbur, annual morningglory, 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 second application must be made after some regrowth has occurred and at least 10 days after a previous application of this product.

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## 9.1 ALFALFA WITH ROUNDUP READY® GENE

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TYPES OF APPLICATIONS: Preplant, At-Planting, Preemergence, Postemergence.

<b>Maximum Allowable Combined Application Quantities Per Season</b>	
Combined total per year for all applications, including Preplant during year of establishment	5.75 quarts per acre
Combined total per acre for in-crop applications for newly established and established stands	4.5 quarts per acre
Preplant, At-Planting and Preemergence Single applications	1.5 quarts per acre

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

USE DIRECTIONS: Apply this product before, during or after planting Roundup Ready alfalfa.

### **Postemergence**

USE DIRECTIONS: Make applications of this product over the top of Roundup Ready alfalfa (in-crop) from emergence until 5 days prior to cutting. To maximize crop yield and quality potential of forage and hay, application of this product must be made after weeds have emerged but before alfalfa growth or re-growth interferes with spray coverage of the target weeds.

**WEEDS CONTROLLED:** For specific rates of application and directions, refer to the “ANNUAL WEEDS RATE SECTION” and “PERENNIAL WEEDS RATE SECTION” in this booklet. When applied as directed, this product will control these annual and perennial grasses and broadleaf weeds. In addition to those weeds listed in these sections, this product will suppress or control the parasitic weed Dodder (*Cuscuta* spp.) in Roundup Ready alfalfa. Repeat applications may be necessary for complete control.

**NEW STAND ESTABLISHMENT (Seeding Year):** Due to the biology and breeding constraints of alfalfa, up to 10 percent of the seedlings may not contain the Roundup Ready gene and will not survive after the first application of this product. To eliminate the undesirable effects of stand gaps created by this loss of plants, a single application of at least 0.75 quarts per acre of this product must be applied at or before the 4-trifoliolate growth stage. Refer to the following table for application rates during stand establishment (seeding year).

<b>New Stand Establishment (Seeding Year)</b>	
<b>Prior to First Cutting:</b>	
From emergence up to 4 trifoliolate leaves	1.5 quarts per acre
From 5 trifoliolate leaves up to 5 days before first cutting	1.5 quarts per acre
<b>After First Cutting:</b>	
In-crop application, per cutting, up to 5 days before cutting	1.5 quarts per acre

ESTABLISHED STANDS (Non-seeding Year) – For in-crop applications, per cutting, up to 5 days before cutting, apply this product up to 1.5 quarts per acre.

See the “ROUNDUP READY® CROPS” section of this label for directions and precautions for use in Roundup Ready crops. Where Roundup Ready alfalfa is grown with a companion or cover crop, or is overseeded with a second species, in-crop (over the top) applications of this product will eliminate the non-Roundup Ready (non-glyphosate tolerant) species.

RESTRICTIONS: Any single in-crop application of this product must not exceed 1.5 quarts per acre. Sequential applications of this product must be at least 7 days apart. The combined total per year for all in-crop applications in both newly established (seeding year) and established stands (non-seeding year) must not exceed 5.75 quarts per acre. Remove domestic livestock before application. Wait a minimum of 5 days after last application before grazing or cutting and feeding of forage or hay.

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## 9.2 CANOLA WITH THE ROUNDUP READY® GENE

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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	
Total of Preplant, At-Planting, Preemergence applications	3 pints per acre
Total in-crop application from emergence to 6-leaf usage	3 pints per acre

### Preplant, Preemergence, At-Planting

USE DIRECTIONS: Apply this product before, during or after planting canola.

### Postemergence

USE DIRECTIONS: Apply this product 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 directions, refer to the "ANNUAL WEEDS RATE SECTION" and "PERENNIAL WEEDS RATE SECTION" in this booklet.

### Single Application

Apply 12 to 24 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 12 ounces per acre are applied after the 4-leaf stage.

### Sequential Applications

Apply up to 24 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 can be made to early emerging annual weeds and perennial weeds including Canada thistle and quackgrass or when controlling weeds with multiple application times.

See the "ROUNDUP READY CROPS" section of this label for precaution and directions for use in Roundup Ready crops.

RESTRICTIONS: Do not make more than two over-the-top broadcast applications from crop emergence through the 6-leaf stage of development and the total in-crop application must not exceed 3 pints per acre. Preharvest Interval (PHI) -Allow a minimum of 60 days between last application and canola harvest.

### 9.3 CORN WITH THE ROUNDUP READY® GENE

TYPES OF APPLICATION: Preplant, At-Planting, Preemergence, Postemergence (in-crop), Spot Treatment, Preharvest, Post-Harvest.

<b>Maximum Allowable Combined Application Quantities Per Season</b>	
Combined total per year for all applications	6.0 quarts per acre
Total of Preplant, At-planting, Preemergence applications	3.75 quarts per acre
Total in-crop applications from emergence through the V8 stage or 30 inches	3.0 pints per acre
Maximum preharvest application rate after maximum kernel fill is complete and the crop is physiologically mature (black layer formation) until 7 days before harvest	1.5 pints per acre

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

USE DIRECTIONS: Apply this product alone or in a tank-mixture before, during or after planting corn.

TANK MIXTURES: This product may be tank mixed with Aim, Bullet, Degree, Degree Xtra, Harness, Harness Xtra, Harness Xtra 5.6L, Lariat, Micro-Tech, or Resource at 50 to 100 percent of labeled. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

**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 (in-crop)**

USE DIRECTIONS: Apply this product postemergence to Roundup Ready corn from emergence through the V8 stage (8 leaves with collars) or until corn height reaches 30 inches, whichever comes first.

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

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

TANK MIXTURES: This product may be applied to tank mixture with Aim, Bullet, Degree, Degree Xtra, Harness, Harness Xtra, Harness Xtra 5.6L, and Micro-Tech at 50 to 100 percent of labeled rate. This product may be applied in tank mixture with Permit and atrazine at labeled rates. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

<b>Tank-mix Partner</b>	<b>Maximum Height of Corn for Application</b>
Aim Degree Degree Xtra Harness Harness Xtra	11 inches

Harness Xtra 5.6	
Bullet* Micro-Tech*	5 inches
Permit	30 inches
Atrazine	12 inches

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

It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

See the "ROUNDUP READY CROPS" section of this label for precautions, restrictions and directions for use in Roundup Ready crops.

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

#### **Preharvest**

**USE DIRECTIONS:** In Roundup Ready corn, up to 1.5 pints 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:** Preharvest Internal (PHI) -Allow a minimum of 7 days between application and harvest.

#### **Post-Harvest**

**USE DIRECTIONS:** This product may be applied after harvest of corn. Higher labeled rates may be required for control of large seeds that were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

**RESTRICTIONS:** Preharvest Internal (PHI) -Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation.

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### **9.4 COTTON WITH THE ROUNDUP READY® GENE**

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**TYPES OF APPLICATIONS:** Preplant, At-Planting, Preemergence, Postemergence, Selective Equipment, Preharvest.

<b>Maximum Allowable Combined Application Quantities Per Season</b>	
Combined total per year for all applications	6.0 quarts per acre
Total of Preplant, At-planting, Preemergence applications	3.75 quarts per acre
Total over-the-top applications from cracking to layby	3.0 quarts per acre
Total precision post-directed for hooded applications through layby	1.5 quarts per acre
Maximum preharvest application rate	1.5 quarts per acre

See the “ROUNDUP READY® CROPS” section for directions, restrictions and precautions for use in Roundup Ready crops.

**RESTRICTIONS:** The combined total application of this product from cotton emergence until harvest must not exceed 4.5 quarts per acre. MAKE NO MORE THAN TWO OVER-THE-TOP BROADCAST APPLICATIONS 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. Preharvest Interval (PHI) - ALLOW A MINIMUM OF 7 DAYS BETWEEN APPLICATION AND HARVEST.

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

**USE DIRECTIONS:** Apply this product before, during or after planting cotton.

### **Postemergence (Over-the-Top)**

**USE DIRECTIONS:** Apply this product by aerial or ground application equipment at rates up to 1.5 pints 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. There are no rotational crop restrictions following applications of this product. Sequential applications of this product must be at least 7 days apart.

### **Salvage Treatment**

Make this treatment after the 4-leaf stage of development only where weeds threaten to cause the loss of the crop. Apply 1.5 pints per acre either as an over-the-top application or as a post-directed treatment sprayed higher on the cotton plants and over the weeds.

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.

For specific rates of application and directions, refer to the “ANNUAL WEEDS RATE SECTION” and “PERENNIAL WEEDS RATE SECTION” of the label.

See the “ROUNDUP READY CROPS” section for directions, restrictions, and precautions for use in Roundup Ready crops.

### **Selective Equipment**

**USE DIRECTIONS:** Apply this product using precision post-directed or hooded sprayers at rates up to 1.5 pints per acre per application to Roundup Ready cotton through layby. At this stage, post-directed equipment must be used which directs the spray to the base of the cotton plants. These application methods may be preferred when there is a need to direct the spray onto weeds that are growing under the crop canopy. 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). Sequential in-crop applications must be at least 7 days apart from any other in-crop application of this product.

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

### Preharvest

USE DIRECTIONS: Apply this product for preharvest annual and perennial weed control as a broadcast treatment to Roundup Ready cotton after 20 percent boll crack. Up to 3 pints of this product can 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: Preharvest Interval (PHI) -Allow a minimum of 7 days between final application and harvest. 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.

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### 9.5 FLEX COTTON WITH THE ROUNDUP READY® GENE

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THE FOLLOWING DIRECTIONS REFER TO ROUNDUP READY FLEX COTTON AND MUST NOT BE COMBINED WITH DIRECTIONS ABOVE FOR ROUNDUP READY COTTON NOT DESIGNATED AS “FLEX”.

TYPES OF APPLICATIONS: Preplant, At-Planting, Preemergence, Postemergence, Selective Equipment, Preharvest.

Maximum Allowable Combined Application Quantities Per Season	
Combined total per year for all applications	6.0 quarts per acre
Total of Preplant, At-planting, Preemergence applications	3.75 quarts per acre
Total over-the-top applications from cracking to layby	4.5 quarts per acre
Total precision post-directed for hooded applications through layby	3.0 quarts per acre
Maximum allowed from 60 percent bolls open to 7 days prior to harvest	1.5 quarts per acre

The use of postemergence applications described in this section other than Roundup Ready Flex cotton will cause crop injury and reduced yields. Drift of this product from applications made to Roundup Ready Flex cotton onto adjacent fields of post 4-leaf (node) Roundup Ready cotton may cause extensive injury including boll loss, delayed maturity, and/or yield loss.

There are no rotational crop restrictions for those crops listed on this label following applications of this product. There is a 30-day crop rotation restriction for crops not listed on this product label.



See the “ROUNDUP READY CROPS” section for directions, restrictions and precautions for use in Roundup Ready crops.

The combined total application of this product from cotton emergence until harvest must not exceed 6 quarts per acre. Tank mixtures with other herbicides may result in reduced weed control or may cause crop injury. Some weeds with multiple germination times or suppressed (stunted) weeds may require sequential applications of this product for control. It is the pesticide user’s responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

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

USE DIRECTIONS: Apply this product before, during or after planting Roundup Ready Flex cotton.

### **Postemergence**

USE DIRECTIONS: Apply this product by aerial or ground application equipment at rates up to 2 quarts per acre per application postemergence to Roundup Ready cotton from the ground cracking stage until layby. Any single postemergence application must not exceed 3 pints per acre. Allow at least 7 days between applications.

For specific rates of application and directions, refer to the “ANNUAL WEEDS RATE SECTION” and “PERENNIAL WEEDS RATE SECTION” of the label.

See the “ROUNDUP READY CROPS” section for directions, restrictions, and precautions for use in Roundup Ready crops.

### **Selective Equipment**

USE DIRECTIONS: Apply this product using precision post-directed or hooded sprayers at rates up to 3 pints per acre per 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. Contact of the spray with cotton leaves must be avoided to the maximum extent possible. Use equipment which directs the spray into the lower crop canopy so that weeds in the row are covered. 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). Sequential in-crop applications must be at least 7 days apart from any other in-crop application of this product.

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

### **Preharvest**

USE DIRECTIONS: Apply this product for preharvest annual and perennial weed control as a broadcast treatment to Roundup Ready Flex cotton after 60 percent boll crack any time after layby up to 7 days prior to harvest. Apply 1.5 pints up to 3 pints of this product using either aerial or ground spray equipment. Apply no more than 1.5 pints per acre aerially.

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

RESTRICTIONS: Preharvest Internal (PHI) -Allow a minimum of 7 days between final application and harvest. 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 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.

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**9.6 SOYBEANS WITH THE ROUNDUP READY® GENE**

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TYPES OF APPLICATIONS: Preplant, At-Planting, Preemergence, Postemergence, Preharvest, and Post-Harvest.

<b>Maximum Allowable Combined Application Quantities Per Season</b>	
Combined total per year for all applications	6.0 quarts per acre
Total of Preplant, At-planting, Preemergence applications	3.75 quarts per acre
Total In-crop applications from cracking throughout flowering	4.5 pints per acre
Maximum preharvest application rate	1.5 pints per acre

See the “ROUNDUP READY CROPS” section of this label for directions, restrictions and precautions for use in Roundup Ready crops.

**Preplant, Preemergence, At-Planting**

USE DIRECTIONS: Apply this product before, during or after planting soybeans.

**Postemergence**

USE DIRECTIONS: When applied as directed, this product will control labeled annual grasses and broadleaf weeds in Roundup Ready soybeans. Applications of this product can be made in Roundup Ready soybeans from emergence (cracking) throughout flowering. Refer to the “ANNUAL WEEDS RATE SECTION” in this label for rate directions for specific annual weeds. Apply 1.5 pints per acre on 2- to 8-inch tall weeds. Weeds will generally be 2 to 8 inches tall, 2 to 5 weeks after planting. If the initial application is delayed and weeds are larger, apply a higher labeled rate of this product. Apply this product at rates up to 3 pints per acre in any single in-crop application for control of annual weeds and where heavy weed densities exist.

A 1.5 to 3 pint per acre rate (single or multiple applications) of this product will control or suppress perennial weeds including: Bermudagrass, Canada thistle, common milkweed, field bindweed, hemp dogbane, horsenettle, marestail (horseweed), nutsedge, quackgrass, rhizome johnsongrass, redvine, trumpet creeper, 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 including 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 19 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.

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

### Preharvest

USE DIRECTIONS: This product provides weed control when applied prior to harvest of soybeans. Up to 1.5 pints per acre of this product can be applied by aerial or ground application.

PRECAUTIONS: Care must be taken to avoid excessive seed shatter loss due to ground application equipment.

RESTRICTION: Preharvest Internal (PHI) -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 DIRECTIONS: Apply this product after harvest of Roundup Ready soybeans. Higher label 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. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

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## 9.7 SUGAR BEETS WITH THE ROUNDUP READY® GENE

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TYPES OF APPLICATIONS: Preplant, At-Planting, Preemergence, Postemergence.

Maximum Allowable Combined Application Quantities Per Season	
Combined total per year for all applications	6 quarts per acre
Total of Preplant, At-planting, Preemergence applications	3.75 quarts per acre
Emergence to 8-leaf stage	3.75 pints per acre
Between 8-leaf stage and canopy closure	1.5 pints per acre

See the "ROUNDUP READY CROPS" section of this label for directions, restrictions and precautions for use in Roundup Ready crops.

RESTRICTIONS: The combined total application from crop emergence through harvest must not exceed 5.25 pints per acre. The maximum rate for any single application from crop emergence until the 8-leaf stage is 2.25 pints per acre. The maximum rate for any single application between the 8-leaf stage and canopy closure is 1.5 pints per acre. Preharvest Internal (PHI) -Allow a minimum of 30 days between last application and sugar beet harvest.

### Preplant, Preemergence, At-Planting

USE DIRECTIONS: Apply this product before, during or after planting of Roundup Ready sugar beets.

## Postemergence

USE DIRECTIONS: Apply this product 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. Make up to 4 sequential applications of this product with at least 10 days between applications.

Refer to the "ANNUAL WEEDS RATE SECTION" in this label for rate directions 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.

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## 10.0 NON-CROP USES AROUND THE FARMSTEAD

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TYPES OF APPLICATIONS: Weed Control, Trim-and-Edge, Chemical Mowing, Cut Stump.

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### 10.1 WEED CONTROL AND TRIM-AND-EDGE

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USE DIRECTIONS: Use this product 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, and shelterbelts, prior to landscape plantings and equipment storage areas.

TANK MIXTURES: This product may be tank mixed with the following products. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture. For annual weeds, use 1.5 pints per acre of this product when weeds are less than 6 inches tall, 2.25 pints per acre when weeds are 6 to 12 inches tall and 3 pints per acre when weeds are greater than 12 inches tall. For perennial weeds, apply 3 to 7.5 pints per acre in these tank mixes. For tank mixtures with these products through backpack sprayers, handguns or other high-volume spray-to-wet applications, see the "ANNUAL WEEDS - HAND-HELD OR HIGH VOLUME EQUIPMENT" section of this label for labeled 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	

**IN CALIFORNIA, DO NOT APPLY THIS PRODUCT PLUS DICAMBA AND/OR 2,4-D TANK MIXTURES BY AIR.**

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## 10.2 CHEMICAL MOWING

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

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

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## 10.3 CUT STUMP

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

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

Alder	Reed, giant
Eucalyptus	Saltcedar
Madrone	Sweetgum
Oak	Twin oak
Pepper, Brazilian	Tan oak
Pine, Austrian	Willow

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.

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## 11.0 ANNUAL WEEDS RATE SECTION (Alphabetically by Species)

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When water carrier volumes are between 3 and 10 gallons per acre for ground applications and between 3 and 5 gallons per acre for aerial applications, the following use-rates will control the annual weeds listed in the table below:

- 1.5 pints per acre – grass and broadleaf annual weeds less than 6 inches in height or circumference and vines less than 3 inches in length.
- 2.25 pints per acre – grass and broadleaf annual weeds 6 to 12 inches in height or circumference and vines 3 to 6 inches in length.
- 3.0 pints per acre – grass and broadleaf annual weeds greater than 12 inches in height or circumference and vines greater than 6 inches in length.

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 labeled rates even if they meet the size requirements.

Maximum size refers to the maximum plant height, length of runners for vines, or circumference of rosette plants in inches.

Do not tank-mix with soil residual herbicides when using these rates unless otherwise specified in individual crop sections.

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

Where heavy weed densities exist, use his product up to 48 ounces per acre.

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

<b>RATE (fluid ounces per acre):</b>	<b>12</b>	<b>18</b>	<b>24</b>	<b>30</b>	<b>36</b>
<b>WEED SPECIES</b>	<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 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	-	-	-	-

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

<b>RATE (fluid ounces per acre):</b>	<b>12</b>	<b>18</b>	<b>24</b>	<b>30</b>	<b>36</b>
<b>WEED SPECIES</b>	<b>Maximum height/length (in inches)</b>				
Crabgrass	3	6	12	-	-
Crowfootgrass	-	-	6	-	12
Cutleaf evening primrose	-	-	3	-	6
Devilsclaw (unicorn plant)	-	3	6	-	-
Dwarf dandelion	12	-	-	-	-
Eastern mannagrass	8	12	-	-	-
Eclipta	-	4	8	12	-
Fall panicum	4	-	6	-	12
False dandelion	-	20	-	-	-
Falseflax, small seed	12	-	-	-	-
Fiddleneck	-	6	12	-	-
Field Pennycress	6	12	-	-	-
Filaree	-	-	6	-	12
Fleabane, annual	6	20	-	-	-
Fleabane, hairy ( <i>Conyza bonariensis</i> )	-	-	6	-	10
Fleabane, rough	3	6	12	-	-
Florida pusley	-	-	4	-	6
Foxtail: giant, bristly, yellow	6	12	20	-	-
Foxtail, Carolina	10	-	-	-	-
Foxtail, green	12	-	-	-	-
Goatgrass, jointed	6	12	-	-	-
Goosegrass	-	3	6	-	12
Grain sorghum (milo)	6	12	20	-	-
Groundcherry	-	3	6	-	9
Groundsel, common	-	6	10	-	-
Hemp sesbania	-	2	4	6	8
Henbit	-	-	6	-	12
Horseweed/Marestail ( <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	-	-



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

<b>RATE (fluid ounces per acre):</b>	<b>12</b>	<b>18</b>	<b>24</b>	<b>30</b>	<b>36</b>
<b>WEED SPECIES</b>	<b>Maximum height/length (in inches)</b>				
Mayweed	-	2	6	12	18
Morningglory, 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	-	-
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, 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

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

<b>RATE (fluid ounces per acre):</b>	<b>12</b>	<b>18</b>	<b>24</b>	<b>30</b>	<b>36</b>
<b>WEED SPECIES</b>	<b>Maximum height/length (in inches)</b>				
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 18 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 18 ounces per acre of this product to control wild buckwheat in the cotyledon to 2-leaf stage. Use 24 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 24 ounces followed by 24 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, a tank mixture with 2,4-D as described below may improve control. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

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**11.1 ANNUAL WEEDS – TANK MIXTURES WITH 2,4-D, DICAMBA, OR TORDON 22K**

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Applying 9 to 12 ounces of this product plus the labeled rate of dicamba, 2,4-D, or Tordon 22K per acre will control the following weeds with the maximum height or length indicated:

**6 inches:** prickly lettuce, marestalk/horseweed, morning glory, kochia (dicamba only), wild buckwheat (Tordon 22K only);

**12 inches:** cocklebur, lambsquarters, pigweed, Russian thistle (2,4-D only).

Applying 12 ounces of this product plus the labeled rate of 2,4-D per acre will control the following weeds when they are a maximum height or length of 6 inches:

Common ragweed, giant ragweed, Pennsylvania smartweed, and velvetleaf.

It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

**Crop injury may occur if dicamba or Tordon 22K is applied within 45 days of planting.**

**IN CALIFORNIA, DO NOT APPLY THIS PRODUCT PLUS DICAMBA AND/OR 2,4-D TANK MIXTURES BY AIR.**

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**11.2 ANNUAL WEEDS – HAND-HELD OR HIGH-VOLUME EQUIPMENT**

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For control of weeds listed in the "ANNUAL WEEDS RATE SECTION", apply a 0.5 percent solution of this product to weeds less than 6 inches in height or runner length. Apply prior to seedhead formation in grass or bud formation in broadleaf weeds. For annual weeds over 6 inches tall, or unless otherwise specified, use a 0.75 percent solution.

For best results, use a 1.5 percent solution on harder-to-control perennials, including 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.

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### 11.3 ANNUAL WEEDS – TANK MIXTURES WITH ATRAZINE FOR FALLOW AND REDUCED TILLAGE SYSTEMS

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

18 to 22 ounces of this product plus the labeled rate of atrazine per acre will control the following weeds: Barnyardgrass add labeled rate for control, Downy brome, Green foxtail, Lambsquarters, Prickly lettuce, Tansy mustard, Pigweed, Field sandbur, Stinkgrass, Russian thistle, Volunteer wheat, Witchgrass and Kochia (add labeled rate of dicamba for control).

It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

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### 11.4 ANNUAL WEEDS – RATES FOR HIGHER WATER CARRIER VOLUMES

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For ground applications with water carrier volumes between 11 and 40 gallons per acre and aerial applications between 6 and 15 gallons per acre, apply 1.5 to 3 pints of this product per acre. Use 1.5 pints per acre if weeds are less than 6 inches tall, 2.25 pints per acre if weeds are 6 to 12 inches tall, and 3 pints per acre if weeds are greater than 12 inches tall. These rates will provide control of weeds listed in the "Annual Weeds Rate Table". Older, mature (hardened) annual weed species may require higher labeled rates even if they meet the size requirements.

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## 12.0 PERENNIAL WEEDS RATE SECTION (Alphabetically by Species)

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Apply to actively growing perennial weeds. Repeat treatments may be necessary to control weeds regenerating from underground parts or seed. Best results are obtained when soil moisture is adequate for active weed growth.

**RESTRICTIONS:** If weeds have been mowed or tilled, do not treat until plants have resumed active growth and have reached the listed stages. Repeat treatments must be made prior to crop emergence. Unless otherwise stated, allow 7 or more days after application before tillage.

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

Weed Species	Rate (PT/A)	Water Volume (GPA)	Hand-Held % Solution	Directions
Alfalfa	1.5 – 2.4	3 – 10	1.5%	Make applications after the last hay cutting in the fall. Allow alfalfa to regrow to a height of 6 to 8 inches or more prior to treatment. Applications must be followed with deep tillage at least 7 days after treatment, but before soil freeze-up.
Alligatorweed	6.0	3 – 20	1.25%	For partial control, apply when most of the plants are in bloom. Repeat applications will be required to maintain control.
Anise (fennel) <sup>1</sup>	--	--	0.75 – 1.5%	For hand-held sprayer, apply as a spray-to-wet treatment

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

Weed Species	Rate (PT/A)	Water Volume (GPA)	Hand-Held % Solution	Directions
Bahiagrass <sup>2</sup>	4.5 – 7.5	3 – 20	1.5%	For suppression in grass seed production areas. For ground applications, only. Ensure entire crown area has resumed growth prior to a fall application. Tillage prior to treatment must be avoided. Tillage 7 to 10 days after application for best results.
Bentgrass	2.25	10 – 20	1.5%	For suppression in grass seed production areas. For ground applications, only. Ensure entire crown area has resumed growth prior to a fall application. Bentgrass must have at least 3 inches of growth. Tillage prior to treatment must be avoided. Tillage 7 to 10 days after application for best results.
Bermudagrass	4.5 – 7.5	3 – 20	1.5%	For control, apply 7.5 pints of this product per acre. For partial control, apply 4.5 pints per acre. Treat when Bermudagrass is actively growing and seedheads are present. Retreatment may be necessary to maintain control.
Bermudagrass, Water (knotgrass)*	1.5 – 2.25	5 – 10	1.5%	Apply 2.25 pints of this product in 5 to 10 gallons of water per acre. Apply when water Bermudagrass is 12 to 18 inches in length. Allow 7 or more days before tilling, flushing or flooding the field.  Fall applications only: Apply 1.5 pints of this product in 5 to 10 gallons of water per acre. Fallow fields must be tilled prior to application.  Apply prior to frost on water Bermudagrass that is 12 to 18 inches in length.  <b>*This product is not registered in California for use on Water Bermudagrass</b>
Bindweed, Field	0.75 – 7.5	3 – 20	1.5%	Do not treat when weeds are under drought stress, as good soil moisture is necessary for active growth.  For control, apply 6.0 to 7.5 pints of this product per acre west of the Mississippi River and 4.5 to 6.0 pints east of Mississippi River.  Apply when the weeds are at or beyond full bloom. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost.  Also for control, apply 3 pints of this product plus the labeled rate of dicamba in 10 to 20 gallons of water per acre. Do not apply by air.  For suppression on irrigated agricultural land, apply 1.5 to 3.0 pints of this product plus the labeled rate 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 12 ounces of this product plus the labeled rate of 2,4-D in 3 to 10 gallons of water per acre for

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

Weed Species	Rate (PT/A)	Water Volume (GPA)	Hand-Held % Solution	Directions
				<p>ground applications and 3 to 5 gallons of water per acre for aerial applications. Apply by air in fallow and reduced tillage systems only.</p> <p>Applications must be delayed until maximum emergence has occurred and when vines are between 6 to 18 inches in length.</p> <p><b>In California only:</b> Apply 1.5 to 7.5 pints of this product per acre. Actual rate needed for suppression or control will vary within this range depending on local conditions. For suppression on irrigated land where annual tillage is performed, apply 1.5 pints of this product in 3 to 10 gallons of water per acre.</p> <p>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.</p>
Bluegrass, Kentucky	1.5 – 3.0	3 – 40	1.5%	Apply 3 pints of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1.5 to 2.25 pints of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.
Blueweed, Texas	4.5 – 7.5	3 – 40	1.5%	Apply 6.0 to 7.5 pints of this product per acre west of the Mississippi River and 4.5 to 6.0 pints per acre east of the Mississippi River. Apply when plants are at or beyond full bloom. New leaf development indicates active growth. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost.
Brackenfern	4.5 – 6.0	3 – 40	1.0%	Apply to fully expanded fronds that are at least 18 inches long.
Bromegrass, smooth	1.5 – 3.0	3 – 40	1.5%	Apply 3 pints of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1.5 to 2.25 pints of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.
Bursage, woolly-leaf	--	3 – 20	1.5%	<p>For control, apply 3 pints of this product plus the labeled rate of dicamba per acre. For partial control, apply 1.5 pints of this product plus the labeled rate of dicamba per acre.</p> <p>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.</p>
Canarygrass, reed <sup>2</sup>	3.0 – 4.5	3 – 40	1.5%	Also for control, apply 12 to 24 ounces of this product plus the labeled rate of 2,4-D in 3 to 10 gallons of water per acre.
Cattail <sup>2</sup>	4.5 – 7.5	3 – 40	1.5%	
Clover; red or white <sup>1</sup>	4.5 – 7.5	3 – 20	1.5%	
Cogongrass	4.5 – 7.5	10 – 40	1.5%	
				Apply when cogongrass is at least 18 inches tall in late summer or fall. Due to uneven stages of growth and the dense nature of vegetation preventing good spray coverage, repeat treatments may be necessary to maintain control.

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

Weed Species	Rate (PT/A)	Water Volume (GPA)	Hand-Held % Solution	Directions
Dallisgrass <sup>2</sup>	4.5 – 7.5	3 – 20	1.5%	Also for control, apply 12 ounces of this product plus the labeled rate of 2,4-D in 3 to 10 gallons of water per acre.
Dandelion <sup>1</sup>	4.5 – 7.5	3 – 40	1.5%	
Dock, Curly <sup>1</sup>	4.5 – 7.5	3 – 40	1.5%	Also for control, apply 12 to 24 ounces of this product plus the labeled rate of 2,4-D in 3 to 10 gallons of water per acre.
Dogbane, hemp	6.0	3 – 40	1.5%	<p>Apply when most plants have reached the late bud to flower stage of growth.</p> <p>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.</p> <p>For suppression, apply 12 ounces of this product plus the labeled rate 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.</p>
Fescue (except tall) <sup>2</sup>	4.5 – 7.5	3 – 20	1.5%	Apply 4.5 pints of this product per acre when most plants have been reached boot-to-early seedhead stage of development.
Fescue, tall	1.5 – 4.5	3 – 40	1.5%	Fall applications only: Apply 24 ounces 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 9.5 ounces per acre of this product will improve long-term control and control seedlings germinating after fall treatments or the following spring.
Guineagrass	4.5	3 – 40	0.75%	Apply when most plants have reached at least the 7-leaf stage of growth. Ensure thorough coverage when using hand-held equipment. In Texas and ridge of Florida, use 3 pints for control. In the flatwoods region of Florida, 4.5 pints is required for control.
Horsenettle <sup>1</sup>	4.5 – 7.5	3 – 20	1.5%	Apply when most plants have reached the late bud to flower stage of growth. For best results, apply in late summer or fall.
Horseradish	6.0	3 – 40	1.5%	
Iceplant <sup>1</sup>	--	--	1.5 – 2.0%	Thorough coverage is necessary for best control.
Jerusalem artichoke <sup>1</sup>	4.5 – 7.5	3 – 20	1.5%	<p>In annual cropping systems, apply 1.5 to 3.0 pints of this product per acre. Apply 1.5 pints of this product in 3 to 10 gallons of water per acre. Use 3 pints of this product when applying 10 to 40 gallons of water per acre. In non-crop, or areas where annual tillage (no-till) is not practiced, apply 3.0 to 4.5 pints of this product in 10 to 40 gallons of water per acre.</p> <p>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 1.5 pints of this product per acre.</p> <p>For burndown of Johnsongrass, apply 12 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.</p> <p>Spot treatment (partial control or suppression) – Apply a 0.75 percent solution of this product when Johnsongrass is 12 to 18 inches in height. Coverage must be uniform and complete.</p>
Johnsongrass	0.75 – 4.5	3 – 40	0.75%	

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

<b>Weed Species</b>	<b>Rate (PT/A)</b>	<b>Water Volume (GPA)</b>	<b>Hand-Held % Solution</b>	<b>Directions</b>
Kikuyugrass	3.0 – 4.5	3 – 40	1.5%	Spray when most kikuyugrass is at least 8 inches in height (3 or 4 leaf stage of growth). Allow 3 or more days after application before tillage.
Knapweed	6.0	3 – 40	1.5%	Apply when most plants have reached the late bud to flower stage of growth. For best results, apply in late summer or fall.
Lantana	--	--	0.75-1.0%	Apply at or beyond the bloom stage of growth. Use the higher application rate for plants that have reached the woody stage of growth.
Lespedeza <sup>1</sup>	4.5 – 7.5	3 – 20	1.5%	Apply when most plants have reached the late bud to flower stage of growth.
Milkweed, common	4.5	3 – 40	1.5%	
Muhly, wirestem	1.5 – 3.0	3 – 40	1.5%	Use 1.5 pints of this product in 3 to 10 gallons of water per acre. Use 3 pints of this product when applying 10 to 40 gallons of water per acre or in pasture, sod or non-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 <sup>1</sup>	4.5 – 7.5	3 – 20	1.5%	Applications must be made when at least 60 percent of the plants have berries. Fall treatments must be applied before a killing frost.
Napiergrass <sup>2</sup>	4.5 – 7.5	3 – 20	1.5%	
Nightshade, silverleaf	3.0	3 – 10	1.5%	
Nutsedge, Purple or yellow	0.75 – 4.5	3 – 40	0.75-1.5%	<p>Apply 4.5 pints of this product per acre or apply a 0.75 to 1.5 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.</p> <p>Sequential applications: 1.5 to 3.0 pints of this product in 3 to 10 gallons of water per acre will also provide control. Make applications when a majority of the plants are in the 3 to 5 leaf stage (less than 6 inches tall).</p> <p>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.</p> <p>For partial control of existing plants, apply 12 to 48 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.</p>
Orchardgrass	1.5 – 3.0	3 – 40	1.5%	<p>Apply 3 pints of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development.</p> <p>For partial control in pasture or hay crop renovation, apply 1.5 to 2.25 pints of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.</p>



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

Weed Species	Rate (PT/A)	Water Volume (GPA)	Hand-Held % Solution	Directions
				Orchardgrass sods going to no-till corn: Apply 1.5 to 2.25 pints of this product in 3 to 10 gallons of water per acre.  Apply to orchardgrass that is a minimum of 12 inches tall for spring applications and 6 inches tall for fall applications.  Allow at least 3 days following application before planting. A sequential application of atrazine will be necessary for optimum results.
Pampasgrass	--	--	1.5%	Pampasgrass must be at or beyond the boot stage of growth. Thorough coverage is necessary for best control.
Paragrass <sup>2</sup>	4.5 – 7.5	3 – 20	1.5%	For partial control, and 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.
Phragmites	4.5 – 7.5	10 – 40	0.75-1.5%	
Poison hemlock	--	--	0.75 – 1.5%	For hand-held sprayer, 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	1.5	3 – 40	1.5%	Apply to actively growing plants up to 24 inches tall.
Quackgrass	1.5 – 4.5	3 – 40	1.5%	In annual cropping systems, or in pastures and sods followed by deep tillage: Apply 1.5 pints of this product in 3 to 10 gallons of water per acre. For 10 to 40 gallons of water per acre, apply 3 pints of this product. Do not tank-mix with residual herbicides when using the 1.5-pint rate. Spray when quackgrass is 6 to 8 inches in height. Do not till between harvest and fall applications or in fall or spring prior to spring application. Allow 3 or more days after application before tillage. In pastures or sods, use a moldboard plow for best results.  In pastures, sods or non-crop areas where deep tillage does not follow application: Apply 3 to 4.5 pints of this product in 10 to 40 gallons of water per acre when the quackgrass is greater than 8 inches tall.
Redvine	1.25 – 3.0	5 – 10	1.5%	For suppression, apply 18 ounces of this product per acre at each of two applications 7 to 14 days apart or a single application of 3 pints per acre. Apply labeled rates in 5 to 10 gallons of water per acre. Apply in late September or early October to plants that are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.
Reed, giant	--	--	1.5%	Best results are obtained when applications are made in late summer to fall.
Ryegrass, perennial	1.5 – 4.5	3 – 40	0.75%	In annual cropping systems, apply 1.5 to 3 pints of this product per acre. Apply 1.5 pints of this product in 3 to 10 gallons of water per acre. Use 3 pints of this product when applying 10 to

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

Weed Species	Rate (PT/A)	Water Volume (GPA)	Hand-Held % Solution	Directions
				40 gallons of water per acre. In non-crop, or areas where annual tillage (no-till) is not practiced, apply 3 to 4.5 pints of this product in 10 to 40 gallons of water per acre.  For best results, apply when most plants have reached the boot-to-head stage of growth or in the fall prior to frost. Do not tank-mix with residual herbicides when using 1.5 pints of this product per acre.
Smartweed, swamp <sup>1</sup>	4.5 – 7.5	3 – 40	1.5%	Also, for control, apply 9.5 ounces of this product plus the labeled rate of 2,4-D in 3 to 10 gallons of water per acre in the late summer or fall.
Sowthistle, perennial	3.0 – 4.5	3 – 40	1.5%	Apply when most plants are at or beyond the bud stage of growth. After harvest, mowing or tillage in the late summer or fall, allow at least 4 weeks for initiation of active growth and rosette development prior to the application of this product.  Fall treatments must be applied before a killing frost. Allow 3 or more days after application before tillage.
Spurge, leafy	--	3 – 10	1.5%	For suppression, apply 12 ounces of this product plus the labeled rate of 2,4-D in 3 to 10 gallons of water per acre in the late summer or fall. If mowing has occurred prior to treatment, apply when most of the plants are 12 inches tall.
Starthistle, yellow	3.0	10 – 40	1.5%	Best results are obtained when applications are made during the rosette, bolting and early flower stages.
Sweet potato, wild	--	--	1.5%	For partial control, apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.
Thistle, artichoke	--	--	1.5%	For partial control, apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.
Thistle, Canada	3.0 – 4.5	3 – 40	1.5%	Apply when most plants are at or beyond the bud stage of growth. After harvest, mowing or tillage in the late summer or fall, allow at least 4 weeks for initiation of active growth and rosette development prior to the application of this product. Fall treatments must be applied before a killing frost. Allow 3 or more days after application before tillage.  For suppression in the spring, apply 24 ounces of this product, or 12 ounces of this product plus the labeled rate of in 3 to 10 gallons of water per acre. Allow rosette regrowth to a minimum of 6 inches in diameter before treating.  Applications can be made as long as leaves are still green and plants are actively growing at the time of application.  Allow 3 or more days after application before tillage.
Timothy <sup>2</sup>	3.0 – 4.5	3 – 40	1.5%	For partial control, apply when most plants are at or beyond the seedhead stage of growth. Repeat applications will be required to maintain control. Fall treatments must be applied before frost.
Torpedograss	6.0 – 7.5	3 – 40	1.5%	
Trumpetcreeper	3.0	5 – 10	1.5%	For 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.

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

Weed Species	Rate (PT/A)	Water Volume (GPA)	Hand-Held % Solution	Directions
Vaseygrass <sup>2</sup>	4.5 – 7.5	3 – 20	1.5%	
Velvetgrass <sup>2</sup>	4.5 – 7.5	3 – 20	1.5%	
Wheatgrass, western <sup>2</sup>	3.0 – 4.5	3 – 40	1.5%	
<sup>1</sup> Apply when most plants have reached the early bud stage of growth.				
<sup>2</sup> Apply when most plants have reached the early heading stage of growth.				

**13.0 WOODY BRUSH AND TREES RATE SECTION (Alphabetically by Species)**

Apply this product after full leaf expansion, unless otherwise directed. Use the higher labeled rate for larger plants and/or dense areas of growth. On vines, use the higher labeled 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.

**WOODY BRUSH AND TREES RATE TABLE**  
(Alphabetically by Species)

Weed Species	Rate (PT/A)	Hand-Held % Solution	Directions
Alder	4.5 – 6.0	0.75 – 1.5%	Make applications after plants have reached full leaf maturity. Best results are obtained when applications are made in late summer or fall.
Ash <sup>1</sup>	3.0 – 7.5	0.75 – 1.5%	
Aspen, quaking	3.0 – 4.5	0.75 – 1.5%	Applications may also be made after leaf drop and until a killing frost or as long as stems are green.
Bearmat (Bearclover) <sup>1</sup>	3.0 – 7.5	0.75 – 1.5%	After berries have set or dropped in late fall, blackberry can be controlled by applying a 0.75 percent solution of this product. For control of blackberries after leaf drop and until killing frost or as long as stems are green, apply 4.5 to 6 pints of this product in 10 to 40 gallons of water per acre.
Beech <sup>1</sup>	3.0 – 7.5	0.75 – 1.5%	
Birch	3.0 – 7.5	0.75%	
Blackberry	4.5 – 6.0	0.75 – 1.5%	
			<sup>1</sup> Partial Control

**WOODY BRUSH AND TREES RATE TABLE**  
(Alphabetically by Species)

Weed Species	Rate (PT/A)	Hand-Held % Solution	Directions
Blackgum	3.0– 7.5	0.75 – 1.5%	Apply when at least 50 percent of the new leaves are fully developed. <sup>1</sup> Partial Control <sup>2</sup> Thorough coverage of foliage is necessary for best results.
Bracken	3.0– 7.5	0.75– 1.5%	
Broom, French, Scotch	--	1.5%	
Buckwheat, California <sup>1,2</sup>	--	0.75 – 1.5%	
Cascara <sup>1</sup>	3.0 – 7.5	0.75 – 1.5%	
Catsclaw <sup>1</sup>	--	0.75 – 1.5%	
Ceanothus <sup>1</sup>	3.0 – 7.5	0.75 – 1.5%	
Chamise <sup>2</sup>	--	0.75%	
Cherry; butter, black, pin	3.0 – 4.5	0.75 – 1.5%	
Coyote brush	--	1.5%	
Dogwood <sup>1</sup>	3.0 – 7.5	0.75 – 1.5%	For control of eucalyptus resprouts, apply when resprouts are 6 to 12 feet tall.
Elderberry	3.0	0.75%	
Elm <sup>1</sup>	3.0 – 7.5	0.75 – 1.5%	
Eucalyptus	--	1.5%	
Florida holly (Brazilian Peppertree) <sup>1</sup>	3.0 – 7.5	0.75 – 1.5%	Repeat applications may be required to maintain control <sup>1</sup> Partial Control <sup>2</sup> Thorough coverage of foliage is necessary for best results.
Gorse <sup>1</sup>	3.0 – 7.5	0.75 – 1.5%	
Hasardia <sup>1,2</sup>	--	0.75 – 1.5%	
Hawthorn	3.0 – 4.5	0.75 – 1.5%	
Hazel	3.0	0.75%	
Hickory <sup>1</sup>	3.0 – 7.5	0.75 – 1.5%	
Honeysuckle	3.0 – 6.0	0.75 – 1.5%	
Hornbeam, American <sup>1</sup>	3.0 – 7.5	0.75 – 1.5%	
Kudzu	6.0	1.5%	
Locust, black <sup>1</sup>	3.0 – 6.0	0.75 – 1.5%	

**WOODY BRUSH AND TREES RATE TABLE**  
(Alphabetically by Species)

Weed Species	Rate (PT/A)	Hand-Held % Solution	Directions
Madrone resprouts <sup>1</sup>	--	1.5%	Best results are obtained with spring/early summer treatments <sup>1</sup> Partial Control
Manzanita <sup>1</sup>	3.0 – 7.5	0.75 – 1.5%	For partial control in manzanita and control in red maple, apply a 0.75 to 1.5 percent solution when at least 50 percent of the new leaves are fully developed.  For partial control in red maple, apply 3 to 6 pints of this product per acre.  <sup>1</sup> For Partial Control only in manzanita
Maple, red	3.0 – 6.0	0.75 – 1.5%	
Maple, sugar	--	0.75 – 1.5%	Apply when at least 50 percent of the new leaves are fully developed.
Monkey flower <sup>1,2</sup>	--	0.75 – 1.5%	Apply when at least 50 percent of the new pin leaves are fully developed. <sup>1</sup> Partial Control <sup>2</sup> Thorough coverage of foliage is necessary for best results.
Oak; black, white <sup>1</sup>	3.0 – 6.0	0.75 – 1.5%	
Oak, post	4.5 – 6.0	0.75 – 1.5%	
Oak; northern, pin	--	0.75 – 1.5%	Repeat applications may be required to maintain control. Fall treatments must be applied before leaves lose green color. <sup>1</sup> Partial Control
Oak; southern, red	3.0 – 4.5	0.75 – 1.5%	
Persimmon <sup>1</sup>	3.0 – 7.5	0.75 – 1.5%	
Pine	3.0 – 7.5	0.75 – 1.5%	
Poison ivy/Poison oak	6.0 – 7.5	1.5%	Treatments must be made prior to leaf deterioration by leaf-eating insects. <sup>1</sup> Partial Control  Apply to resprouts that are less than 3 to 6 feet tall. Best results are obtained with fall applications.  <sup>1</sup> Partial Control <sup>2</sup> Thorough coverage of foliage is necessary for best results.
Poplar, yellow <sup>1</sup>	3.0 – 7.5	0.75 – 1.5%	
Redbud, eastern	3.0 – 7.5	0.75 – 1.5%	
Rose, multiflora	3.0	0.75%	
Russian olive <sup>1</sup>	3.0 – 7.5	0.75 – 1.5%	
Sage, black <sup>2</sup>	--	0.75%	
Sage, white <sup>1</sup>	3.0 – 7.5	0.75 – 1.5%	
Sage brush, California <sup>2</sup>	--	0.75%	
Salmonberry	3.0	0.75%	
Salt-cedar	3.0 – 7.5	0.75 – 1.5%	
Sassafras <sup>1</sup>	3.0 – 7.5	0.75 – 1.5%	
Sourwood <sup>1</sup>	3.0 – 7.5	0.75 – 1.5%	
Sumac; poison, smooth, winged <sup>1</sup>	3.0 – 6.0	0.75 – 1.5%	
Sweetgum	3.0 – 4.5	0.75 – 1.5%	
Swordfern <sup>1</sup>	3.0 – 7.5	0.75 – 1.5%	
Tallowtree, Chinese <sup>2</sup>	--	0.75%	
Tan oak resprouts <sup>1</sup>	--	1.5%	
Thimbleberry	3	0.75%	
Tobacco, tree <sup>1</sup>	--	0.75 – 1.5%	<sup>1</sup> Partial Control

**WOODY BRUSH AND TREES RATE TABLE  
(Alphabetically by Species)**

Weed Species	Rate (PT/A)	Hand-Held % Solution	Directions
Trumpet creeper	3 – 4.5	0.75 – 1.5%	
Vine maple <sup>1</sup>	3 – 7.5	0.75 – 1.5%	<sup>1</sup> Partial Control
Virginia creeper	3 – 7.5	0.75 – 1.5%	
Waxmyrtle, southern <sup>1</sup>	3 – 7.5	0.75 – 1.5%	<sup>1</sup> Partial Control
Willow	4.5 – 6	0.75%	

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**14.0 WEED RESISTANT MANAGEMENT**

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

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**14.1 WEED RESISTANCE MANAGEMENT RECOMMENDATIONS**

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Glyphosate resistant biotypes can be minimized by utilizing the following weed resistance management recommendations:

1. Begin by preparing your field using tillage or a burndown herbicide application.
2. It is a good practice to scout your fields before and after applications.
3. Use new commercial seeds that have fewer weed seeds.
4. Control weeds early when they are relatively small.
5. Cultural practices such as crop rotation or tillage and the addition of other herbicides such as a selective and/or a residual herbicide where appropriate are suggested.
6. Rotating to other Roundup Ready crops is one method for adding other herbicides into a continuous Roundup Ready system.
7. Follow the specified label rate for the most difficult to control weeds. Reject directions that support lower application rates when tank mixing as well as tank mixtures with other herbicides that will reduce product efficacy.
8. Follow good agricultural practices by cleaning equipment prior to shifting from field to field preventing weed seed or plant root parts from spreading.
9. Any incidence of repeated non-performance of this product on a particular weed must be reported to any representative, your county extension agent, or to the local retailer.

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**14.2 GLYPHOSATE-RESISTANT BIOTYPES MANAGEMENT**

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In order to reduce the spread of confirmed glyphosate resistant biotypes, apply the following practices:

1. When a naturally occurring resistant biotype(s) is present, tank-mix or apply sequentially with an appropriate herbicide with a different mode of action to achieve control.
2. Use cultural and mechanical control practices, such as crop rotation or tillage, as appropriate.
3. Rotation to other Roundup Ready crops is one method for adding other herbicides into a continuous Roundup Ready system.
4. Control escaping weeds including resistant biotypes before they set seed and scout treated fields after herbicide application.
5. Clean equipment thoroughly prior to exiting fields known to contain resistant biotypes.

**This company is not responsible for any losses that may result from the failure of this product to control glyphosate-resistant weed biotypes as the occurrence of new glyphosate-resistant weeds cannot be determined until after product use and scientific confirmation.**

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### **14.3 Control and Management of Glyphosate-Resistant Horseweed in Cotton, Corn, and Soybean**

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

For Tank mix directions in this section, it is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

#### **Cotton:**

##### **Preplant:**

For control of horseweed, apply this product (1.5 pints per acre) in a tank-mix with the labeled rate of 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 must be observed between Clarity application and planting of cotton.

##### **Post-directed (Roundup Ready® Cotton varieties only):**

Management of early season weed competition and the development of a crop height differential between cotton and the horseweed are often achieved by a combination of preplant burndown and postemergent over-the-top and/or directed applications. These measures enhance the development of a height differential that is necessary to successfully make post-directed treatments. In-crop post-directed applications of the labeled rate of MSMA tank-mixed with the labeled rate of diuron must be made when the temperature is 80° F or higher.

#### **Soybeans:**

##### **Preplant:**

Apply a tank mixture of this product (1.5 pints per acre) with the labeled rate of 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. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture. For areas where 2,4-D cannot be applied due to application restrictions or proximity to a sensitive crop, contact your local retailer and/or crop consultant.

##### **In-crop (Roundup Ready Soybean varieties only):**

It is strongly encouraged that horseweed must be controlled prior to planting using preplant burndown treatments. In-crop Roundup Ready soybeans, apply a tank mixture of this product (1.5 pints per acre) with the labeled rate of Amplify™. 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 emergency of the first trifoliolate leaf and 50 percent flowering stage or soybeans. At the time of treatment, horseweed must not exceed 6 inches in height.

#### **Corn:**

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

Apply a tank mixture of this product (1.5 pints per acre) plus the labeled rate of 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.

Atrazine may be included in the tank mixture to provide residual control. Refer to the atrazine product label for specific use rates and directions. It is the pesticide user's responsibility to ensure that all



products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

**In-crop (Roundup Ready Corn hybrids only):**

In-crop Roundup Ready corn, apply a tank mixture with this product (1.5 pints per acre) plus the labeled rate of Clarity or 2,4-D. Apply between corn emergence and the 5-leaf stage of growth (approximately 8 inches tall).

**ATTENTION**

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

**15.0 STORAGE AND DISPOSAL**

Do not contaminate water, food, or feed by storage or disposal.

**PESTICIDE STORAGE:** Keep container closed to prevent spills and contamination. Store above 5°F (-15°C) to keep product from crystallizing. Crystals will settle to the bottom. If allowed to crystallize, place in a warm room 68°F (20°C) for several days to redissolve and roll or shake container to mix well before using.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product that cannot be used or chemically reprocessed must be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, state or local procedures. Emptied container retains vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned, or destroyed.

**CONTAINER HANDLING:** Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying.

**Nonrefillable ≤ 5 gallons:** Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by other procedures allowed by State and local authorities.

**Nonrefillable > 5 gallons:** Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, by other procedures allowed by State and local authorities.

**For Exterior Carton:** Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available, or dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by State and local authorities.

**For Refillable Containers:** Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

## 16.0 WARRANTY DISCLAIMER

The directions for use of this product must be followed carefully. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, (1) THE GOODS DELIVERED TO YOU ARE FURNISHED AS IS BY MANUFACTURER OR SELLER, AND (2) MANUFACTURER AND SELLER MAKE NO WARRANTIES, GUARANTEES, OR REPRESENTATIONS OF ANY KIND TO BUYER OR USER, EITHER EXPRESS OR IMPLIED, OR BY USAGE OF TRADE, STATUTORY OR OTHERWISE, WITH REGARD TO THE PRODUCT SOLD, INCLUDING, BUT NOT LIMITED TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, USE, OR ELIGIBILITY OF THE PRODUCT FOR ANY PARTICULAR TRADE USAGE. UNINTENDED CONSEQUENCES, INCLUDING BUT NOT LIMITED TO INEFFECTIVENESS, CROP OR PLANT DAMAGE, OR LOSS OF YIELD, MAY RESULT BECAUSE OF SUCH FACTORS AS THE PRESENCE OR ABSENCE OF OTHER MATERIALS USED IN COMBINATION WITH THE GOODS, OR THE WEATHER, WIND, AND TEMPERATURE, OR THE MANNER OF USE OR APPLICATION, ALL OF WHICH ARE BEYOND THE CONTROL OF MANUFACTURER OR SELLER, AND ASSUMED BY BUYER OR USER. THIS WRITING CONTAINS ALL OF THE REPRESENTATIONS AND AGREEMENTS BETWEEN BUYER OR MANUFACTURER, AND SELLER, AND NO PERSON OR AGENT OF MANUFACTURER OR SELLER HAS ANY AUTHORITY TO MAKE ANY OTHER REPRESENTATION OR WARRANTY OR AGREEMENT RELATING IN ANY WAY TO THESE GOODS. NO WARRANTIES SHALL BE CREATED BY COURSE OF DEALING, USAGE OF TRADE, OR COURSE OF PERFORMANCE. THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE FACE HEREOF. THE SELLER AND MANUFACTURER ASSUME NO RESPONSIBILITY THAT THE GOODS WILL BE FIT FOR ANY PARTICULAR PURPOSE FOR WHICH YOU MAY BE BUYING OR USING THE GOODS.

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**If you do not agree with or do not accept any of directions for use, the warranty disclaimers, or limitations on liability, do not use the goods, and return it unopened to the Seller, and the purchase price will be refunded.**

*By using the goods, you expressly agree to all of the terms and conditions of this contract.*

**USES WITH OTHER PRODUCTS (TANK MIXES)** If this product is used in combination with any other product except as specifically directed in writing or on the label, then Seller or Manufacturer shall have, to the extent consistent with applicable law, no liability for any crop, plant, or other loss, damage, or injury arising out of its use in any such combination not so specifically directed.

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## Glyphosate 53.8%

Read the entire label before using this product. Use only in accordance to label directions for use.

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

### 1.0 INGREDIENTS

#### ACTIVE INGREDIENT:

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

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

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

\*Contains 648 grams per liter or 5.4 pounds per U.S. gallon of the active ingredient Glyphosate, in the form of its isopropylamine salt. Equivalent to 480 grams per liter or 4.0 pounds per U.S. gallon of the acid glyphosate.

## KEEP OUT OF REACH OF CHILDREN CAUTION

<b>FIRST AID</b>	
<b>If in Eyes:</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15–20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>2.0 IMPORTANT PHONE NUMBER</b>	
<p>Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact the National Poison Control Center at 1-800-222-1222 for emergency medical treatment information.</p>	

**See inside label booklet for DIRECTIONS FOR USE and additional PRECAUTIONARY STATEMENTS**

EPA Reg. No. 93138-  
EPA Est. No.  
Net Contents

Manufactured for  
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Plainsboro, NJ 08536

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## 2.0 PRECAUTIONARY STATEMENTS

### 2.1 HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**Caution.** Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.

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

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

**Important:** When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "applicators and other handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment break-down.

#### USER SAFETY RECOMMENDATIONS

Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing/PPE immediately if pesticide gets inside.

### 2.2 ENVIRONMENTAL HAZARDS

Do not contaminate water when cleaning equipment or disposing of equipment washwaters and rinsate. Treatment of aquatic weeds can result in oxygen depletion or loss due to decomposition of dead plants. This oxygen loss can cause fish suffocation. In case of spill or leak, soak up and remove to a landfill. For products in containers over 5 gallons. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

### 2.3 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 or allow coming in contact with oxidizing agent. Hazardous reaction may occur.

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

### 2.4 DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. This product must only be used in accordance with the Directions for Use on this label. Do not apply this product in a

way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

#### **AGRICULTURAL USE REQUIREMENTS**

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

Do not allow worker entry into treated areas during the restricted entry interval (REI) of four (4) hours or until solution has dried.

Exception: If the product is soil incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter treated area if there is no contact with anything that has been treated.

PPE required for early entry to treated areas (that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water) is: coveralls, chemical resistant gloves (made of any waterproof material) and shoes plus socks.

#### **NON-AGRICULTURAL USE REQUIREMENTS**

The requirements in this box apply to uses of the 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 unprotected persons out of treated areas until sprays have dried.

#### **2.5 SEED POTATO PRECAUTION**

Potatoes grown for seed are very sensitive to glyphosate at extremely low concentrations. Exposure of the seed potato crop can cause germination failure or deformities. Daughter tuber damage may occur at levels where mother crop symptoms are not visible. Multiple sprouting from eyes, weak and distorted stems, "little potato syndrome", cauliflower sprouts, root distortions, excessive root growth, suppressed tuber initiation and bulking, failure or delay in opening of eyes, and rotting of tubers in the field or store can result. Subsequent plantings of seed pieces from the exposed mother crop can result in delayed or no emergence or produce lower than normal yields. Glyphosate can contaminate seed potato crops through carryover residue in application equipment or drift from applying glyphosate to nearby crops. Always follow good wash-out procedures using detergents or other suitable cleaning agents to remove all residual traces of glyphosate from application equipment that may be used to apply other products to seed potato crops. To avoid contamination from spray drift, follow the directions, restrictions and precautions in the "SPRAY DRIFT MANAGEMENT" section of the label.

### **3.0 PRODUCT INFORMATION (How this Product Works)**

**Product Description:** This product is a post-emergent, systemic herbicide with no soil residual activity. It gives broad-spectrum control of many annual weeds, perennial weeds, woody brush and trees. It is formulated as a water-soluble liquid and may be applied through standard equipment after dilution and mixing with water or other carriers according to label directions.

This product requires the use of a nonionic surfactant. See the "SURFACTANTS" section of this label for further directions on the use of surfactants, and see the "MIXING" section of this label for directions regarding other additives.

**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.

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

**Stage of Weeds:** Annual weeds are easiest to control when they are small. Best control of most perennial weeds is obtained when treatment is made at late growth stages approaching maturity. See the "WEEDS CONTROLLED" section of this label for specific weed rates. Always use the higher product application rate in the range when weed growth is heavy or dense, or when weeds are growing in an undisturbed (non-cultivated) area. Reduced weed control may result from treating weeds with disease or insect damage, weeds heavily covered with dust, or weeds under poor growing conditions. For best results, spray coverage must be uniform and complete. Do not spray foliage to the point of run-off.

**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 listed 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.

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

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

**Tank Mixing:** This product does not provide residual weed control. For subsequent residual weed control, follow a label-approved herbicide program. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

To the extent consistent with applicable law, the 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 listed in this label. Mixing this product with herbicides or other materials not listed on this label may result in reduced performance.

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the most restrictive directions for use and precautionary statements of each product in the tank mix.

**Grazing Restrictions:** Use this product to treat undesirable vegetation in rights-of-way that pass through pastures, rangeland and forestry sites that are being grazed. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

There are no grazing restrictions for the following labeled applications of this product:

- Where the spray can be directed onto undesirable woody brush and trees, such as in handgun spray-to-wet or low volume directed spray treatments.
- For tree injection or frill applications and for cut stump treatments. For broadcast applications, observe the following restrictions:



- For application rates of greater than 6 but not to exceed 10 quarts per acre, do not treat more than 15 percent of the available grazing area.
- For application rates that do not exceed 6 quarts per acre, do not treat more than 25 percent of the available grazing area.
- All restrictions outlined above apply to lactating dairy animals. No other restrictions apply to lactating dairy animals.

**THESE DIRECTIONS DO NOT APPLY TO RANGELAND OUTSIDE OF RIGHTS-OF-WAY.**

**Maximum Application Rates:** The maximum application or use-rates stated throughout this label are given in units of volume (fluid ounces or quarts) of this product per acre. However, the maximum allowed application rates apply to this product combined with the use of any and all other herbicides containing the active ingredient glyphosate, whether applied separately or as tank mixtures, on a basis of total pounds of glyphosate (acid equivalents) per acre. If more than one glyphosate-containing product is applied to the same site within the same year, you must ensure that the total use of glyphosate (pounds acid equivalents) does not exceed the maximum allowed. The combined total of all treatments must not exceed 8 quarts of this product (8 pounds of glyphosate acid) per acre per year. See the “INGREDIENTS AND FRONT PANEL STATEMENTS” section of this label for necessary product information

**ATTENTION**

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

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

Do not allow the herbicide solution to mist, drip, drift or splash onto desirable vegetation since minute quantities of this product can cause severe damage or destruction to the crop, plants or other areas on which treatment was not intended. The likelihood of injury occurring from the use of this product increases when winds are gusty, as wind velocity increases, when wind direction is constantly changing or when there are other meteorological conditions that favor spray drift. When spraying, avoid combination 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.

**USE OF THIS PRODUCT IN ANY MANNER NOT CONSISTENT WITH THIS LABEL MAY RESULT IN INJURY TO PERSONS, ANIMALS OR CROPS, OR OTHER UNINTENDED CONSEQUENCES.**

**3.1 WEED RESISTANCE MANAGEMENT**

Based on the mode of action classification system of the Weed Science Society of America, Glyphosate (active ingredient) is a Group 9 herbicide. Group 9 herbicides may contain plants from any weed population that can be naturally resistant to glyphosate. These weed-resistant plants can be effectively controlled using a different Group herbicide or by using other means such as cultural or mechanical practices.

**Weed Resistance Management Recommendations**

Glyphosate resistant biotypes can be minimized by utilizing the following weed resistance management recommendations:

1. Scout your application site before and after herbicide applications.
2. Control weeds early when they are relatively small.
3. Incorporate other herbicides and cultural practices or mechanical practices as part of your weed control system where appropriate.
4. Use the labeled rate for the most difficult to control weed in the site. Avoid tank mixtures with other herbicides that reduce this product’s efficacy (through antagonism) or with tank mixtures that encourage rates of this product below those specified on this label.

5. Control weed escapes and prevent weeds from setting seeds.
6. Clean equipment before moving from site to site to minimize spread of weed seed.
7. Use new commercial seed as free of weed seed as possible.
8. Any incidence of repeated non-performance of this product on a particular weed must be reported to any company representative, your county extension agent, or to the local retailer.

### 3.2 MANAGEMENT OF GLYPHOSATE-RESISTANT BIOTYPES

**NOTE:** Appropriate testing is critical in order to confirm weed resistance to glyphosate. Contact your company representative, county extension agent, or local retailer to determine if resistance has been confirmed to any particular weed biotype in your area.

Since the occurrence of new glyphosate resistant weeds cannot be determined until after product use and scientific confirmation, to the extent consistent with applicable law, company is not responsible for any losses that may result from the failure of this product to control glyphosate-resistant weed biotypes.

The following good weed management practices are recommended to reduce the spread of confirmed glyphosate resistant biotypes:

1. If a naturally occurring resistant biotype is present at your site, this product may be tank mixed or applied sequentially with an appropriately labeled herbicide with a different mode of action to achieve control.
2. Cultural and mechanical control practices may also be used as appropriate.
3. Scout treated sites after herbicide applications and control escapes of resistant biotypes before they set seed.
4. Thoroughly clean equipment before leaving sites known to contain resistant biotypes.

**USE OF THIS PRODUCT IN ANY MANNER NOT CONSISTENT WITH THIS LABEL MAY RESULT IN INJURY TO PERSONS, ANIMALS OR CROPS, OR OTHER UNINTENDED CONSEQUENCES.**

## 4.0 MIXING

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.**

Apply these spray solutions in properly maintained and calibrated equipment capable of delivering desired volumes. Do not apply when wind or other conditions favor drift. Hand-held applications must be properly directed to avoid spraying desirable plants.

**PRECAUTION:** Reduced results may occur if water containing soil is used, such as water from ponds and unlined ditches that is not clear.

Eliminate any risk of siphoning the contents of the tank back into the carrier source while mixing. Use approved anti-back-siphoning devices where required by State or local authorities.

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

### 4.1 MIXING WITH WATER

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

**For hand-held or backpack sprayers (less than or equal to 5 gal. capacity):** Add the labeled amount of this product to the spray tank. If adding Ammonium Sulfate, pre-dissolve in water before adding. Fill the

spray tank with water and ensure thorough mixing. Alternatively, the labeled amount of this product can be mixed with water in a large container. Fill sprayer with the mixed solution.

**For larger tank sprayers (greater than 5 gal. capacity):** Fill the mixing or spray tank one-half full with water and start agitation. If adding Ammonium Sulfate, ensure that it is completely dissolved before proceeding. Add the labeled amount of this product using a circular motion while pouring. Continue filling the spray tank with water and ensure thorough mixing.

Use caution to avoid siphoning back into the carrier source. Use approved anti-back siphoning devices where required by state or local regulations. During mixing and application, foaming of the spray solution may occur. To prevent or minimize foam, avoid the use of mechanical agitators, terminate bypass and return lines at the bottom of the tank and, if needed, use an approved anti-foam or defoaming agent.

#### 4.2 TANK MIXTURES

This product does not provide residual weed control. This product can be tank-mixed with other herbicides to provide residual weed control, a broader weed control spectrum, or an alternate mode of action. Always read the label directions for all products in the tank mixture.

When this product is tank-mixed with other products, refer to these product labels for approved sites and application rates. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture. Any labeled rate of this product may be used in a tank mix.

To the extent consistent with applicable law, the 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 listed in this label. Mixing this product with herbicides or other materials not specified on this label may result in reduced performance.

This product provides control of the emerged weeds listed on this label. When applied as a tank mixture, the following herbicides will provide preemergence and/or postemergence control of the weeds listed in the individual product labels.

This product can be tank-mixed with the following products. Any labeled rate of this product can be used in a tank mixture with these products. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

#### Tank-Mix Products

2,4-D	Arsenal	Banvel
Barricade 65WG	Certainty	diuron + 2,4-D
diuron + Garlon 3A	diuron + Garlon 4	Endurance
Escort	Garlon 3A	Garlon 4
Hyvar X	Hyvar X + 2,4-D	Hyvar X + Garlon 3A
Hyvar X + Garlon 4	Karmex DF	Krovar I DF
Krovar I DF + Garlon 3A	Krovar I DF + Garlon 4	Krovar I DF + 2,4-D
Oust XP	Oust XP + 2,4-D	Oust XP + Garlon 3A
Oust XP + Garlon 4	Outrider	Pendulum 3.3EC
Pendulum WDG	Plateau	Princep DF
Princep Liquid	Ronstar	Ronstar 50 WP
Sahara	Simazine	Spike 80W
Spike 80W + 2,4-D	Spike 80W + Garlon 3A	Spike 80W + Garlon 4
Surflan	Telar	

### 4.3 TANK MIXING PROCEDURES

It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture. Add the tank-mix product to the tank as directed by the label. Maintain agitation and add the specified amount of this product. 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. Add individual formulations to the spray tank as follows: wettable powder, flowable, emulsifiable concentrate, drift control additive, water-soluble liquid, and nonionic surfactant.
4. Add remaining quantity of water and continue agitation.

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

Keep by-pass line on or near the bottom of the tank to minimize foaming. Screen size in nozzle or line strainers 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.

### 4.4 MIXING PERCENT SOLUTIONS

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

Spray Solution	AMOUNT OF PRODUCT					
	0.5%	0.75%	1.0%	1.5%	4.0%	8.0%
1 Gallon	0.7 oz.	1.0 oz.	1.3 oz.	2.0 oz.	5.0 oz.	10.0 oz.
25 Gallons	1.0 pt.	1.5 pt.	1.0 qt.	1.5 qt.	4.0 qt.	2.0 gal.
100 Gallons	2.0 qt.	3.0 qt.	1.0 gal.	1.5 gal.	4.0 gal.	8.0 gal.

2 tablespoons = 1 fluid ounce

Above percentages are on a weight-to-weight basis with water as 8.34 pounds/ gallon. For use in knapsack sprayers, direct mix the appropriate amount of product with water in a larger container. Fill sprayer with the mixed solution.

### 4.5 SURFACTANTS

This product requires the use of a nonionic surfactant. Except when prohibited by this label, mix two or more quarts of a nonionic surfactant per 100 gallons of spray solution. Increasing the rate of a surfactant may enhance performance. Examples of when to use the higher surfactant rate include, but are not limited to: high water volumes, hard to control woody brush, trees, and vines, adverse environmental conditions, tough to control weeds, weeds under stress, surfactants with less than 70 percent active ingredient, tank mixes, etc. These surfactants must not be used in excess of 1 quart per acre when making broadcast applications.

Always read and follow the surfactant manufacturer's label instructions for best results. Carefully observe all precautionary statements and other information in the surfactant label. When applied as directed under the conditions described, this product controls annual and perennial weeds listed in the label.

Do not reduce rates of this product when adding a surfactant. DO NOT add buffering agents or pH adjusting agents to the spray solution when this product is the only pesticide used. When applying this product in ROUND-UP READY® crops, limit nonionic surfactant-use to two quarts per 100 gallons of spray solution. Crop injury and reduced yield may result when use-rates of nonionic surfactants exceed two quarts per 100 gallons of spray solution.

#### **4.6 COLORANTS OR DYES**

Approved colorants or marking dyes may be added to this product. At lower labeled rates or dilutions, colorants or dyes used in spray solutions of this product may reduce performance. Use colorants or dyes according to the manufacturer's instructions.

#### **4.7 DRIFT REDUCTION ADDITIVES**

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

### **5.0 APPLICATION EQUIPMENT AND TECHNIQUES**

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

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

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

#### **SPRAY DRIFT MANAGEMENT**

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

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

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

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.

#### **5.1 AERIAL EQUIPMENT, SPRAY DRIFT MANAGEMENT, AND APPLICATION RESTRICTIONS**

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

Use the labeled rates of this herbicide in 3 to 15 gallons of water per acre unless otherwise specified on this label. Unless otherwise specified, do not exceed 1.5 pints per acre. Refer to the individual use-area sections of this label for volumes, application rates, and further directions.

**IN CALIFORNIA, DO NOT APPLY THIS PRODUCT PLUS DICAMBA AND/OR 2,4-D TANK MIXTURES BY AIR.**

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

**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 recommended 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 evaporate and wind.

## **Swath Adjustment**

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

## **Wind**

Drift potential is lowest between wind speeds of 2 to 10 miles per hour. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application must be avoided below 2 miles per hour 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).

## **Aircraft Maintenance**

**PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART.**

The maintenance of an organic coating (paint) which meets aerospace specification MIL-C-38413 may prevent corrosion. To prevent corrosion of exposed parts, thoroughly wash aircraft after each day of spraying to remove residues of this product accumulated during spraying or from spills. Landing gear is most susceptible.

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

**FOR AERIAL APPLICATIONS IN CALIFORNIA ONLY, Including Fresno County, CA**



When applied as directed under the conditions described, this product controls annual and perennial weeds and woody brush and trees listed in this product label. See the "WEEDS CONTROLLED" section of the label for specific rates.

### **Aquatic and Other Sites**

Do not spray open bodies of water where woody brush, trees, and herbaceous weeds do not exist. The maximum application rate of 7.5 pints per acre must not be exceeded in a single over-water broadcast application except as follows, where any labeled rate may be applied:

- Stream crossings in utility rights-of-way
- Where applications will result in less than 20 percent of the total water area being treated. Aerial applications of this product are allowed in the following situations:
  - Forestry sites
  - Prior to the emergence or transplanting of labeled crops
  - Aid to burning for establishment and maintenance of fuel breaks
  - Establishing fire perimeters and black lines
  - Aid to prescribed burning
  - Along fire roads

### **5.2 GROUND BROADCAST EQUIPMENT**

For broadcast ground applications, unless otherwise specified use this product at the rate of 1.5 to 3 pints per acre for annual weeds, 3 to 7.5 pints per acre for perennial weeds and 3 to 7.5 pints per acre for woody brush and trees. Use the labeled 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 listed 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.

### **5.3 HAND-HELD 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" section, apply a 0.5 percent solution of this product to weeds less than 6 inches in height or runner length. For annual weeds over 6 inches tall or unless otherwise specified, use a 1 percent solution. For best results, use a 1.5 percent solution on harder to control perennials, woody vines, brush and trees. Make applications to annuals prior to seedhead emergence in grasses or bud formation in broadleaf weeds.

For low volume directed spray applications, use a 4 to 8 percent solution of this product for control or partial control of annual weeds, perennial weeds, or woody brush and trees. Spray coverage must be uniform with at least 50 to 75 percent of the foliage contacted. Coverage of the top one half of the plant is important for best results. To ensure adequate spray coverage, spray both sides of large or tall woody brush and trees, when foliage is thick and dense, or where there are multiple sprouts. If a straight stream nozzle is used, start the application at the top of the targeted vegetation and spray from top to bottom in a lateral zig-zag motion. For flat-fan and cone nozzles and with hand-directed mist blowers, mist the application over the foliage of the targeted vegetation. To ensure adequate spray coverage, spray both sides of large or tall woody brush and trees, when foliage is thick and dense, or where there are multiple sprouts. For best results, apply to actively growing woody brush and trees after full leaf expansion and before fall color and leaf drop.

Unless otherwise specified, use the rates listed in the following "APPLICATION RATES" table for various methods of foliar application using high volume, backpack, knapsack and similar types of hand-held equipment. When used according to label directions, this product will give control or partial control of herbaceous weeds, woody brush and trees listed in the "WEEDS CONTROLLED" section of this label.

#### APPLICATION RATES

APPLICATION	AMOUNT OF PRODUCT	SPRAY VOLUME Gallons/Acre
<b>SPRAY-TO-WET</b>		
Handgun, or Backpack	0.5 to 1.5% by volume	Spray-to-wet*
<b>LOW VOLUME DIRECTED SPRAY</b>		
Backpack	4.0 to 8.0% by volume	15 to 25**
Modified High Volume	1.5 to 3.0% by volume	40 to 60**

\*For applications made on a spray-to-wet basis, spray coverage must be uniform and complete. Do not spray to the point of runoff.

\*\*Low-volume directed spray applications with backpacks work best when treating weeds and brush less than 10 feet tall. For taller weeds and brush, high volume handguns can be modified by reducing nozzle size and spray pressure to produce a low volume directed spray.

#### 5.4 SELECTIVE EQUIPMENT

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

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

**AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION, AS SERIOUS INJURY OR DEATH IS LIKELY TO OCCUR.**

Applicators used above desired 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 is likely to result in discoloration, stunting or destruction.

Better results may be obtained when more of the weed is exposed to the herbicide solution. Weeds not contacted by the herbicide solution will not be affected. This may occur in dense clumps, severe infestations or when the height of the weeds varies so that not all weeds are contacted. In these instances, repeat treatment may be necessary.

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

A shielded or hooded applicator directs the herbicide solution onto weeds, while shielding desirable vegetation from the herbicide. Use nozzles that provide uniform coverage within the treated area. Keep shields on these sprayers adjusted to protect desirable vegetation. **EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION.**

##### **Wiper Applicators and Sponge Bar**

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 miles per hour. Performance may be improved by reducing speed in areas of heavy weed infestations to ensure adequate wiper saturation. Better results may be obtained if two 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 using leftover solutions. Clean wiper parts immediately after using this product by thoroughly flushing with water.

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

**For Rope or Sponge Wick Applicators** – Prepare solutions by dissolving 33 to 75 percent of this product per gallon of water.

**For Panel Applicators and pressure-feed systems** – Prepare solutions by dissolving 33 to 100 percent of this product per gallon of water.

**NOTE:** In preparing these concentrated solutions always allow adequate time for product to dissolve. Use of warm water will shorten dissolution time.

## 5.5 INJECTION SYSTEMS

This product may be used in aerial or ground injection spray systems. This product may be injected into the spray stream after dilution and thorough mixing with water. Do not mix this product with the undiluted concentrate of other products when using injection systems unless specifically directed.

## 5.6 CDA EQUIPMENT

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

For the control of annual weeds with hand-held CDA units – Apply a 15 percent solution of this product (19.25 oz. of product per gallon) at a flow rate of 2 fluid ounces per minute and a walking speed of 1.5 miles per hour (1 quart per acre). For the control of perennial weeds, apply a 15 to 30 percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 0.75 miles per hour (2 to 4 quarts per acre).

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

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## 6.0 SITE AND USE DIRECTIONS

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This product can be used to control weeds, woody brush and trees in aquatic sites, non-agricultural crop sites, and crop sites listed on this label.

Non-agricultural crop sites include airports, commercial sites, ditch banks, dry ditches, dry canals, fence rows, forestry sites, golf courses, industrial sites, lumber yards, manufacturing sites, municipal sites, office complexes, public areas, parks, parking areas, pastures, petroleum tank farms and pumping installations,

railroads, rangeland, recreational areas, roadsides, schools, storage areas, substations, utility rights-of-way, utility sites, and warehouse areas.

Crop sites include turf, sod, and vegetable fallow.

Detailed directions follow alphabetically, by site.

Unless otherwise specified, applications may be made to control any weeds listed in the “ANNUAL WEEDS”, “PERENNIAL WEEDS”, AND “WOODY BRUSH AND TREES” rate tables. Refer also to the “SELECTIVE EQUIPMENT” section.

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## 6.1 AQUATIC SITES

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This product can be applied to emerged weeds in all bodies of fresh and brackish water which may be flowing, non-flowing, or transient. This includes lakes, rivers, streams, ponds, estuaries, rice levees, seeps, irrigation and drainage ditches, canals, reservoirs, and wastewater treatment facilities .

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

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

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

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

**Do not apply this product directly to water within 0.5 mile upstream of an active potable water intake in flowing water (i.e., river, stream, etc.) or within 0.5 mile of an active potable water intake in a standing body of water such as lake, pond or reservoir.** To make aquatic applications around and within 0.5 mile of active potable water intakes, the water intake must be turned off for a minimum period of 48 hours after the application. The water intake may be turned on prior to 48 hours if the glyphosate level in the intake water is below 0.7 parts per million as determined by laboratory analysis. These aquatic applications must be made ONLY in those cases where there are alternative water sources or holding ponds which would permit the turning off of an active potable water intake for a minimum period of 48 hours after the applications. This restriction does NOT apply to intermittent inadvertent overspray of water in terrestrial use sites.

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

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

Applications made to moving bodies of water must be made while traveling upstream to prevent concentration of this herbicide in water. When making any bankside applications, do not overlap more than 1 foot into open water. Do not spray in bodies of water where weeds do not exist. The maximum application rate of 7.5 pints per acre must not be exceeded in any single broadcast application that is being made over water except as follows, where any labeled rate may be applied:

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

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

### **For Control of Cordgrass (*Spartina spp.*)**

The presence of debris and silt on the surface of cordgrass plants will reduce product performance. It may be necessary to wash targeted plants prior to application to improve herbicide uptake. Where cordgrass has been cut or mowed prior to application, allow significant regrowth before application to ensure adequate interception and uptake of the herbicide solution. Rainfall within 2 hours or immersion within 4 hours after application may reduce effectiveness.

Prior to application, survey the areas to be treated to determine if shellfish beds exist within the intended treatment area. Wait either until shellfish have been harvested before application is made or do not harvest shellfish for 14 days following treatment.

Add 1 to 2 quarts or more of a nonionic surfactant or other adjuvant approved for use on aquatic sites and compatible with this product per 100 gallons of spray solution for broadcast applications (ground or air) and when using optical sensing application equipment.

Do not apply this product through any type of irrigation system

### **APPLICATION**

Under ideal application conditions, that is, where silt and debris are not present on plant surfaces, good spray coverage is achievable, target plants are actively growing and labeled rates and application volumes are used, allow at least 4 hours drying time before plants are covered by tidewater. Where one or more of these conditions are not met, schedule applications to allow at least 5 hours drying time before plants are covered by tidewater. Do not apply when wind speed at the application site exceeds 10 miles per hour.

**Broadcast Application (Ground):** Apply 2 to 8 quarts of this herbicide in 5 to 100 gallons of spray solution per acre. For best results, complete coverage of cordgrass clumps is required.

**Broadcast Application (Ground/Optical Sensing Application Equipment):** Apply 2 to 8 quarts of this product in 5 to 100 gallons of spray solution per acre using equipment designed and calibrated to deliver spray solution only when cordgrass plants are present and detected by optical sensors. For best results, complete coverage of cordgrass clumps is required.

**Hand-Held Backpack or High-volume Equipment:** Apply a 5 to 8 percent solution of this product. Ensure that complete coverage of cordgrass clumps is achieved. Do not spray to the point of runoff.

**Broadcast Application (Air):** Apply 2 to 8 quarts of this product in 5 to 10 gallons of spray solution per acre. Maintain at least a 50-foot buffer between commercial shellfish beds and treated areas. The potential for spray drift is dependent upon weather- and equipment-related factors. The applicator must be familiar with local wind patterns and monitor and record temperature and wind speed prior to and periodically during application. Schedule application in order to allow at least 5 hours before treated plants are covered by tidewater.

### **For Foliar and Broadcast Treatment of Japanese Knotweed**

For control of Japanese knotweed (*Polygonum cuspidatum*), apply this product as a 2.0% v/v spray-to-wet solution with 0.5 to 2.0% v/v of a nonionic surfactant containing at least 70 percent active ingredient. Ensure thorough coverage when using spray-to-wet treatments using hand-held equipment.

For broadcast applications, apply 3 quarts of this product with an aquatic approved surfactant system containing 0.1% v/v nonionic organosilicone and 0.25% v/v nonionic spreader sticker surfactant in 3 to 40 gallons per acre as a broadcast treatment.

Allow at least 3 days after application before disturbing treated vegetation. This product does not control plants which are completely submerged or have a majority of their foliage under water.

#### **For Foliar and Broadcast Treatment of Oriental Bittersweet**

For control of Oriental bittersweet (*Celastrus orbiculatus*), apply this product as a 2.0% v/v spray-to-wet solution with 0.5 to 2.0% v/v of a nonionic surfactant containing at least 70 percent active ingredient. Ensure thorough coverage when using spray-to-wet treatments using hand-held equipment.

For broadcast application, apply 2.25 quarts of this product with an aquatic approved surfactant system containing 0.1% v/v nonionic organosilicone and 0.25% v/v nonionic spreader sticker surfactant in 3 to 40 gallons per acre as a broadcast treatment.

Allow at least 3 days after application before disturbing treated vegetation. This product does not control plants which are completely submerged or have a majority of their foliage under water.

**TANK MIXTURES:** Tank mixtures of this product plus 2,4-D amine may be used to increase the spectrum of vegetation controlled in aquatic sites. Use 1.5 to 2 pints of this product plus the labeled rate of 2,4-D amine labeled for aquatic sites for control of annual weeds. Use 3 to 7.5 pints of this product plus the labeled rate of 2,4-D amine labeled for aquatic sites for control or partial control of perennial weeds, woody brush and trees. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture. Mix in the following sequence: Fill sprayer tank one-half full with water, add this product, then 2,4-D amine, and finally a surfactant. Fill sprayer tank to final volume of water.

**RESTRICTION:** DO NOT MIX THIS PRODUCT AND 2,4-D AMINE CONCENTRATES WITHOUT WATER CARRIER. DO NOT MIX THIS PRODUCT AND 2,4-D AMINE IN BYPASS INJECTOR-TYPE SPRAY EQUIPMENT.

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### **6.2 CUT STUMP**

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Cut stump treatments may be made on any site listed on this label. This product will control many types of woody brush and tree species. 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 per gallon of water 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.

**For control of *Ailanthus altissima* (Tree-of-heaven):** make a cut stump treatment according to the directions in this section using a spray mixture of 50% of this product and 10% Arsenal.

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



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### 6.3 CONIFER AND HERBACEOUS RELEASE SITES

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This product can be used for conifer release as a broadcast spray for control, partial control or suppression of herbaceous weeds and hardwoods listed in the WEEDS CONTROLLED section of this label. Use only where conifers have been established for more than one year unless otherwise stated below. This product can be applied as a directed spray or by using selective equipment in forestry hardwood and conifer sites, including Christmas tree plantations, and silvicultural nurseries.

Use a nonionic surfactant that is labeled for use in over-the-top conifer release applications. Refer to the surfactant manufacturer's label for surfactant use rates and other precautionary statements. Use of this product without a surfactant will result in reduced herbicide performance.

APPLICATION MUST BE MADE AFTER FORMATION OF FINAL CONIFER RESTING BUDS IN THE FALL OR PRIOR TO INITIAL BUD SWELLING IN THE SPRING.

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

**For release of the following conifer species outside the Southeastern United States:** Douglas fir, Fir, Hemlock, Pines (all pine species except loblolly pine, longleaf pine, shortleaf pine or slash pine), California Redwood, Spruce

Use 1.5 to 3 pints of this product per acre as a broadcast spray.

To release Douglas fir, and pine and spruce species at the end of the first growing season (**except in California**), use this product at the lower labeled rates of 1.5 to 2.5 pints per acre. Ensure that the conifers are well hardened off before application. Make sure that the nonionic surfactant has been adequately tested for safety to Douglas fir before use.

For release of Spruce (*Picea spp.*) in Maine, Michigan, Minnesota, New Hampshire and Wisconsin, use up to 4.5 pints per acre of this product for the control of difficult woody brush and tree species and application must be made after formation of final conifer resting buds in the fall.

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

**For release of the following conifer species in the Southeastern United States:** Loblolly pine, Slash pine, Eastern white pine, Virginia pine, Shortleaf pine, Longleaf pine

Apply 2.25 to 3.75 pints of this product per acre as a broadcast spray during late summer or early fall after the pines have hardened off.

For applications made at the end of the first growing season, use 1.5 pints per acre of this product.

**TANK MIXTURES:** This product can be tank-mixed with the following products for conifer or herbaceous release. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

When applied as directed, this product plus listed residual herbicides provide postemergence control of the annual weeds and control or suppression of the perennial weeds listed in this label, and residual control of the weeds listed in the residual herbicide label. Use only on conifer species that are labeled for over-the top sprays for both products.



Atrazine  
Arsenal Applicator Concentrate  
Oust XP

### Late Summer and Fall after Resting Bud Formation

For release of jack pine, white pine and white spruce, apply 1.5 to 3 pints of this product plus the labeled rate of Oust XP per acre. For white pine tank mix a maximum of the labeled rate of Oust XP per acre.

For conifer release of Douglas fir, use 1.5 to 2.25 pints of this product plus of the labeled rate of Arsenal Applicator Concentrate per acre. For conifer release of balsam fir and red spruce, apply 3 pints of this product plus the labeled rate of Arsenal Applicator Concentrate per acre.

### Herbaceous Release

For spring and early summer herbaceous release of loblolly pine, Virginia and longleaf pine apply 12 to 18 fluid ounces of this product with the labeled rate of Oust XP.

For early spring release of Douglas fir, prior to bud swell, apply 1.5 pints of this product plus the labeled rate of atrazine per acre. Allow one full growing season before application. Do not add surfactant to this treatment.

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## 6.4 FORESTRY SITE PREPARATION

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Use this product for the control or partial control of woody brush, trees and herbaceous weeds in forestry. This product can also be used in preparing or establishing wildlife openings within these sites and maintaining logging roads.

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

For applications using different types of equipment, see “APPLICATION RATES” table in “HAND-HELD EQUIPMENT” section of this label.

TANK MIXTURES: Tank mixtures of this product may be used to increase the spectrum of vegetation controlled. It is the pesticide user’s responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

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

Use any labeled rate of this product in a tank-mix with the following products for forestry site preparation:

Arsenal Applicator Concentrate	Garlon 3A
Chopper	Garlon 4
Chopper GEN2	Oust XP
Escort	

For control of herbaceous weeds, use the lower labeled tank mixture rate for the tank mix products listed. For control of dense stands or tough-to-control woody brush and trees, use the higher labeled rate for the tank mix products listed.

**Unless otherwise directed, do not apply this product as an over-the-top broadcast spray for forestry conifer or hardwood release.**

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## 6.5 NON-CROP AREAS AND INDUSTRIAL SITES

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Use in areas including airports, commercial sites, ditch banks, dry ditches, dry canals, fencerows, forestry sites, golf courses, industrial sites, lumber yards, manufacturing sites, office complexes, parks, parking areas, petroleum tank farms and pumping installations, railroads, recreational areas, roadsides, sod or turf seed farms, schools, storage areas, substations, utility sites, warehouse areas, and other public areas.

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

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

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

**TANK MIXTURES:** This product may be tank mixed with the following products. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Arsenal	atrazine*
Barricade 65WG	Certainty
Crossbow L	dicamba*
diuron*	Endurance
Escort XP	Gallery 75DF
Garlon	Garlon 3A**
Garlon 4	Goal 2XL
Krovar DF	Krenite
Landmark II MP	Landmark II

Outrider	Oust XP
pendimethalin*	Plateau
Poast	Ronstar 50 WP
Sahara DG	simazine*
Surflan AS	Surflan WDG
Telar DF	Transline
Vanquish	Velpar DF
Velpar L	2,4-D*

\*Tank mixtures with products containing this generic active ingredient can be made provided the specific product is registered for this use. User is responsible for ensuring the mixture allows the specific application.

\*\*Ensure that Garlon 3A is thoroughly mixed with water according to label directions before adding this product. Have spray mixture agitating at the time this product is added to avoid spray compatibility problems.

**IN CALIFORNIA, DO NOT APPLY THIS PRODUCT PLUS DICAMBA AND/OR 2,4-D TANK MIXTURES BY AIR.**

### Brush Control Tank Mixtures

**TANK MIXTURES:** Tank mixtures of this product may be used to increase the spectrum of control for herbaceous weeds, woody brush and trees. When tank mixing, read and carefully observe the label

claims, restrictions, precautionary statements and all information on the labels of all products used. Use according to the most restrictive precautionary statements for each product in the mixture. Any labeled rate of this product may be used in a tank mix.

For control of herbaceous weeds, use the lower labeled tank mixture rate for the tank mix products listed. For control of dense stands or tough-to-control woody brush and trees, use the higher labeled rate for the tank mix products listed.

**NOTE:** For side trimming treatments, use this product alone or in tank mixture with Garlon 4.

Arsenal
Escort XP
Garlon 3A*
Garlon 4

\*Ensure that Garlon 3A is thoroughly mixed with water according to label directions before adding this product. Have spray mixture agitating at the time this product is added to avoid spray compatibility problems.

### **Chemical Mowing – Perennials**

This product will suppress perennial grasses listed in this section to serve as a substitute for mowing. Use 6 ounces of this product per acre when treating tall fescue, fine fescue, orchardgrass, quackgrass or reed canarygrass covers. Use 5 ounces of this product per acre when treating Kentucky bluegrass. Apply treatments in 10 to 40 gallons of spray solution per acre. Apply after grasses have greened up to at least 75 percent green color in the spring, or 8 to 10 days after mowing when sufficient regrowth has occurred to provide a desirable height for growth regulation.

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, including annual ryegrass, wild barley and wild oats growing in coarse turf on roadsides or other industrial areas, apply 3 to 4 ounces of this product in 10 to 40 gallons of spray solution per acre. Applications must be made when annual grasses are actively growing and before the seedheads are in the boot stage of development. Treatments may cause injury to the desired grasses.

### **Dormant Turfgrass**

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

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

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

### **Actively Growing Bermudagrass**

Use this product to control or partially control many annual and perennial weeds for effective release of actively growing Bermudagrass.

Restriction: DO NOT apply more than 12 ounces of this product per acre in highly maintained turfgrass areas. DO NOT apply tank mixtures of this product plus Oust XP or Outrider in highly maintained turfgrass areas. For further uses, refer to the "ROADSIDES" section of this label, which gives rates for actively growing Bermudagrass treatments. Use only in areas where some temporary injury or discoloration can be tolerated.

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

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

Do not disturb soil or underground plant parts before treatment. Tillage or renovation techniques such as vertical mowing, coring or slicing must be delayed for 7 days after application to allow translocation into underground plant parts.

Desirable turfgrasses may be planted following the above procedures.

Use hand-held equipment for spot treatment of unwanted vegetation growing in existing turfgrass. Use broadcast or hand-held equipment to control sod remnants or other unwanted vegetation after sod is harvested.

Grazing and PREHARVEST INTERVAL (PHI)-Do not feed or graze turfgrass grown for seed or sod production for 8 weeks following application.

### **Wiper Applications**

This product can be used through wick or other suitable wiper applications to control or partially control undesirable vegetation around established eucalyptus or poplar trees. See the "SELECTIVE EQUIPMENT" section of this label for further information about the proper use of wiper applicators.

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## **6.6 HOLLOW STEM INJECTION**

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Apply this product through hand-held injection devices that deliver specified amounts of this product into targeted hollow-stem plants growing in any aquatic or non-crop site specified on this label. For control of the following hollow-stem plants, follow the directions below:

### **Castorbean (*Ricinus communis*)**

Inject 4 mL per plant of this product into the lower portion of the main stem.

### **Hemlock, Poison (*Conium maculatum*)**

Inject one leaf cane per plant 10 to 12 inches above root crown with 5 mL of a 5% v/v solution of this product.

### **Hogweed, Giant (*Heracleum mantegazzianum*)**

Inject one leaf cane per plant 12 inches above root crown with 5 mL of a 5% v/v solution of this product.

### **Horsetail, Field (*Equisetum arvense*)**

Inject one segment above the root crown with 0.5 mL per stem of this product. Use a small syringe that calibrates to this rate.

### **Iris, Yellow Flag (*Iris pseudocorus*)**

Cut flower stems with clippers 8 to 9 inches above the root crown. Use a cavity needle that is pushed

into the stem center and then slowly removed as 0.5 mL per stem of this product is injected into the stem.

**Knotweed, Bohemian (*Polygonum bohemicum*), Knotweed, Giant (*Polygonum sachalinense*), and Knotweed, Japanese (*Polygonum cuspidatum*)**

Inject 5 mL per stem of this product into the second or third internode.

**Reed, Common (*Phragmites australis*)**

Inject 5 mL per stem of a 50% solution of this product into the second or third internode or into freshly cut stems.

**Reed, Giant (*Arundo donax*)**

Inject 6 mL per stem of this product into the second or third internode.

**Thistle, Canada (*Cirsium arvense*)**

Cut 8 to 9 of the tallest plants at bud stage in a clump with clippers. Use a cavity needle that is pushed into the stem center and then slowly removed as 0.5 mL per stem of this product is injected into the stem.

**RESTRICTION:** Based on the maximum annual use-rate of glyphosate for these non-crop sites, the combined total for all treatments must not exceed 8 quarts of this product per acre.

**NOTE:** At 5 mL per stem, 8 quarts should treat approximately 1500 stems.

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## 6.7 INJECTION AND FRILL (WOODY BUSH AND TREES)

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This product can be used to control woody brush and trees by injection or frill applications. Apply using suitable equipment that must penetrate into the living tissue. Apply the equivalent of 1mL of this product per each 2 to 3 inches of trunk diameter at breast height (DBH). This is best achieved by applying a 50- to 100-percent concentration of this product either to a continuous frill around the tree or as cuts evenly spaced around the tree below all branches. As tree diameter increases in size, better results are achieved by applying diluted material to a continuous frill or more closely spaced cuttings. Avoid application techniques that allow runoff to occur from frilled or cut areas in species that exude sap freely. In species such as this, make the frill or cuts at an oblique angle to produce a cupping effect and use a 100-percent (undiluted) concentration of this product. For best results, application must be made during periods of active growth and after full leaf expansion.

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## 6.8 CHRISTMAS TREES

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**Post-directed, Trim-and-edge**

Use this product as a post-directed spray around established Christmas tree species, including fir, Douglas fir, pine, and spruce.

Protect desirable plants from the spray solution by using shields or coverings made of cardboard or other impermeable material. THIS PRODUCT IS NOT FOR USE AS AN OVER-THE-TOP BROADCAST SPRAY IN CHRISTMAS TREES. DO NOT ALLOW SPRAY, DRIFT OR MIST TO COME IN CONTACT WITH FOLIAGE OR GREEN BARK OF ESTABLISHED ORNAMENTAL SPECIES.

**Site Preparation**

Use this product prior to planting Christmas tree species.

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## 6.9 PARKS AND RECREATIONAL AREAS

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All of the directions in the "NON-CROP AREAS AND INDUSTRIAL SITES" section apply to park and recreational areas.

This product may be used in parks and recreational areas. It may be applied with any application equipment described in this label to trim-and-edge around trees, fences, paths, around buildings, sidewalks, and other objects in these areas. This product may be used for spot treatment of unwanted vegetation and to eliminate unwanted weeds growing in established shrub beds or ornamental plants. 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.

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## 6.10 RAILROADS

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All of the directions in the “NON-CROP AREAS AND INDUSTRIAL SITES” section apply to railroads. Bare Ground, Ballast and Shoulders, Crossings, Spot Treatment

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

**TANK MIXTURES:** It is the pesticide user’s responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture. This product may be tank mixed with the following products for ballast, shoulder, spot, bare ground and crossing treatments, provided that the specific product is registered for use on such sites:

Arsenal	atrazine*
dicamba*	Escort XP
Garlon 3A**	Garlon 4
Hyvar X	Hyvar XL
Krovar DF	Oust XP
Outrider	Sahara DG
simazine*	Spike 80 DF
Telar DF	Transline
Velpar DF	Velpar L
2,4-D*	

\*Tank mixtures with products containing this generic active ingredient can be made provided the specific product is registered for this use. User is responsible for ensuring the mixture allows the specific application.

\*\*Ensure that Garlon 3A is thoroughly mixed with water according to label directions before adding this product. Have spray mixture agitating at the time this product is added to avoid spray compatibility problems.

### 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. Apply up to 80 gallons of spray solution per acre. Apply a 0.75 to 1.5 percent solution of this product when using low volume directed sprays for spot treatment.

**TANK MIXTURES:** This product may be mixed with the following products for enhanced control of woody brush and trees provided that the specific product is registered for use on such sites:

Arsenal	Escort XP
Garlon 3A	Garlon 4
Krenite	Telar DF
Tordon K	Tordon 22 K
Transline	Vanquish
Velpar DF	Velpar L

Additional directions are located in the “NON-CROP AREAS AND INDUSTRIAL SITES” section under **Brush Control Tank Mixtures**.

### **Bermudagrass Release**

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

Bahiagrass	Johnsongrass
Bluestem, silver	Trumpetcreeper
Fescue, tall	Vaseygrass

**TANK MIXTURES:** This product may be tank-mixed with Oust XP. If tank-mixed, use no more than 12 to 36 ounces of this product with the labeled rate of Oust XP per acre. Use the lower labeled 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 XP label. Use the higher labeled rates as annual weeds increase in size and approach the flower or seedhead stages. It is the pesticide user’s responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture. These rates will also provide partial control of the following perennial weeds:

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

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



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## 6.11 ROADSIDES

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All of the directions in the “NON-CROP AREAS AND INDUSTRIAL SITES” section apply to roadsides.

### Shoulder Treatments

Use this product on road shoulders. Apply it with boom sprayers, shielded boom sprayers, high-volume off-center nozzles, hand-held equipment, and similar equipment.

### Guardrails and Other Obstacles to Mowing

Use this product to control weeds growing under guardrails and around signposts and other objects along the roadside.

### Spot Treatment

Use this product as a spot treatment to control unwanted vegetation growing along roadsides.

TANK MIXTURES: This product may be tank-mixed with the following products for shoulder, guardrail, spot and bare ground treatments, provided that the specific tank mixture product is registered for use on such sites. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

atrazine*	Crossbow L
dicamba*	diuron*
Endurance	Escort XP
Gallery 75DF	Krovar DF
Landmark II MP	Landmark II
Landmark XP	Oust XP
Outrider	Pendimethalin*
Plateau	Plateau DG
Poast	Ronstar 50 WSP
Sahara DG	simazine*
Surflan AS	Surflan WDG
Telar DF	Velpar DF
Velpar L	2,4-D

\*Tank mixtures with products containing this generic active ingredient can be made provided the specific product is registered for this use. User is responsible for ensuring the mixture allows the specific application.

See the “NON-CROP AREAS AND INDUSTRIAL SITES” section of this label for directions for tank mixing.

### Release of Bermudagrass or Bahiagrass

#### Dormant Applications

Use this product 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 Outrider or Oust XP for residual control. Tank mixtures of this product with Oust XP may delay greenup. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

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 to 48 ounces of this product per acre alone or in a tank mixture with the labeled rate of Outrider. Apply the labeled 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 green-up and minimize injury, add no more than 1.0 ounce of Oust XP per acre on Bermudagrass and no more than 1/2 ounce of Oust XP per acre on bahiagrass and avoid treatments when these grasses are in a semi-dormant condition.

### Actively Growing Bermudagrass

Use this product to control or partially control many annual and perennial weeds for effective release of actively growing Bermudagrass. Apply 12 to 36 ounces of this product in 10 to 40 gallons of spray solution per acre. Use the lower labeled rate when treating annual weeds below 6 inches in height (or runner length). Use the higher labeled 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 Outrider for control or partial control of Johnsongrass and other weeds listed in the Outrider label. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Use 6 to 24 ounces of this product with the labeled rate of Outrider. Use the higher labeled rates of both products for control of perennial weeds or annual weeds greater than 6 inches in height. This product can be tank-mixed with Oust XP. If tank-mixed, use no more than 12 to 24 ounces of this product with the labeled rate of Oust XP per acre. Use the lower labeled 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 XP label. Use the higher labeled rates as annual weeds increase in size and approach the flower or seedhead stages. These rates will also provide partial control of the following perennial weeds:

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

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

## Actively Growing Bahiagrass

For suppression of vegetative growth and seedhead inhibition of bahiagrass for approximately 45 days, apply 4 ounces of this product in 10 to 40 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 ounces of this product per acre, followed by an application of 2 to 3 ounces per acre about 45 days later. Make no more than 2 applications per year.

Use this product for control or partial control of Johnsongrass and other weeds listed on the Outrider label in actively growing bahiagrass. Apply 1.5 to 3.5 fluid ounces of this product plus the labeled rate of Outrider per acre. Use the higher labeled rates for control of perennial weeds or annual weeds greater than 6 inches in height. Use only on well-established bahiagrass.

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

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## 6.12 UTILITY SITES

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In utilities, this product is for use along electrical power, pipeline and telephone rights-of-way, and in other sites associated with these rights-of-way, including substations, roadsides, railroads or similar rights-of-way that run in conjunction with utilities. Use in preparing or establishing wildlife openings within these sites, maintaining access roads and for side trimming along utility rights-of-way.

**TANK MIXTURES:** Tank mixtures of this product may be used to increase the spectrum of control for herbaceous weeds, woody brush and trees. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

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

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

Arsenal	atrazine*
Barricade 65WG	Certainty
Crossbow L	dicamba*
diuron*	Endurance
Escort XP	Gallery 75DF
Garlon	Garlon 3A**
Garlon 4	Goal 2XL
Krovar DF	Krenite
Landmark II MP	Landmark II
Outrider	Oust XP
pendimethalin*	Plateau
Poast	Ronstar 50 WP
Sahara DG	simazine*

Surflan AS	Surflan WDG
Telar DF	Transline
Vanquish	Velpar DF
Velpar L	2,4-D*

**NOTE:** For side trimming treatments, use this product alone or in tank mixture with Garlon 4.

\*Tank mixtures with products containing this generic active ingredient can be made provided the specific product is registered for this use. User is responsible for ensuring the mixture allows the specific application.

\*\*Ensure that Garlon 3A is thoroughly mixed with water according to label directions before adding this product. Have spray mixture agitating at the time this product is added to avoid spray compatibility problems.

### **Bare Ground and Trim-and-edge**

This product may be used in utility sites and substations for bare ground, trim-and-edge around objects, spot treatment of unwanted vegetation and to eliminate unwanted weeds growing in established shrub beds or ornamental plants. This product may be used prior to planting a utility site to ornamentals, flowers, turfgrass (sod or seed), or beginning construction projects. Repeated applications of this product may be used, as weeds emerge, to maintain bare ground.

TANK MIXTURES: Tank-mix with the following products. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Arsenal	atrazine*
Barricade 65WG	Certainty
Crossbow L	dicamba*
diuron*	Endurance
Escort XP	Gallery 75DF
Garlon	Garlon 3A**
Garlon 4	Goal 2XL
Krovar DF	Krenite
Landmark II MP	Landmark II
Outrider	Oust XP
pendimethalin*	Plateau
Poast	Ronstar 50 WP
Sahara DG	simazine*
Surflan AS	Surflan WDG
Telar DF	Transline
Vanquish	Velpar DF
Velpar L	2,4-D*

\*Tank mixtures with products containing this generic active ingredient can be made provided the specific product is registered for this use. User is responsible for ensuring the mixture allows the specific application.

**\*\*Ensure that Garlon 3A is thoroughly mixed with water according to label directions before adding this product. Have spray mixture agitating at the time this product is added to avoid spray compatibility problems.**

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## 7.0 PASTURES AND RANGELANDS

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### 7.1 PASTURES

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LABELED GRASSES: Bahiagrass, Bermudagrass, Bluegrass, Brome, Fescue, Guineagrass, Kikuyugrass, Orchardgrass, Pangola grass, Ryegrass, Timothy, Wheatgrass.

#### **Preplant, Preemergence, Pasture Renovation**

This product can be applied prior to planting or emergence of forage grasses. In addition, this product can be used to control perennial pasture species listed on this label prior to re-planting.

If application rates total 4.5 pints per acre or less, no waiting period between treatment and feeding or livestock grazing is required. If the rate is greater than 4.5 pints per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

#### **Spot Treatment, Over-the-Top Wiper Applications**

This product can 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 4.5 pints per acre or less, the entire field or any portion of it may be treated. When spot treatments or wiper applications are made using rates above 4.5 pints per acre, do not apply to more than 10 percent of the total pasture at any one time. To achieve maximum performance, remove domestic livestock before application and wait 7 days after application before grazing livestock or harvesting.

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

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

Some stunting of perennial grasses will occur if broadcast applications are made when plants are not dormant. No waiting period is required between application and grazing or harvesting for feed. Use of higher application rates will cause stand reductions. Do not apply more than 4.5 pints per acre per year onto pasture grasses except for renovation uses. If replanting is needed due to severe stand reduction, applications must be made at least 30 days prior to planting any grass not listed for treatment in this label.

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### 7.2 RANGELANDS

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Postemergence application of this product will control or suppress many annual weeds growing in perennial cool- and warm-season grass rangelands.

Preventing viable seed production is key to the successful control and invasion of annual grassy weeds in rangelands. Follow-up applications in sequential years should eliminate most of the viable seeds.

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

Apply 9 to 12 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 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, where spring moisture is usually limited and fall germination allows for good weed growth.

For medusahead, apply 12 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 slowly decaying culms prior to application. Allow new growth to occur before spraying after a burn. Repeat applications in subsequent years may be necessary to eliminate the seedbank before reestablishing desirable perennial grasses in medusahead-dominated rangelands.

Slight discoloration of the desirable grasses may occur, but they will regreen and regrow under moist soil conditions as effects of this product wear off. Do not use ammonium sulfate when spraying rangeland grasses with this product. No waiting period between treatment and feeding of livestock grazing is required.

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## **8.0 CROP USES**

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### **8.1 CHEMICAL FALLOW TREATMENTS**

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Apply this product during fallow intervals preceding planting, prior to planting or transplanting, at-planting, or preemergent to vegetable crops.

When applying this product prior to transplanting or direct-seeding vegetable 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. Ensure that the washwater flushes off the plastic mulch and does not enter the transplant holes. Applications made at emergence will result in injury or death to emerged seedlings.

Avoid contact of herbicide with foliage, shoots or stems, green bark, exposed roots (including those emerging from plastic mulch), or fruit of crops because severe injury or destruction may result. Post-harvest or fallow applications must be made at least 30 days prior to planting any non-labeled crop.

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### **8.2 SOD OR COMMERCIAL SOD PRODUCTION**

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

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, including Bermudagrass, summer or fall applications provide best control. Use broadcast equipment to control sod remnants or other unwanted vegetation after sod is harvested.

Do not disturb soil or underground plant parts before treatment. Delay tillage or renovation techniques such as vertical mowing, coring or slicing for 7 days after application to allow proper translocation into underground plant parts. If application rates total 72 fluid ounces per acre or less, no waiting period between treatment and feeding or livestock grazing is required. If the rate is greater than 4.5 pints per acre, remove domestic

livestock before application and wait 8 weeks after application before grazing or harvesting. For any crop not listed for treatment in this label, applications must be made at least 30 days prior to planting. Applications must be made prior to the emergence of the crop to avoid crop injury.

### **Shielded Sprayers**

Apply 1.5 to 4.5 pints of this product in 10 to 20 gallons of water per acre to control weeds between grass seed rows. Uniform planting in straight rows aids in shielded sprayer applications. Best results are obtained when the grass seed crop is small enough to easily pass by the protective shields. For additional directions, see “Shielded and Hooded Applicators” in the “SELECTIVE EQUIPMENT” section.

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

### **Over-the-Top Wiper Applications**

Adjust applicators 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 directions, see “Wiper Applicators and Sponge Bar” in the “SELECTIVE EQUIPMENT” section.

**Contact of the herbicide solution with desirable vegetation can result in damage or destruction. To the extent consistent with applicable law, such damage shall be the sole responsibility of the applicator.**

### **Spot Treatment**

Apply this product as a 1.0-percent solution prior to heading of grasses grown for seed. The crop receiving the spray in the treated area will be killed. Take care to avoid drift or spray outside the target area for the same reason. Use hand-held equipment to control sod remnants or other unwanted vegetation after sod is harvested.

### **Creating Rows in Annual Ryegrass**

Use 12 to 24 fluid ounces of this product per acre. Use the higher labeled 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.

Set nozzle heights to allow the establishment of the desired row spacing while preventing spray droplets, fine sprays, 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.**

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## **9.0 USES AROUND THE FARMSTEAD**

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### **9.1 WEED CONTROL AND TRIM-AND-EDGE**

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Use this product 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.



This product may be tank-mixed with the following products. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture. For annual weeds, use 1.5 pints per acre of this product when weeds are less than 6 inches tall, 2.25 pints per acre when weeds are 6 to 12 inches tall and 3 pints per acre when weeds are greater than 12 inches tall. For perennial weeds, apply 3 to 7.5 pints per acre in these tank mixes. For tank mixtures with these products through backpack sprayers, handguns or other high-volume spray-to-wet applications, see the "ANNUAL WEEDS" rate section of this label for labeled 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 XP	Vanquish
Pendulum 3.3 EC	2,4-D
Pendulum WDG	

**IN CALIFORNIA, DO NOT APPLY THIS PRODUCT PLUS DICAMBA AND/OR 2,4-D TANK MIXTURES BY AIR.**

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### 9.2 CHEMICAL MOWING

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

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

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### 10.0 WEEDS CONTROLLED

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Always use the higher labeled rate of this product per acre within the listed range when weed growth is heavy or dense or weeds are growing in an undisturbed (noncultivated) area. Reduced results may occur when treating weeds heavily covered with dust. For weeds that have been mowed, grazed or cut, allow regrowth to occur prior to treatment.

Refer to the following label sections for application rates for the control of annual and perennial weeds and woody brush and trees. For difficult to control perennial weeds and woody brush and trees, where plants are growing under stressed conditions, or where infestations are dense, use this product at 4.5 to 8 quarts per acre for enhanced results.

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### 10.1 ANNUAL WEEDS

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Apply to actively growing annual grasses and broadleaf weeds. Allow at least 3 days after application before disturbing treated vegetation. After this period, weeds may be mowed, tilled, or burned. Use 1.5 pints per acre if

weeds are less than 6 inches in height or runner length and 1 to 4 quarts per acre if weeds are over 6 inches in height or runner length or when weeds are growing under stressed conditions.

For spray-to-wet applications, apply a 0.5 percent solution of this product to weeds less than 6 inches in height or runner length. Apply prior to seedhead emergence in grass or bud formation in broadleaf weeds. For annual weeds over 6 inches tall, or for smaller weeds growing under stressed conditions, use a 0.75 to 1.5 percent solution. Use the higher labeled rate for tough-to-control species or for weeds over 24 inches tall.

### WEED SPECIES

Annoda, spurred	Mannagrass, eastern*
Balsamapple**	Mayweed
Barley*	Medusahead*
Barley, little*	Morningglory ( <i>Ipomoea</i> spp.)
Barnyardgrass*	Mustard, blue*
Bassia, fivehook	Mustard, tansy*
Bittercress*	Mustard, tumble*
Black nightshade*	Mustard, wild*
Bluegrass, annual*	Nightshade, black*
Bluegrass, bulbous*	Oats
Brome, downy*	Panicum, browntop*
Brome, Japanese*	Panicum, fall*
Browntop panicum*	Panicum, Texas*
Broomsedge	Pennycress, field*
Buttercup*	Pepperweed, Virginia*
Carolina foxtail*	Pigweed*
Carolina geranium	Plains/Tickseed coreopsis*
Castor bean	Prickly lettuce*
Cheatgrass*	Puncturevine
Cheeseweed ( <i>Malva parviflora</i> )	Purslane, common
Chervil*	Ragweed, common*
Chickweed*	Ragweed, giant
Cocklebur*	Red rice
Copperleaf, hophornbeam	Rocket, London*
Corn*	Rocket, Yellow Rye*
Corn speedwell*	Russian thistle
Crabgrass*	Rye*
Cupgrass, woolly*	Ryegrass*
Dwarf dandelion*	Sandbur, field*
Eastern mannagrass*	Sesbania, hemp
Eclipta*	Shattercane*
Fall panicum*	Shepherd's-purse*
Falsedandelion*	Sicklepod
Falseflax, smallseed*	Signalgrass, broadleaf*
Fiddleneck	Smartweed, ladysthumb*
Field pennycress*	Smartweed, Pennsylvania*

## WEED SPECIES

Filaree	Sorghum, grain (milo)*
Fleabane, annual*	Sowthistle, annual
Fleabane, hairy ( <i>Conyza bonariensis</i> )*	Spanishneedles***
Fleabane, rough*	Speedwell, purslane*
Florida pusley	Sprangletop*
Foxtail*	Spurge, annual
Goatgrass, jointed*	Spurge, prostrate*
Goosegrass	Spurge, spotted*
Grain sorghum (milo)*	Spurry, umbrella*
Groundsel, common*	Starthistle, yellow
Hemp sesbania	Stinkgrass*
Henbit	Sunflower*
Horseweed/Marestail ( <i>Conyza canadensis</i> )	Teaweed/Prickly sida
Itchgrass*	Texas panicum*
Johnsongrass, seedling	Velvetleaf Wheat*
Junglerice	Virginia copperleaf
Knotweed	Virginia pepperweed*
Kochia	Wheat*
Lamb's-quarters*	Wild oats*
Lettuce, prickly*	Witchgrass*
Little barley*	Woolly cupgrass*
London rocket*	Yellow rocket

\*When using field broadcast equipment (aerial applications or boom sprayers using flat-fan nozzles) these species will be controlled or partially controlled using 12 ounces of this product per acre. Applications must be made using 3 to 10 gallons of carrier volume per acre. Use nozzles that ensure thorough coverage of foliage and treat when weeds are in an early growth stage.

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

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

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### 10.2 PERENNIAL WEEDS

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Best results are obtained when perennial weeds are treated after they reach the reproductive stage of growth (boot stage in grasses and bud information in broadleaves). For non-flowering plants, best results are obtained when the plants reach a mature stage of growth. In many situations, treatments are required prior to these growth stages. Under these conditions, use the higher application rate within the listed range.

- Apply when target plants are actively growing. Do not treat when target plants are under drought stress.
- Ensure thorough coverage when using spray-to-wet treatments using hand-held equipment.
- When using hand-held equipment for low volume directed spot treatments, apply a 4 to 8 percent solution of this product.
- Allow 7 or more days after application before tillage or mowing. If weeds have been mowed or tilled, do not treat until regrowth has reached the specified stages.
- Fall treatments must be applied before a killing frost.
- Repeat treatments may be necessary to control weeds regenerating from underground parts or seeds.

WEED SPECIES	RATE (QT/A)	HAND-HELD % SOLUTION
Alfalfa*	0.7	1.5%
Alligatorweed*	3.0	1.3%
Anise (fennel)	1.5 – 3.0	1.0 – 1.5%
Bahiagrass	2.3 – 3.75	1.5%
Beachgrass, European ( <i>Ammophila arenaria</i> )	--	3.5%
Bentgrass*	1.0	1.5%
Bermudagrass	4.0	1.5%
Bermudagrass, water (knotgrass)	1.0	1.5%
Bindweed, field	2.3 – 3.75	1.5%
Bluegrass, Kentucky	1.5 – 2.3	0.75%
Blueweed, Texas	2.3 – 3.75	1.5%
Brackenfern	2.3 – 3.0	0.75 – 1.0%
Bromegrass, smooth	1.5 – 2.3	0.75%
Bursage, woolly-leaf	--	1.5%
Canarygrass, reed	1.5 – 2.3	0.75%
Cattail	2.3 – 3.75	0.75%
Clover; red, white	2.3 – 3.75	1.5%
Cogongrass	2.3 – 3.75	1.5%
Cordgrass	See Section 6.1	2.0 – 8.0%
Cutgrass, giant*	3.0	1.0%
Dallisgrass	2.3 – 3.75	1.5%
Dandelion	2.3 – 3.75	1.5%
Dock, curly	2.3 – 3.75	1.5%
Dogbane, hemp	3.0	1.5%
Fescue (except tall)	2.3 – 3.75	1.5%
Fescue tall	2.3	1.0%
German ivy	1.5 – 2.3	0.75 – 1.5%
Guineagrass	2.3	0.75%
Horsenettle	2.3 – 3.75	1.5%
Horseradish	3.0	1.5%
Iceplant	1.5	1.5%
Jerusalem artichoke	2.3 – 3.75	1.5%
Johnsongrass	1.5 – 2.3	0.75%
Kikuyugrass	1.5 – 2.3	0.75%
Knapweed	3.0	1.5%
Knotweed; Bohemian, Giant, Japanese ( <i>Polygonum bohemicum, P. sachalinense, and P. cuspidatum</i> )	See text after this table	
Lantana	---	0.75 – 1.0%
Lespedeza	2.3 – 3.75	1.5%

WEED SPECIES	RATE (QT/A)	HAND-HELD % SOLUTION
Loosestrife, purple	2.0	1.0 – 1.5%
Lotus, American	2.0	0.75%
Maidencane	3.0	0.75%
Milkweed, common	2.3	1.5%
Muhly, wirestem	1.5 – 2.3	0.75%
Mullein, common	2.3 – 3.75	1.5%
Napiergrass	2.3 – 3.75	1.5%
Nightshade, silverleaf	2.3 – 3.75	1.5%
Nutsedge; purple, yellow	2.3	0.75%
Orchardgrass	1.5 – 2.3	0.75%
Pampasgrass	2.3 – 3.75	1.5%
Paragrass	3.0	0.75%
Pepperweed, perennial	3.0	1.5%
Phragmites*	2.0 – 3.75	0.75 – 1.5%
Poison hemlock	1.5 – 3.0	0.75 – 1.5%
Quackgrass	1.5 – 2.3	0.75%
Redvine*	1.5	1.5%
Reed, giant	3.0 – 3.75	1.5%
Ryegrass, perennial	1.5 – 2.3	0.75%
Salvinia, giant	3.0 – 3.75	2.0%
Smartweed, swamp	2.3 – 3.75	1.5%
Spatterdock	3.0	0.75%
Spurge, leafy*	---	1.5%
Starthistle, yellow	---	1.5%
Sweet potato, wild*	---	1.5%
Thistle, artichoke	1.5 – 2.3	2.0%
Thistle, Canada	1.5 – 2.3	1.5%
Timothy	1.5 – 2.3	1.5%
Torpedograss*	3.0 – 3.75	0.75 – 1.5%
Trumpetcreeper*	1.5 – 2.3	1.5%
Tules, common	---	1.5%
Vaseygrass	2.3 – 3.75	1.5%
Velvetgrass	2.3 – 3.75	1.5%
Waterhyacinth	2.5 – 3.0	0.75 – 1.0%
Waterlettuce	---	0.75 – 1.0%
Waterprimrose	---	0.75%
Wheatgrass, western	1.5 – 2.3	0.75%

**\*Partial control**

**Alligatorweed** – Apply 3 quarts of this product per acre as a broadcast spray or as a 1.3 percent solution with a hand-held equipment to provide partial control of Alligatorweed. Apply when most of the target plants are in bloom. Repeat applications will be required to maintain such control.

**Beachgrass, European (*Ammophila arenaria*)** – Apply an 8-percent solution of this product plus 0.5 to 1.5 percent nonionic surfactant on a low-volume spray-to-wet basis. Best results are obtained when applications are made when European beachgrass is actively growing through the boot to the full heading stages of growth. Make applications prior to the loss of more than 50% green leaf color in the fall. Repeat applications may be necessary to treat skips. Monitor treated areas prior to reseeding of desirable vegetation. For selective control of European beachgrass with wiper application, apply a 33.3-percent solution of this product plus 1 to 2.5-percent nonionic surfactant during active growth. Avoid contact of herbicide solution with desirable vegetation. Wiping the plants in opposite directions may improve performance. Maximizing the amount of individual leaf tissue contact with the wiping equipment will result in optimal performance.

**Bermudagrass** – Apply 3.75 quarts of this product per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment. Apply when target plants are actively growing and when seedheads appear.

**Bindweed, field / Silverleaf Nightshade / Texas Blueweed** – Apply 3 to 3.75 quarts of this product per acre as a broadcast spray west of the Mississippi River and 2.3 to 3 quarts of this product per acre east of the Mississippi River. With hand-held equipment, use a 1.5 percent solution.

Apply when target plants are actively growing and are at or beyond full bloom. For silverleaf nightshade, best results can be obtained when application is made after berries are formed. Do not treat when weeds are under drought stress. New leaf development indicates active growth. For best results apply in late summer or fall.

**Bluegrass, Kentucky** – Apply when most target plants have reached the boot-to-head stage of growth. When applied prior to the boot stage, less desirable control may be obtained. In the fall, apply before plants have turned brown.

**Brackenfern** – Apply 2.3 to 3 quarts of this product per acre as a broadcast spray or as a 0.75 to 1 percent solution with hand-held equipment. Apply to fully expanded fronds which are at least 18 inches long.

**Cattail** – Apply 2.3 to 3.75 quarts of this product per acre as a broadcast spray or as a 0.75 percent solution with hand-held equipment. Apply when target plants are actively growing and are at or beyond the early-to-full bloom stage of growth. Best results are achieved when application is made during the summer or fall months.

**Cogongrass** – Apply 2.3 to 3.75 quarts of this product per acre as a broadcast spray. Apply when cogongrass is at least 18 inches tall and actively growing in late summer or fall. Allow 7 or more days after application before tillage or mowing. Due to uneven stages of growth and the dense nature of vegetation preventing good spray coverage, repeat treatments may be necessary to maintain control.

**Cordgrass** – Refer to Section 6.1, “AQUATIC SITES”, of this label for additional directions. Apply as a 2 to 8- percent solution with hand-held equipment. Schedule applications in order to allow 6 hours before treated plants are covered by tidewater. The presence of debris and silt on the cordgrass plants will reduce performance. It may be necessary to wash targeted plants prior to application to improve uptake of this product into the plant. Ensure complete coverage of clumps but do not spray to the point of run-off.

**Cutgrass, giant** – Apply 3 quarts of this product per acre as a broadcast spray or as a 1 percent solution with hand-held equipment to provide partial control of giant cutgrass. Repeat applications will be required to maintain such control, especially where vegetation is partially submerged in water. Allow for substantial regrowth to the 7 to 10 leaf stage prior to retreatment.

**Dogbane, hemp / Knapweed / Horseradish** – Apply 3 quarts of this product per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached the late bud-to-flower stage of growth. For best results, apply in late summer or fall.

**Fescue, tall** – Apply 2.3 quarts of this product per acre as a broadcast spray or as a 1 percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached the boot-to-head stage of growth. When applied prior to the boot stage, less desirable control may be obtained.

**Guineagrass** – Apply 2.3 quarts of this product per acre as a broadcast spray or as a 0.75 percent solution with hand-held equipment. Apply when target plants are actively growing and when most have reached at least the 7-leaf stage of growth.

**Johnsongrass / Bromegrass, smooth / Canarygrass, red / Orchardgrass** – Apply 1.5 to 2.3 quarts of this product per acre as a broadcast spray or as a 0.75 percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached the boot-to-head stage of growth. When applied prior to the boot stage, less desirable control may be obtained. In the fall, apply before plants have turned brown.

**Knotweed; Bohemian, Giant, Japanese (*Polygonum bohemicum*, *P. sachalinense*, and *P. cuspidatum*)** – For stem injections, see the “HOLLOW STEM INJECTION” section of this label. For cut stem treatment, cut stems cleanly just below the 2nd or 3rd node above the ground. Immediately apply 0.36 fluid ounce (10 mL) of a 50-percent solution of this product into the “well” or remaining internode. Ensure that removed upper plant material is carefully gathered and discarded so that it will not contact soil and regenerate plants from sprouting buds. Use a bio-barrier such as cardboard, plywood, or plastic sheeting to shield treatment of desirable foliage. The combined total for all treatments must not exceed 8 quarts per acre. At 10 mL of a 50-percent solution, approximately 1500 stems per acre may be treated.

**Lantana** – Apply this product as a 0.75 to 1 percent solution with hand-held equipment. Apply to actively growing lantana at or beyond the bloom stage of growth. Use the higher application rate for plants that have reached the woody stage of growth.

**Loosestrife, purple** – Apply 2 quarts of this product per acre as a broadcast spray or as a 1 to 1.5 percent solution using hand-held equipment. Treat when plants are actively growing at or beyond the bloom stage of growth. Best results are achieved when application is made during summer or fall months. Fall treatments must be applied before a killing frost.

**Lotus, American** – Apply 2 quarts of this product per acre as a broadcast spray or as a 0.75 percent solution with hand-held equipment. Treat when plants are actively growing at or beyond the bloom stage of growth. Best results are achieved when application is made during summer or fall months. Fall treatments must be applied before a killing frost. Repeat treatment may be necessary to control regrowth from underground parts and seeds.

**Maidencane / Paragrass** – Apply 3 quarts of this product per acre as a broadcast spray or as a 0.75 percent solution using hand-held equipment. Repeat treatments will be required, especially to vegetation partially submerged in water. Under these conditions, allow for regrowth to the 7- to 10- leaf stage prior to retreatment.

**Milkweed, common** – Apply 2.3 quarts of this product per acre as a broadcast spray or as a 1.5 percent solution using hand-held equipment. Apply when target plants are actively growing and most have reached the late bud-to-flower stage of growth.

**Nutsedge; purple, yellow** – Apply 2.3 quarts of this product per acre as a broadcast spray, or as a 0.75 percent solution using hand-held equipment to control existing nutsedge plants and immature nutlets attached to treated plants. Apply when target plants are in flower or when new nutlets can be found at rhizome tips. Nutlets which have not germinated will not be controlled and may germinate following treatment. Repeat treatments will be required for long-term control.

**Phragmites** – For partial control of phragmites in Florida and the counties of other states bordering the Gulf of Mexico, apply 3.75 quarts per acre as a broadcast spray or apply as a 1.5 percent solution with



hand-held equipment. In other areas of the U.S., apply 2 to 3 quarts per acre as a broadcast spray or apply a 0.75 percent solution with hand-held equipment for partial control. For best results, treat during late summer or fall months when plants are actively growing and in full bloom. Due to the dense nature of the vegetation, which may prevent good spray coverage and uneven stages of growth, repeat treatments may be necessary to maintain control. Visual control symptoms will be slow to develop.

**Poison Hemlock** – Apply 1.5 to 3 quarts per acre as a broadcast spray or as a 0.75 to 1.5 percent solution with hand-held equipment. Also, see the “HOLLOW STEM INJECTION” section of this label.

**Quackgrass / Kikuyugrass / Muhly, wirestem** – Apply 1.5 to 2.3 quarts of this product per acre as a broadcast spray or as a 0.75 percent solution with hand-held equipment when most quackgrass or wirestem muhly is at least 8 inches in height (3 to 4 leaf stage of growth) and actively growing. Allow 3 or more days after application before tillage.

**Reed, giant** – Apply 3 to 3.75 quarts per acre as a broadcast spray or as a 1.5 percent solution with handheld equipment when plants are actively growing. Best results are obtained when applications are made in late summer to fall. Also, see “HOLLOW STEM INJECTION” section of this label.

**Ryegrass, perennial** – Apply 1.5 to 2.3 quarts per acre as a broadcast spray or as a 0.75 percent solution with hand-held equipment. Apply when most target plants have reached the boot-to-head stage of growth. When applied prior to the boot stage, less desirable control may be obtained. In the fall, apply before plants have turned brown.

**Salvinia, giant** – Apply as a 2.0-percent v/v spray-to-wet solution with 0.5 to 2.0 percent v/v of a nonionic surfactant containing at least 70% active ingredient. For broadcast applications, apply 3 to 3.75 quarts of this product with an aquatic approved surfactant system containing 0.1% v/v nonionic organosilicone and 0.25% v/v nonionic spreader sticker surfactant in 3 to 40 gallons per acre as a broadcast treatment. Allow at least 3 days after application before disturbing treated vegetation. This product does not control plants which are completely submerged or have a majority of their foliage underwater.

**Spatterdock** – Apply 3 quarts of this product per acre as a broadcast spray or as a 0.75 percent solution with hand-held equipment. Apply when most plants are in full bloom. For best results, apply during the summer or fall months.

**Sweet potato, wild** – Apply this product as a 1.5 percent solution using hand-held equipment. Apply to actively growing weeds that are at or beyond the bloom stage of growth. Repeat applications will be required. Allow the plant to reach the recommended stage of growth before retreatment.

**Thistle; Canada, artichoke** – Apply 1.5 to 2.3 quarts of this product per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment for Canada thistle. To control artichoke thistle, apply a 2 percent solution as a spray-to-wet application. Apply when target plants are actively growing and are at or beyond the bud stage of growth. Also see “HOLLOW STEM INJECTION” section of this label.

**Timothy** – Apply 1.5 to 2.3 quarts of this product per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment. Apply when most target plants have reached the boot-to-head stage of growth. When applied prior to the boot stage, less desirable control may be obtained. In the fall, apply before plants have turned brown.

**Torpedograss** – Apply 3 to 3.75 quarts of this product per acre as a broadcast spray or as a 0.75 to 1.5 percent solution with hand-held equipment to provide partial control of torpedograss. Use the lower labeled rates under terrestrial conditions, and the higher labeled rates under partially submerged or a floating mat condition. Repeat treatments will be required to maintain such control.

**Tules, common** – Apply this product as a 1.5 percent solution with hand-held equipment. Apply to actively growing plants at or beyond the seedhead stage of growth. After application, visual symptoms will be slow to appear and may not occur for 3 or more weeks.

**Waterhyacinth** – Apply 2.5 to 3 quarts of this product per acre as a broadcast spray or apply a 0.75 to 1 percent solution with hand-held equipment. Apply when target plants are actively growing and at or beyond the early bloom stage of growth. After application, visual symptoms may require 3 or more weeks to appear complete necrosis and decomposition, usually occurring within 60 to 90 days. Use the higher labeled rates when more rapid visual effects are desired.

**Waterlettuce** – For control, apply a 0.75 to 1 percent solution of this product with hand-held equipment to actively growing plants. Use the higher labeled rates where infestations are heavy. Best results are obtained from mid-summer through winter applications. Spring applications may require retreatment.

**Waterprimrose** – Apply this product as a 0.75 percent solution using hand-held equipment. Apply to plants that are actively growing at or beyond the bloom stage of growth, but before fall color changes occur. Thorough coverage is necessary for best control.

**Wheatgrass, western** – Apply when most target plants have reached the boot-to-head stage of growth. When applied prior to the boot stage, less desirable control may be obtained. In the fall, apply before plants have turned brown.

**Other perennials listed in this label** – Apply 2.3 to 3.75 quarts of this product per acre as a broadcast spray or as a 0.75 to 1.5 percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached early head or early bud stage of growth.

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### 10.3 WOODY BRUSH AND TREES

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

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

Ensure thorough coverage when using spray-to-wet treatments using hand-held equipment. When using hand-held equipment for low volume directed-spray spot treatments, apply a 4 to 8 percent solution of this product.

Symptoms may not appear prior to frost or senescence with fall treatments.

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

WEED SPECIES	BROADCAST RATE (QT/A)	HAND-HELD SPRAY-TO-WET % SOLUTION
Alder	2.3 – 3.0	0.75 – 1.2%
Ash*	1.5 – 3.75	0.75 – 1.5%
Aspen, quaking	1.5 – 2.3	0.75 – 1.2%
Bearclover (Bearmat)*	1.5 – 3.75	0.75 – 1.5%
Beech*	1.5 – 3.75	0.75 – 1.5%
Birch	1.5	0.75%

<b>WEED SPECIES</b>	<b>BROADCAST RATE (QT/A)</b>	<b>HAND-HELD SPRAY-TO-WET % SOLUTION</b>
Blackberry	2.3 – 3.0	0.75 – 1.2%
Blackgum	1.5 – 3.75	0.75 – 1.2%
Bracken	1.5 – 3.75	0.75 – 1.5%
Broom; French, Scotch	1.5 – 3.75	1.2 – 1.5%
Buckwheat, California*	1.5 – 3.0	0.75 – 1.5%
Cascara*	1.5 – 3.75	0.75 – 1.5%
Castorbean	1.5 – 3.75	1.5%
Catsclaw* For partial control, apply when at least 50 percent of the new leaves are fully developed	---	1.2 – 1.5%
Ceanothus*	1.5 – 3.75	0.75 – 1.5%
Chamise*	1.5 – 3.75	0.75%
Cherry; bitter, black pin	1.5 – 3.75	1.0 – 1.5%
Cottonwood, eastern	1.5 – 3.75	0.75 – 1.5%
Coyote brush For partial control, apply when at least 50 percent of the new leaves are fully developed	2.3 – 3.0	1.2 – 1.5%
Cypress; swamp, bald	1.5 – 3.75	0.75 – 1.5%
Deerweed	1.5 – 3.75	0.75 – 1.5%
Dewberry	2.3 – 3.0	0.75 – 1.2
Dogwood*	3.0 – 3.75	0.75 – 1.5%
Elderberry	1.5	0.75 – 1.5%
Elm*	1.5 – 3.75	0.75 – 1.5%
Eucalyptus	---	0.75 – 1.5%
Gallberry	1.5 – 3.75	0.75 – 1.5%
Hackberry, western	1.5 – 3.75	0.75 – 1.5%
Gorse*	1.5 – 3.75	0.75 – 1.5%
Hasardia*	1.5 – 3.0	0.75 – 1.5%
Hawthorn	1.5 – 2.3	0.75 – 1.2%
Hazel	1.5	0.75%
Hickory*	3.0 – 3.75	1.0 – 2.0%
Honeysuckle	2.3 – 3.0	0.75 – 1.2%
Hornbeam, American*	1.5 – 3.75	0.75 – 1.5%
Huckleberry	1.5 – 3.75	0.75 – 1.5%
Ivy, Poison	3.0 – 3.75	1.5%

<b>WEED SPECIES</b>	<b>BROADCAST RATE (QT/A)</b>	<b>HAND-HELD SPRAY-TO-WET % SOLUTION</b>
Kudzu	3.0	1.5%
Locust, black*	1.5 – 3.0	0.75 – 1.5%
Madrone resprouts*	---	1.5%
Magnolia, sweetbay	1.5 – 3.75	0.75 – 1.5%
Manzanita*	1.5 – 3.75	0.75 – 1.5%
Maple, red For control, apply a 0.75- to 1.2-percent solution of this product using a handheld sprayer when leaves are fully developed. For partial control, apply 1 to 3.75 quarts per acre as a broadcast application.	1.0 – 3.75	0.75 – 1.2%
Maple, sugar For control, apply this product using a handheld sprayer when at least 50 percent of the new leaves are fully developed.	---	0.75 – 1.2%
Maple, vine*	1.5 – 3.75	0.75 – 1.5%
Monkey flower*	1.5 – 3.0	0.75 – 1.5%
Oak; black, white*	1.5 – 3.0	0.75 – 1.5%
Oak, post	1.5 – 3.0	0.75 – 1.5%
Oak, red For control, apply this product using a handheld sprayer when at least 50 percent of the new leaves are fully developed.	---	0.75 – 1.2%
Oak; northern, pin For control, apply this product when at least 50 percent of the new leaves are fully developed.	1.5 – 3.0	0.75 – 1.2%
Oak, Poison Repeat applications might be required to maintain control. Application in the fall must be made before leaves lose green color.	3.0 – 3.75	1.5%
Oak, Scrub*	1.5 – 3.0	0.75 – 1.5%
Oak, southern red	1.5 – 3.75	1.0 – 1.5%
Orange, Osage	1.5 – 3.75	0.75 – 1.5%
Peppertree, Brazilian (Florida holly)*	1.5 – 3.75	1.5%
Persimmon*	1.5 – 3.75	0.75 – 1.5%
Pine	1.5 – 3.75	0.75 – 1.5%
Poplar, yellow*	1.5 – 3.75	0.75 – 1.5%
Prunus	1.5 – 3.75	1.0 – 1.5%
Raspberry	2.3 – 3.0	0.75 – 1.2%
Redbud, eastern	1.5 – 3.75	0.75 – 1.5%
Redcedar, eastern	1.5 – 3.75	0.75 – 1.5%
Rose, multiflora Make application prior to leaf deterioration by leaf-feeding insects.	1.5	0.75%
Russian olive*	1.5 – 3.75	0.75 – 1.5%

WEED SPECIES	BROADCAST RATE (QT/A)	HAND-HELD SPRAY-TO-WET % SOLUTION
Sage, black	1.5 – 3.0	0.75%
Sage, white*	1.5 – 3.0	0.75 – 1.5%
Sage brush, California	1.5 – 3.0	0.75%
Salmonberry	1.5	0.75%
Saltbush	---	1.0%
Salt-cedar For partial control, apply a 1- to 2-percent solution of this product using a handheld sprayer or 3 to 3.75 quarts per acre as a broadcast application. For control, apply a 1- to 1.5-percent solution of this product in a tank-mix with Arsenal herbicide or Arsenal Herbicide Applicators Concentrate using a handheld sprayer. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture. For control using broadcast application, apply 1.5 quarts of this product per acre in a tank-mix with an appropriate rate of Arsenal herbicide or Arsenal Herbicide Applicators Concentrate to plants less than 6 feet tall. To control saltcedar greater than 6 feet tall using broadcast application, apply 3 quarts of this product per acre in a tank-mix with a higher labeled rate of Arsenal herbicide or Arsenal Herbicide Applicators Concentrate.	3.0 – 3.75	0.75 – 1.5%
Sassafras*	1.5 – 3.75	0.75 – 1.5%
Sea Myrtle	---	1.0%
Sourwood*	1.5 – 3.75	0.75 – 1.5%
Sumac; laurel, poison, smooth, Sugarbush, winged*	1.5 – 3.0	0.75 – 1.5%
Sweetgum	1.5 – 2.3	0.75 – 1.5%
Swordfern*	1.5 – 3.75	0.75 – 1.5%
Tallowtree, Chinese	---	0.75%
Tan oak resprouts*	---	1.5%
Thimbleberry	1.5	0.75%
Tobacco, tree*	1.5 – 3.0	0.75 – 1.5%
Toyon*	---	1.5%
Trumpetcreeper	1.5 – 2.3	0.75 – 1.2%
Virginia creeper	1.5 – 3.75	0.75 – 1.5%
Waxmyrtle, southern*	1.5 – 3.75	1.5%
Willow	2.3	0.75%
Yerba Santa, California*	---	1.5%

\*Partial control

**Other woody brush and trees listed in this label** – For partial control, apply 1.5 to 3.75 quarts of this product per acre as a broadcast spray or as a 0.75 to 1.5 percent solution with hand-held equipment.

## 11.0 STORAGE AND DISPOSAL

*Do not contaminate water, food, or feed by storage or disposal.*

**PESTICIDE STORAGE:** Keep container closed to prevent spills and contamination. Store above 5°F (-15°C) to keep product from crystallizing. Crystals will settle to the bottom. If allowed to crystallize, place in a warm room 68°F (20°C) for several days to redissolve and roll or shake container to mix well before using.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product that cannot be used or chemically reprocessed must be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, state or local procedures. Emptied container retains vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned, or destroyed.

**CONTAINER HANDLING:** Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying.

**Nonrefillable  $\leq$  5 gallons:** Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container  $\frac{1}{4}$  full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by State and local authorities.

**Nonrefillable > 5 gallons:** Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container  $\frac{1}{4}$  full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by State and local authorities.

**For Refillable Containers:** Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

## 12.0 WARRANTY DISCLAIMER

The directions for use of this product must be followed carefully. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, (1) THE GOODS DELIVERED TO YOU ARE FURNISHED AS IS BY MANUFACTURER OR SELLER, AND (2) MANUFACTURER AND SELLER MAKE NO WARRANTIES, GUARANTEES, OR REPRESENTATIONS OF ANY KIND TO BUYER OR USER, EITHER EXPRESS OR IMPLIED, OR BY USAGE OF TRADE, STATUTORY OR OTHERWISE, WITH REGARD TO THE PRODUCT SOLD, INCLUDING, BUT NOT LIMITED TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, USE, OR ELIGIBILITY OF THE PRODUCT FOR ANY PARTICULAR TRADE USAGE. UNINTENDED CONSEQUENCES, INCLUDING BUT NOT LIMITED TO INEFFECTIVENESS, CROP OR PLANT DAMAGE, OR LOSS OF YIELD, MAY RESULT BECAUSE OF SUCH FACTORS AS THE PRESENCE OR ABSENCE OF OTHER MATERIALS USED IN COMBINATION WITH THE GOODS, OR THE WEATHER, WIND, AND TEMPERATURE, OR THE MANNER OF USE OR APPLICATION, ALL OF WHICH ARE BEYOND THE CONTROL OF MANUFACTURER OR SELLER, AND ASSUMED BY BUYER

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