



U.S. ENVIRONMENTAL PROTECTION AGENCY

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

EPA Reg. Number:

91543-1

Date of Issuance:

6/21/16

NOTICE OF PESTICIDE:

Registration  
 Reregistration  
(under FIFRA, as amended)

Term of Issuance:

Conditional

Name of Pesticide Product:

Glyphosate 41%

Name and Address of Registrant (include ZIP Code):

Gleenda Hagge  
Agent  
Champion Crop Care  
1660 3rd Ave SW  
LeMars, Iowa 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 her 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 conditionally registered in accordance with FIFRA section 3(c)(7)(A). You must comply with the following conditions:

1. Submit and/or cite all data required for registration/reregistration/registration review of your product under FIFRA when the Agency requires all registrants of similar products to submit such data.

Signature of Approving Official:

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

Date:

6/21/16

2. You are required to comply with the data requirements described in the EDSP Order identified below:

- Glyphosate EDSP-417300-229

You must comply with all of the data requirements within the established deadlines. If you have questions about the EDSP Order listed above, you may contact the Chemical Review Manager in the Pesticide Reevaluation Division: <http://iaspub.epa.gov/apex/pesticides/f?p=chemicalsearch:1>

3. Make the following label changes before you release the product for shipment:

- Revise the EPA Registration Number to read, “EPA Reg. No. 91543-1.”

4. Submit one copy of the 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 you fail to satisfy these data requirements, EPA will consider appropriate regulatory action including, among other things, cancellation under FIFRA section 6(e). 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 01/26/2016

If you have any questions, please contact Shanta Adeeb by phone at 703-347-0502, or via email at [adeeb.shanta@epa.gov](mailto:adeeb.shanta@epa.gov).

Enclosure

# Glyphosate 41%

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

ACTIVE INGREDIENT:	% BY WT.
*Glyphosate, N-(phosphonomethyl) glycine, in the form of its isopropylamine salt.....	41.0%
OTHER INGREDIENTS:.....	59.0%
<b>TOTAL</b>	<b>100.0%</b>

\*Contains 480 grams per litre or 4 pounds per U.S. gallon of the active ingredient, glyphosate, in the form of its isopropylamine salt. Equivalent to 356 grams per litre or 3 pounds per U.S. gallon of the acid, glyphosate.

## KEEP OUT OF REACH OF CHILDREN CAUTION

### FIRST AID

<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>HOT LINE NUMBER</b>	
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.	

Manufactured for:  
Champion Crop Care  
P.O. Box 1501  
Madison, MS 39130

EPA Reg. No. 91543-

NET CONTENTS: \_\_\_\_\_ GALS.

EPA Est. No.

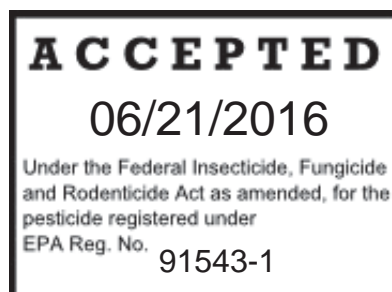


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HAZARDS TO HUMANS AND DOMESTIC ANIMALS  
CAUTION**

Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

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

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

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

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

**USER SAFETY DIRECTIONS**

Users should:

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

**ENVIRONMENTAL HAZARDS**

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

**PHYSICAL OR CHEMICAL HAZARDS**

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

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

**DIRECTIONS FOR USE**

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

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulations.

**AGRICULTURAL USE REQUIREMENTS**

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

**NON-AGRICULTURAL USE REQUIREMENTS**

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses. Keep people and pets off treated areas until spray solution has dried to prevent transfer of this product onto desirable vegetation.

#### 4.0 STORAGE AND DISPOSAL

Do not contaminate water, foodstuffs, feed or seed by storage or disposal.

**PESTICIDE STORAGE:** Store above 10°F (-12°C) to keep product from crystallizing. Crystals will settle to the bottom. If allowed to crystallize, place in a warm room 68°F (20°C) for several days to redissolve and roll or shake container or recirculate in mini-bulk or bulk container to mix well before using.

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

##### **CONTAINER DISPOSAL:**

**Nonrefillable Containers (1, 2.5, 30 & 55 gallon):** Do not reuse or refill this container. Offer for recycling, if available. Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

**Nonrefillable Container (less than five 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.

**Nonrefillable Container (greater than five 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. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

**Pressure Rinse as follows (all sizes):** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

**Refillable Container (250 gallon & bulk):** 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.

#### 5.0 PRODUCT INFORMATION

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

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

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

Always use the higher rate of this product per acre within the directed range when weed growth is heavy or dense or weeds are growing in an undisturbed (noncultivated) 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 directed stage for treatment.

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

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

**Mode of Action:** The active ingredient in this product inhibits an enzyme found only in plants that is essential to formation of specific amino acids. This product does not provide residual weed control.

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

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

**Annual Maximum Use Rate:** Except as otherwise specified in a crop section of this label, the combined total of all treatments must not exceed 8 quarts of this product per acre per year. For non-agricultural uses or in tree, vine, and shrub crops, the combined total of all treatments must not exceed 10.6 quarts of this product per acre per year. The maximum use rates stated throughout this product's labeling apply to this product combined with the use of all other herbicides containing glyphosate or 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.

## 6.0 WEED RESISTANCE MANAGEMENT

To minimize the occurrence of glyphosate-resistant biotypes, observe the following weed management directions:

- Scout fields before and after herbicide applications and monitor control of weeds.
- Start with a clean field, using either a burndown herbicide application or tillage.
- Control weeds early when they are relatively small.
- Add other herbicides or additional weed management practices (e.g. a selective and/or residual herbicide in a mixture with this product and cultural practices; e.g. tillage or crop rotation) where appropriate.
- Rotate to other Roundup Ready crops in a continuous Roundup Ready system.
- Use the application rate for the most difficult to control weed in your field. Avoid tank mixtures with other herbicides that reduce the efficacy of this product (through antagonism), or with one that encourages application rates of this product below those specified on this label.
- Control weed escapes and prevent weeds from setting seeds.
- Clean equipment before moving from field to field to minimize the spread of weed seed or plant parts.
- Use new commercial seed that is as free of weed seed as possible.
- Report any incidence of repeated non-performance of this product on a particular weed to your county extension agent.

### Management of Glyphosate-Resistant Biotypes

Note: Appropriate testing is critical in order to determine if a weed is resistant to glyphosate. Visit [www.weedresistancemanagement.com](http://www.weedresistancemanagement.com) or [www.weedscience.org](http://www.weedscience.org). For more information see the ANNUAL WEEDS RATE SECTION and PERENNIAL WEEDS RATE SECTION of this label.

Control directions for biotypes confirmed as resistant to glyphosate are made available on separately published supplemental labeling or a fact sheet for this product and can be obtained from your local retailer.

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, manufacturerF is not responsible for any losses that may result from the failure of this product to control glyphosate-resistant weed biotypes.

The following good agronomic practices are directed to reduce the spread of confirmed glyphosate-resistant biotypes:

- If a naturally-occurring resistant biotype is present in your field, this product should be tank-mixed or applied sequentially with an appropriately labeled herbicide with a different mode of action to achieve control.
- Cultural and mechanical control practices (e.g. crop rotation or tillage) may also be used as appropriate.
- Rotate to other Roundup Ready Crops in a continuous Roundup Ready system.
- Scout treated fields after herbicide applications and control escaping weeds including resistant biotypes before they set seed.
- Thoroughly clean equipment before leaving fields known to contain resistant biotypes.

## 7.0 MIXING

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

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

### 7.1 Mixing With Water

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



use an approved anti-foam or defoaming agent.

## 7.2 Tank Mixtures

This product does not provide residual weed control. This product may be tank-mixed with other herbicides to provide residual weed control, a broader weed control spectrum, or an alternate mode of action.

Some tank-mix products have the potential to cause crop injury under certain conditions, at certain growth stages and/or under other circumstances.

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. Always predetermine the compatibility of all tank-mix products together in the carrier by mixing small proportional quantities in advance.

For best results, apply tank mixtures with this product at a minimum spray volume rate of 10 gallons per acre.

### Tank Mixing Procedure

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

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

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

## 7.3 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:

Desired Volume	Amount of Product					
	½%	1%	1½%	2%	5%	10%
1 Gal	⅔ oz.	1⅓ oz.	2 oz.	2⅔ oz.	6½ oz.	13 oz.
25 Gal	1 pt.	1 qt.	1½ qt.	2 qt.	5 qt.	10 qt.
100 Gal	2 qt.	1 gal.	1½ gal.	2 gal.	5 gal.	10 gal.

2 tablespoons = 1 fluid ounce

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

## 7.4 Surfactants

Additional surfactants labeled for use with herbicides may be used. Do not reduce rates of this herbicide when adding surfactants. Read and carefully observe all caution statements and other information appearing on the surfactant label.

## 7.5 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 on annual and perennial weeds. The equivalent rate of ammonium sulfate in a liquid formulation may also be used. Ensure that ammonium sulfate is completely dissolved in the spray tank before adding herbicides. Thoroughly rinse the spray system with clean water after use to reduce corrosion.

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

reduced performance.

#### 7.6 Colorants or Dyes

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

#### 7.7 Drift Control Additives

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

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

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

**Selective Equipment** – 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.

#### 8.1 Aerial Equipment

- Do not apply this product using aerial spray equipment except under conditions as specified within this label. For aerial application in California and Arkansas, refer to instructions specific to those states.
- Use the specified rates of this herbicide in 3 to 15 gallons of water per acre unless otherwise specified on this label. Unless otherwise specified, do not exceed 1 quart per acre.
- Ensure uniform application – To avoid streaked, uneven or overlapped application, use appropriate marking devices.
- 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.

#### Aerial Spray Drift Management

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

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

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

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

The applicator must be familiar with and take into account the information covered in the AERIAL DRIFT REDUCTION ADVISORY.

#### Information on Droplet Size

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

#### Controlling Droplet Size

- Volume – Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- Pressure – Do not exceed the nozzle manufacturer's directed pressures. For many nozzle types lower pressure

produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.

- Number of nozzles – Use the minimum number of nozzles that provide uniform coverage.
- Nozzle Orientation – Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the directed practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.
- Nozzle Type – Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.
- Boom Length – For some use patterns, reducing the effective boom length to less than  $\frac{3}{4}$  of the wingspan or rotor length may further reduce drift without reducing swath width.
- Application Height – Applications must not be made at a height greater than 10 feet above the top of the target plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.
- Swath Adjustment – When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance must increase with increasing drift potential (higher wind, smaller drops, etc.)
- Wind – Drift potential is lowest between wind speeds of 2-10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application must be avoided below 2 mph due to variable wind direction and high inversion potential. **NOTE:** Local terrain can influence wind patterns. Every applicator must be familiar with local wind patterns and how they affect spray drift.
- Temperature and Humidity – When making applications in a low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.
- Temperature Inversions – Applications must not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.
- Sensitive Areas – The pesticide must only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas).

Avoid direct application to any body of water.

#### **For Aerial Application in California Only**

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

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

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

When tank mixing this product with 2,4-D for aerial applications, only 2,4-D amine formulations may be used. 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 exceed a maximum rate of 2 quarts per acre of this product when making applications by air in fallow and reduced tillage systems and alfalfa and pasture renovation applications.
- Do not exceed a maximum rate of 1 quart per acre of this product when making applications by air in alfalfa, corn, cotton, wheat, roundup ready® corn and roundup ready® cotton prior to harvest. This restriction also applies to over-the-top applications in roundup ready® corn and cotton.

#### **Aerial Equipment**

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

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

- Do not apply within 100 feet of all desirable vegetation or crop(s).
- 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).

- Winds blowing from 5 to 10 miles per hour toward desirable vegetation or crop(s) may require buffer zones in excess of 500 feet.
- Do not apply when winds are in excess of 10 miles per hour or when inversion conditions exist.

**For Aerial Application is Fresno County, California Only From February 15 Through March 31 Only.**

Applicable Area:

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

North: Fresno County line

South: Fresno County line

East: State Highway 99

West: Fresno County line

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

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

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

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

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

**Note:** For aerial application from April 1 through February 14, refer to the For Aerial Application in California Only section of this label.

**Arkansas Only**

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

Use the specified rate of this product in 3 to 15 gallons of water per acre. Use sufficient carrier volume and appropriate equipment set-up to form droplets large enough to avoid drift potential. Coarse droplets in the 300 to 500 (VMD) micron range are directed. Applications must typically be made with the nozzle release point at 8 to 15 feet above the top of the target plants unless a greater height is required for aircraft safety. The distance of the outermost nozzles on the boom must not exceed 75% of the length of the wingspan or rotor. In many cases, reducing this distance to 65% of the length of the wingspan or rotor will improve drift control without affecting the swath width.

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

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

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

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

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

**8.2 Ground Broadcast Equipment**

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

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

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

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

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

When using application methods which result in less than complete coverage, use a 5 percent solution for annual and perennial weeds and a 5 to 10 percent solution for woody brush and trees.

### 8.4 Selective Equipment

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

In cropping systems, a hooded sprayer, shielded sprayer, or wiper applicator may be used in-between rows of crop plants (row middles). A wiper applicator may be used over the top of crops only when specifically directed on this label.

Selective equipment must be capable of preventing all contact of the herbicide solutions with the crop and operated without spray-mist escape, leakage, or dripping of the herbicide solution onto the crop.

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

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

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

#### Shielded and Hooded Applicators

When applied under the conditions described in the following paragraphs for shielded and hooded sprayers, this product will control weeds listed in the ANNUAL WEEDS RATE SECTION and PERENNIAL WEEDS RATE SECTION of this label.

A hooded sprayer is a type of shielded sprayer where the spray pattern is fully enclosed, including the top, sides, front and back, thereby shielding the crop from the spray solution. Adjust the shields on these sprayers to protect desirable vegetation. When applying around crops grown on raised beds, ensure that the hood is capable of completely enclosing the spray pattern. If necessary, extend the front and rear gaps of the hooded sprayer downward to reach the ground in deep furrows. **USE EXTREME CARE TO AVOID CONTACT OF THIS HERBICIDE WITH DESIRABLE VEGETATION.**

The equipment must be configured and operated in a manner that minimizes bouncing and avoids raising the hood up off the ground surface at any time. If the hood is raised, spray particles may escape and come into contact with the crop, causing damage or destruction of the crop. Avoid operating this equipment on rough or sloping terrain where the spray hood might be raised up off the ground surface.

Use hood designed to minimize excessive dripping or run-off down the insides of the hood, such as single, low pressure, low-drift, flat-fan nozzle, with an 80-90 degree spray angle positioned at the top center of the hood, with a spray volume of 20-30 gallons per acre.

The following procedures can reduce the potential for crop injury when using a hooded sprayer:

- The spray hoods must be operated on the ground or skimming across the ground surface.
- Leave at least an 8-inch untreated strip over the drill row. (For example, if the crop row width is 38 inches, make the maximum width of the spray hood 30 inches.)
- Operate at ground speeds of no greater than 5 miles per hour to avoid bouncing of the spray hood.
- Apply when wind speed is 10 miles per hour or less.
- Use low-drift nozzles that provide uniform coverage within the treated area.

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

#### Wiper Applicators

A wiper applicator is a device that physically wipes this product directly onto the weed. Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting desirable vegetation.

Operate this equipment at ground speeds no greater than 5 mph.

Performance may be improved by reducing speed in areas of heavy weed infestations. Better results may be obtained if 2 applications are made in opposite directions.

Avoid leakage or dripping onto desirable vegetation. Adjust height of applicator to ensure adequate contact with weeds. Keep wiping surfaces clean. Be aware that on sloping ground, the herbicide solution may migrate, causing dripping on the lower end and drying of the wicks on the upper end of the 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 product performance may result from use of solutions held in storage. Clean wiper parts immediately after using this product by thoroughly flushing with water.

Do not add surfactant to the herbicide solution when using a wiper applicator.

For rope or sponge wick applicators- Mix 1 gallon of this product in 2 gallons of water to prepare a 33 percent solution. Apply this solution to weeds listed above in this section.

For panel applicators- solutions ranging from 33 to 100 percent of this product in water may be used in panel wiper applicators.

### 8.5 Injection Systems

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

### 8.6 Controlled Droplet Applicator (CDA) Equipment

The rate of this product applied per acre by vehicle-mounted CDA equipment must not be less than the amount specified in this label when applied by conventional broadcast equipment.

For vehicle-mounted CDA equipment, apply 3 to 15 gallons of water per acre.

For the control of annual weeds with hand-held CDA units, apply a 20 percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 1.5 mph (1 quart per acre). For the control of perennial weeds, apply a 20 to 40 percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 0.75 mph (2 to 4 quarts per acre). Controlled droplet application equipment produces a spray pattern which is not easily visible. Extreme care must be exercised to avoid spray or drift contacting the foliage or any other green tissue of desirable vegetation, as damage or destruction may result.

### 9.0 ANNUAL AND PERENNIAL CROPS

This section gives directions that apply to all crops listed alphabetically in the sections that follow. See the individual crop sections for specific instructions, preharvest intervals, additional precautions and restrictions.

See the ROUNDUP READY CROPS section of this label or separately published supplemental labeling for this product for instructions on application in Roundup Ready crops.

**Types of Applications:** Chemical fallow, Preplant fallow beds, Pre-plant, At planting, Pre-emergence, 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 pre-emergent to annual and perennial crops listed in this label, except where specifically limited. For any crop not listed on this label, applications must be made at least 30 days prior to planting. Unless otherwise specified, weed control applications may be made according to the rates listed in the ANNUAL WEEDS, PERENNIAL WEEDS, and WOODY BRUSH & TREE rate sections in this label. Application rates specified on this label for the control of tough weeds, or those specified on separate labeling for this product supersedes the rates in the ANNUAL WEEDS rates section of this label. Repeat applications may be made up to a maximum of 8 quarts per acre per year.

Hooded sprayers and wiper applicators capable of preventing all crop contact with herbicide solutions may be used in mulched or un-mulched row middles after crop establishment. Refer to the SELECTIVE EQUIPMENT section of this label for essential precautions when using hooded sprayers or wipers to avoid crop injury caused by leakage of spray mists or dripping onto crops. Crop injury is possible with these applications and shall be the sole responsibility of the applicator.

All treatments described in the sections that follow may be made using aerial application equipment where appropriate, provided that the applicator complies with the precautions and restrictions specified on this label. See the APPLICATION EQUIPMENT AND TECHNIQUES section of this label for important information on aerial application and procedures on avoiding 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.

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 this herbicide with foliage, green shoots or stems, bark, exposed roots (including those emerging from plastic mulch), or fruit of crops, as severe crop injury or destruction may result. When making at-planting and preemergence applications, application must be made before crop emergence to avoid severe crop injury. Broadcast application made at emergence will result in injury or death of emerged seedlings. Apply before seed germination in

coarse sandy soils to further minimize the risk of injury. Unless otherwise specified on this label, treatment with selective equipment, including wiper applicators and hooded sprayers, must be made at least 14 days prior to harvest. Post-harvest or fallow application must be made at least 30 days prior to planting any crop not listed on this label. See APPLICATION EQUIPMENT AND TECHNIQUES section of this label for additional information.

**Restriction:** In crops where spot treatment is allowed, do not treat more than 10 percent of the total field to be harvested.

**Precaution:** Take care not to spray or allow spray to drift outside the target area in order to avoid unwanted crop destruction.

Do not harvest or feed treated vegetation for 8 weeks following broadcast postemergence application, unless otherwise specified.

### 9.1 Cereal And Grain Crops

**LABELED CROPS:** Barley, Buckwheat, Millet (Pearl, Proso), Oats, Rice, Rye, Quinoa, Teff, Teosinte, Triticale, Wheat (All), Wild Rice

**TYPES OF APPLICATIONS:** Those listed in ANNUAL AND PERENNIAL CROPS plus Red Rice Control Prior to Planting Rice, Spot Treatment (Except Rice), Wiper Applicator (Feed Barley and Wheat Only), Preharvest (Feed Barley and Wheat Only)

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

#### PREPLANT, PREEMERGENCE AND AT-PLANTING

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

#### RED RICE CONTROL PRIOR TO PLANTING RICE

**Use Instructions:** Apply 1.5 quarts of this product in 5 to 10 gallons of water per acre. Flush fields prior to application to obtain uniform germination and stand of red rice. Make application when the majority of the red rice plants are at the 2-leaf state 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 conditions of low humidity, as reduced control may result.

**Restrictions:** Do not treat rice fields or levees when the fields contain flood water. Do not flood treated fields for 8 days following application.

#### SPOT TREATMENT (EXCEPT RICE)

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

**Precautions, 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.

#### WIPER APPLICATOR (FEED BARLEY AND WHEAT ONLY)

**Use Instructions:** This product may be applied over the top of feed barley and wheat using a wiper applicator. To control common rye or cereal rye, apply after the weeds have headed and achieved maximum growth. See additional instructions on the use of wiper applicators in the APPLICATION EQUIPMENT AND TECHNIQUES section of this label.

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

#### PREHARVEST (FEED BARLEY AND WHEAT ONLY)

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

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.

**Precautions, Restrictions:** Do not apply more than 1 quart of this product per acre. Allow 7 days between application and harvest or grazing. Preharvest application on barley or wheat grown for seed could result in a reduction in germination or vigor. Buyer and users are responsible for any and all loss or damage in connection with the preharvest use of this product on barley or wheat grown for seed.

#### POSTHARVEST

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

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

## 9.2 Corn

LABELED CROPS: Field Corn, Seed Corn, Silage Corn, Sweet Corn and Popcorn

TYPES OF APPLICATIONS: Those listed in ANNUAL AND PERENNIAL CROPS, Spot Treatment, Preharvest

### PREPLANT, PREEMERGENCE AND AT-PLANTING

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

The following tank mixtures may be 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.

2,4-D	Bullet	Fultime	Marksman
Aim	Degree	Guardman/Leadoff	Micro-tech
Atrazine	Degree Xtra	Harness	Prowl
Axiom	Distinct	Harness Xtra	Python
Balance	Dual Magnum	5.6L Lariat	Simazine
Bicep Magnum	Dual II Magnum	Intro	Topnotch
Bicep II Magnum	Epic Frontier/Outlook	Linex/Lorox	

For other labeled annual weeds, apply 1 to 1.5 pints of this product per acre when weeds are less than 6 inches tall, and 2 to 3 pints when weeds are over 6 inches tall. When using nitrogen solution as a carrier, application rate may need to be increased for acceptable weed control.

**Restrictions:** In Southern states, do not apply this product in nitrogen solutions to tough-to-control grasses such as barnyardgrass, fall panicum, broadleaf signalgrass, annual ryegrass and any perennial weeds. This includes Illinois and Indiana south of Route 50, Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, New Jersey, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia and West Virginia.

### HOODED SPRAYERS

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

**Precautions, Restrictions:** Corn must be at least 12 inches tall, measured without extending leaves. Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage. Such damage shall be the sole responsibility of the applicator. Do not apply more than 1 quart of this product per acre for each hooded sprayer application and no more than 3 quarts per acre per year total.

### SPOT TREATMENT

**Use Instructions:** For spot treatments, apply this product prior to silking of corn.

**Precautions, 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 Instructions:** Make applications at 35 percent grain moisture or less. Ensure that maximum kernel fill is complete and the corn is physiologically mature (black layer formed). For ground applications, apply up to 3 quarts of this product per acre. For aerial applications, apply up to 2 quarts of this product per acre.

**Precautions, Restrictions:** It is not specified that corn grown for seed be treated because a reduction in germination or vigor may occur. Allow a minimum of 7 days between application and harvest. Buyer and all users are responsible for any and all loss or damage in connection with the preharvest use of this product on corn grown for seed.

### POST-HARVEST

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

**Restrictions:** Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation. Application of this product must be made at least 30 days prior to panting any crop not listed on this label.

## 9.3 Cotton

TYPES OF APPLICATIONS: Preplant, preemergence, at-planting (those listed in ANNUAL AND PERENNIAL CROPS section).

### PREPLANT, PREEMERGENCE, AND AT-PLANTING

**Use Instructions:** This product may be applied before, during or after planting cotton. Applications must be made prior to



emergence of the crop.

#### HOODED SPRAYER, SELECTIVE EQUIPMENT

**Use Instructions:** This product may be applied through hooded sprayers, a shielded sprayer or a wiper applicator over the top of cotton. 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.

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

#### SPOT TREATMENT

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

**Precautions, 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 Instructions:** This product provides weed control and cotton regrowth inhibition when applied prior to harvest of cotton. For weed control, apply at rates given in the ANNUAL and PERENNIAL WEEDS RATE section. Apply 1 pint to 2 quarts of this product per acre for cotton regrowth inhibition. Apply after sufficient bolls have developed to produce the desired yield. Application made prior to this time could affect maximum yield potential.

**Restriction:** Do not apply more than 2 quarts of this product for preharvest application.

**Tank Mixtures:** This product may be tank mixed with DEF® 6, Folex®, 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:** Allow a minimum of 7 days between application and harvest of cotton.

Do not apply to cotton grown for seed as a reduction in germination or vigor could result. Do not add additional surfactant or additives containing surfactant to this product for preharvest application to cotton.

### 9.4 Fallow Systems

**USE INSTRUCTIONS:** This product may be applied during the fallow period prior to planting or emergence of any crop listed on this label; for non-listed crops, application must be made at least 30 days prior to planting.

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

#### CHEMICAL FALLOW

**Use Instructions:** This product may be used as a substitute for tillage to control annual weeds in fallow fields. Broadcast or spot treatments will control or suppress many perennial weeds in fallow fields. Tank mixtures with 2,4-D and dicamba may be used. Aerial application of up to 2 quarts of this product per acre may be made onto 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.

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

#### PREPLANT FALLOW BEDS

**Use Instructions:** This product may be applied to fallow beds prior to planting or emergence of any crop listed on this label. This product will control weeds listed in the Annual, Perennial and Woody Brush Tables.

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

**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. In addition, 12 fluid ounces of this product plus 2 to 3 oz. 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, shepherdspurse.

#### AID-TO-TILLAGE

**Use Instructions:** This product may be used in conjunction with tillage practices in fallow systems or preplant to labeled crops to control downy brome, cheat, volunteer wheat, tansy mustard and foxtail. Apply 12 fluid ounces of this product in 3 to 10 gallons of water per acre. Make applications before weeds are 6 inches in height. Application must be followed by conventional tillage practices no later than 15 days after treatment and before regrowth occurs. Allow at least 1 day after

application before tillage.

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

### 9.5 Grain Sorghum (Milo)

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

#### PREPLANT, PREEMERGENCE, AT-PLANTING

**Use Instructions:** This product may be applied alone or in a tank mixture before, during or after planting grain sorghum, but prior to crop emergence.

Third product may be tank mixed with the product listed below. 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	Bullet	Lariat	Micro-Tech
Bicep II Magnum	Dual II Magnum	Lasso	Milo-Pro

For difficult-to-control annual weeds such as fall panicum, barnyardgrass, crabgrass, shattercane and broadleaf signal grass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply 2 pints of this product per acre in a tank mixture with one of the products listed above

To control other annual weeds listed on this label, apply 1.5 to 2 pints of this product per acre when weeds are less than 6 inches tall, and 2 to 3 pints per acre when weeds are over 6 inches tall.

#### SPOT TREATMENT AND WIPER APPLICATIONS

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

**Precautions, 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 SPRAYER

**Use Instructions:** This product may be applied using a hooded sprayer for weed control in-between the rows of grain sorghum. Only hooded sprayers that completely enclose the spray pattern may be used. See additional instructions for the use of hooded sprayers in the APPLICATION EQUIPMENT AND TECHNIQUES section of this label.

**Precautions, Restrictions:** Grain sorghum must be at least 12 inches tall, measured without extending leaves. Treat before grain sorghum sends tillers between the drill rows. If tillers are sprayed with this herbicide, the main plant may be damaged or destroyed. 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. Do not graze or feed grain sorghum forage or fodder following application of this product with a hooded sprayer. Do not apply more than 1 quart of this product per acre per hooded sprayer application and no more than 3 quarts per acre per year total.

#### PREHARVEST

**Use Instructions:** Make applications at 30% grain moisture or less.

**Precautions, Restrictions:** Do not apply more than 2 quarts of this product per acre. Allow a minimum of 7 days between application and harvest of sorghum. As with other herbicides that cause sudden plant death, avoid preharvest application of this product to milo infected with charcoal rot as lodging can occur. Preharvest application on sorghum grown for seed could result in a reduction in germination or vigor. The use of this product for preharvest grain sorghum (milo) is not registered in California.

#### POST-HARVEST

**Use Instructions:** This product may be applied after harvest of grain sorghum. Higher rates may be required for control of large weeds which were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used. This product may be applied to grain sorghum (milo) stubble following harvest to suppress or control regrowth. Apply 1 quart of this product per acre for control, or 1.5 pints of this product per acre for suppression.

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

### 9.6 Herbs and Spices

LABELED CROPS: Allspice, Angelica, Star anise, Annatto (seed), Balm, Basil, Borage, Burnet, Camomile, Caper buds, Caraway, Black caraway, Cardamom, Cassia bark, Cassia buds, Catnip, Celery seed, Chervil (dried), Chive, Chinese

chive, Cinnamon, Clary, Clove buds, Coriander leaf (cilantro or Chinese parsley), Coriander seed (cilantro), Costmary, Culantro (leaf), Culantro (seed), Cumin, Curry (leaf), Dill (dillweed), Dill (seed), Epazote, Fennel seed (common and Florence), Fenugreek, White ginger flower, Grains of paradise, Horehound, Hyssop, Juniper berry, Lavender, Lemongrass, Lovage (leaf and seed), Mace, Marigold, Marjoram (including oregano), Mexican oregano, Mioga flower, Mustard (seed), Nasturtium, Nutmeg, Parsley (dried), Pennyroyal, Pepper (black and white), Pepper leaves, Peppermint, Perilla, Poppy (seed), Rosemary, Rue, Saffron, Sage, Savory (summer and winter), Spearmint, Stevia leaves, Sweet bay, Tansy, Tarragon, Thyme, Vanilla, Wintergreen, Woodruff, Wormwood

**TYPES OF APPLICATIONS:** Those listed under the ANNUAL AND PERENNIAL CROPS section plus the following: Over-the-Top Wiper Applications (Peppermint and Spearmint only), Spot Treatments (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. Care should be taken to ensure that the water flushes off the plastic mulch and does not enter the transplant holes.

#### OVER-THE-TOP WIPER APPLICATIONS OR SPOT TREATMENTS (PEPPERMINT AND SPEARMINT ONLY)

**Use Instructions:** This product may be used as a spot treatment in spearmint and peppermint. Apply spray-to-wet with hand-held equipment, such as backpack and knapsack sprayers, pump-up pressure sprayers, hand-guns, hand-wands or any other hand-held or motorized spray equipment used to direct the spray solution on to a limited area.

**Precautions, Restrictions:** Allow at least 7 days between application and harvest. Further applications may be made in the same area at 30-day intervals. No more than one-tenth of any acre must be treated at one time. The crop receiving spray in the treated area will be killed. For spot treatment application, do not treat more than 10 percent of the total field area to be harvested. Crop sprayed in the treated area will be killed. Take care to avoid drift or spray outside the target area for this reason.

#### 9.7 Oil Seed Crops

**LABELED CROPS:** Borage, Buffalo gourd (seed), Non Round-up Ready Canola, Crambe, Flax, Jojoba, Lesquerella, Meadowfoam, Mustard (seed), Rape, Safflower, Sesame, Sunflower.

**TYPES OF APPLICATIONS:** Those listed in the ANNUAL AND PERENNIAL CROPS section of this label.

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

#### Maximum application rate:

Canola – combined total for all applications = 2 quarts per acre.

Safflower – Combined total for all application = 3 quarts per acre.

Sunflower- Combined total for all application = 1 quart per acre.

#### PREPLANT, AT-PLANTING, PREEMERGENCE

**Use Instructions:** This product may be applied before, during or after planting oil seed crops listed in this section. Observe the maximum application rates of canola, safflower and sunflower listed at the beginning of this section.

**Tank Mixtures:** For sunflowers, a tank mixture with Prowl may be applied. 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.

#### PREHARVEST (SAFFLOWER AND SUNFLOWER ONLY)

**Use Instructions:** This product provides weed control when applied as a harvest aid to a physiologically mature crop prior to harvest of sunflower or safflower. For safflower, apply a maximum of 3 quarts when seed has lost its opaque character, approximately 20 to 30 days after the end of flowering of the secondary branches. For sunflower, apply a maximum of 1 quart when the backsides of sunflower heads are yellow and bracts are turning brown and seed moisture content is less than 35%.

**Restrictions:** Allow a minimum of 7 days between treatment and harvest or livestock feeding. Application must be made at least 30 days prior to planting any crop not listed on this label.

#### POST-HARVEST

**Use Instructions:** This product may be applied for weed control after harvest of oil seed crops. Higher rates may be required for control of large weeds that were growing in the crop at the time of harvest. Tank mixture of 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:** Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation. Application must be made at least 30 days prior to planting any crop not listed on this label.

### 9.8 Soybeans

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

#### PREPLANT, PREEMERGENCE AND AT-PLANTING

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

**Tank Mixtures:** The following tank mixtures may be applied. 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.

Aim	Domain	Gauntlet	Pursuit® Plus
Assure II	Dual® Magnum	Lexone	Scepter®
Axiom	Dual® II Magnum	Linex®	Sencor®/Lexone
Authority	Firstrate	Linuron	Squadron®
Blanket	Flextar	Lorox® Plus	Steel
Boundary	Frontier®	Micro-Tech®	Valor
Canopy®	Fusion®	Prowl®	
Command®	Gangster	Pursuit®	

#### ANNUAL WEEDS

For difficult-to-control weeds such as fall panicum, barnyardgrass, crabgrass, shattercane and broadleaf signal grass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 2 pints per acre in these tank mixtures. For other labeled annual weeds, apply 1 to 1.5 pints of this product per acre when weeds are less than 6 inches tall, and 2 to 3 pints when weeds are over 6 inches tall.

In California, do not use tank mixes on soybeans.

#### SPOT TREATMENT

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

**Precautions, 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 Instructions:** This product provides weed control when applied prior to harvest of soybeans.

Apply at rates given in the Annual, Perennial and Woody Brush Tables. This product may be applied using either aerial or ground spray equipment. For ground applications, apply this product in 10 to 20 gallons of water per acre. For aerial applications, apply this product in 3 to 10 gallons of water per acre. Apply after pods have set and lost all green color.

**Precautions and Restrictions:** Do not apply more than 5 quarts per acre of this product for preharvest applications. Do not apply more than 2 quarts per acre of this product by air. Allow a minimum of 7 days between application and harvest of soybeans. If the preharvest application rate is greater than 1 quart per acre, do not graze or harvest treated hay or fodder for livestock feed within 25 days of last application. If the application rate is 1 quart per acre or less, the grazing restriction is reduced to 14 days after application. Preharvest application on soybean grown for seed could result in a reduction in germination or vigor. Care must be taken to avoid excessive seed shatter loss due to ground application equipment.

#### SELECTIVE EQUIPMENT

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

**Precautions, Restrictions:** 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.

### 9.9 Sugarcane

TYPES OF APPLICATIONS: Preplant, preemergence, At-planting spot treatment, fallow, hooded sprayers

#### PREPLANT, AT-PLANTING, PREEMERGENCE

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

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

#### SPOT TREATMENT

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

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

#### FALLOW TREATMENTS

**Use Instructions:** This product may be used as a replacement for tillage in fields that are lying fallow between sugarcane crops. This product may also be used to remove this last stubble of ratoon cane. For removal of last stubble of ratoon cane, apply 4 to 5 quarts of this product in 10 to 40 gallons of water per acre to new growth having at least 7 new leaves.

**Precautions, Restrictions:** Allow 7 or more days after application before tillage. Aerial application of up to 3 quarts per acre may be made in fallow sites where there is sufficient buffer to prevent drift onto adjacent crops. 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 Instructions:** This product may be used through hooded sprayers for weed control between the rows of sugarcane.

**Precautions, Restrictions:** Do not allow treated weeds to come into contact with the crop. Droplets, mist, foam or splatter of the herbicide solution settling on the crop may result in discoloration, stunting or destruction. Such damage will be the sole responsibility of the applicator.

#### SUGARCANE RIPENING

**Use Instructions:** This product is a foliar-applied plant growth regulator to hasten ripening and increase the level of sucrose in sugarcane. It is effective in both low and high-tonnage sugarcane.

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

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

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

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

**Application Rates:** Use the following application rates and timing instructions according to the state in which the sugarcane is grown.

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

Florida – Apply 7 to 16 fluid ounces of this product per acre 3 to 5 weeks before harvest of LAST RATOON CANE ONLY.

Hawaii – Apply 12 to 28 fluid ounces of this product per acre 4 to 10 weeks before harvest.

Louisiana – Apply 5 to 16 fluid ounces of this product per acre 3 to 7 weeks before harvest of RATOON CANE ONLY.

Puerto Rico – Apply 7 fluid ounces of this product per acre 3 to 5 weeks before harvest of RATOON CANE ONLY.

Texas – Apply 7 to 16 fluid ounces of this product per acre 3 to 5 weeks before harvest of RATOON CANE ONLY.

#### **Precautions, Restrictions:**

- Application of this product may initiate development of shooting eyes. This product may not increase the sucrose content of sugarcane under conditions of good natural ripening. Within 2 to 3 weeks after application, this product may produce a slight yellowing to a pronounced browning and drying of leaves, and a shortening of upper internodes. Spindle death may occur.
- Rainfall within 6 hours after application may reduce effectiveness.
- Application to sugarcane grown for seed could result in a reduction in germination or vigor. Buyer and all users are responsible for any and all loss or damage in connection with the preharvest use of this product on sugarcane grown for seed.
- Do not feed or graze treated sugarcane forage following application. Do not plant any crop in sugarcane fields treated with this product within 30 days other than the following: alfalfa or other forage legumes, beans (all types), corn (all types), cotton, melons (all types), pasture grasses, peanuts, potatoes (Irish or sweet), sorghum (milo), soybeans, squash (all types) or wheat.
- Do not apply for enhanced ripening to any crops other than sugarcane. 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.

### 9.10 Vegetable Crops

This Vegetable Crops section gives directions that apply to all vegetable crops listed alphabetically in the sections that

follow. See the individual crop sections for specific use instructions, preharvest intervals, precautions and restrictions.

**TYPE OF APPLICATIONS:** Chemical fallow, Preplant fallow beds, Preplant, At-planting, Preemergence, Prior to transplanting vegetables, Hooded Sprayers in Row-middles, Shielded sprayer in Row Middles, Wiper Applicator in Row Middles, Post-Harvest

**Precautions:** This product could cause crop injury when applied prior to transplanting or direct-seeding crops into plastic mulch. Remove product residues from the plastic prior to planting with a single 0.5-inch application of water, either by natural rainfall or by irrigation. Ensure that the washwater flushes off the plastic mulch and does not enter transplant holes. Application of this product at crop emergence will result in injury or death to emerged seedlings.

Avoid contact of this herbicide with foliate, green shoots or stems, bark, exposed roots (including those emerging from plastic mulch), or fruit of crops, as severe crop injury or destruction may result. When making a preemergence or at-planting application, the application must be made before crop emergence to avoid severe crop injury. Apply before seed germination in coarse sandy soils to further minimize the risk of crop injury. In crops with vines, make hooded sprayer, shielded sprayer and wiper applicator treatment in row middles prior to vine development, otherwise severe crop injury or destruction may result. Unless otherwise specified on this label, treatment with selective equipment, including wiper applicators or hooded sprayers must be made at least 14 days prior to harvest. Post-harvest or fallow application must be made at least 30 days prior to planting any crop not listed on this label. See APPLICATION EQUIPMENT AND TECHNIQUES section of this label for additional information.

#### BRASSICA VEGETABLES

**Labeled Crops:** Broccoli, Chinese broccoli, Broccoli raab, Brussels sprouts, Cabbage, Chinese cabbage, Chinese mustard cabbage, Cauliflower, Cavalo Broccolo, Collards, Kale, Kohlrabi, Mizuna, Mustard greens, Mustard spinach, Rape greens

#### BULB VEGETABLES

**Labeled Crops:** Garlic, Great-headed garlic, Leak, Onion (dry bulb and green), Welsh onion, Shallot

#### CUCURBIT VEGETABLES AND FRUITS

**Labeled Crops:** Chayote, Chinese waxgourd, citron melon, cucumber, Gherkin, Edible gourd (including hyotan, cucuzza, hechima, Chinese okra), Melons (all), Momordica spp. (including balsam apple, balsam pear, bittermelon, Chinese cucumber), Muskmelon (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 (including crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini), Winter squash (including butternut squash, calabaza, hubbard squash, acorn squash, spaghetti squash), Watermelon

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

#### LEAFY VEGETABLES

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

**Precaution:** For watercress, avoid application within 3 days prior to seeding and during the period between seeding and emergence to minimize the risk of crop injury.

#### FRUITING VEGETABLES

**Labeled Crops:** Eggplant, Groundcherry, Pepino, Pepper (including bell pepper, chili pepper, cooking pepper, pimento, sweet pepper, Tomatillo, Tomato

**Precautions and Restrictions:** For eggplant, ground cherry, pepper (all) and tomatillo, allow at least 3 days between application and planting. For tomato and tomatillos grown on sandy soil, do not apply using hooded sprayer, shielded sprayer or wiper applicator in row middles because of the potential for crop injury.

#### LEGUME VEGETABLES (SUCCULENT OR DRIED)

**Labeled crops:** Bean (Lupinus: including grain lupin, sweet lupin, white lupin, and white sweet lupin), Bean (Phaseolus including field bean, kidney bean, lima bean navy bean, pinto bean, runner bean, snap bean, tepary bean, wax bean), Bean (Vigna: including 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: including dwarf pea, edible-podded pea, English pea, Field pea, garden pea, green pea, snowpea, sugar snap pea), Pigeon pea, Soybean (immature seed), Sword bean

**Precautions and Restrictions:** Apply at least 7 days before harvest. Only one application per year may be made; do not combine a preharvest spray with a spot treatment on the same crop area. Employ at least a 30-day plant-back interval between treatment and replanting for any crop not listed in this product's label. Do not treat field cowpeas, since these are considered to be grown as livestock feed.

SPOT TREATMENT (Dry Beans, Peas, Lentils And Chickpeas Only)

**Use Instructions:** This product may be applied as a spot treatment to control troublesome weeds such as Canada thistle, quackgrass, mayweed (dog fennel), and milkweed. Apply up to 1 quart of this product per acre in dry beans, or up to 3 quarts per acre in dry peas, lentils and chickpeas in 10 to 20 gallons of water through ground spray equipment or use a 2 percent solution in a handheld sprayer. For best results, applications must be made at or beyond the bud stage of growth.

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

PREHARVEST (Dry Beans, Peas, Lentils And Chickpeas Only)

**Use Instructions:** This product may be applied as an over-the-top application. Apply up to 1 quart per acre in dry beans, or up to 3 quarts per acre in dry peas, lentils, and chickpeas, in 3 to 20 gallons of water per acre at the hard dough stage of the legume seed (30 percent grain moisture or less).

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

ROOT AND TUBER VEGETABLES

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

DIRECTED APPLICATION (Non-Bearing Ginseng Only): This product may be used for weed control in established nonbearing ginseng. Applications may be made with boom equipment, CDA, shielded sprayers, hand-held and high volume wands, lances, orchard guns or with wiper application equipment.

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

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

WIPER APPLICATORS (Rutabagas): A wiper applicator may be used over the top of rutabagas for the control of taller weeds.

Precautions and Restrictions: Allow at least 14 days between application and harvest. Contact with this product onto desirable vegetation may result in crop damage.

### 9.11 Miscellaneous Crops

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

TYPES OF APPLICATIONS: Those listed in the Annual and Perennial Crops section of this label, plus the following: Weed Control, Site Preparation, Spot Treatment (Asparagus).

**Precautions, Restrictions:** Avoid contact of herbicide with foliage, green shoots or stems, bark, exposed roots (including those emerging from plastic mulch), or fruit of crops because severe injury or destruction may result. When making preemergence and at planting applications, applications must be made before crop emergence to avoid severe crop injury. Broadcast applications made at emergence will result in injury or death to emerged seedlings. In crops with vines, hooded sprayer, shielded sprayer, and wiper application to row middles should be made prior to vine development otherwise severe injury or destruction may result. Unless otherwise specified in this product's labeling, treatments with

selective equipment including wipers and hooded sprayers must be made at least 14 days prior to harvest. Post-harvest or fallow applications must be made at least 30 days prior to planting any non-labeled crop. See APPLICATION EQUIPMENT AND TECHNIQUES section of this label.

#### WEED CONTROL, SITE PREPARATION

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

**Precautions, Restrictions:** 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 should be taken to ensure that the water 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. 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 ONLY

**Use Instructions:** Apply this product immediately after cutting, but prior to the emergence of new spears.

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

#### POSTHARVEST ASPARAGUS

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

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

**NOTE:** Select and use directed types of spray equipment for postemergence postharvest applications. A directed spray is any application where the spray pattern is aligned in such a way as to avoid direct contact of the spray with the crop. A shielded spray is any application where a physical barrier is positioned and maintained between the spray and the crop to prevent contact of spray with the crop.

## 10.0 TREE VINE AND SHRUB CROPS

**NOTE:** This section gives directions that apply to all citrus crops, tree fruits, tree nuts and vine crops. See the individual crop sections for instructions, preharvest intervals, precautions and restrictions for specific crops.

**TYPES OF APPLICATION:** Preplant (site preparation) Broadcast Sprays, Weed Control, Middles (in-between rows of trees, vines, or bushes), Strips (within rows of trees, vines or bushes), Selective Equipment (shielded sprayer, wiper applicators), Directed spray, Spot treatment, Perennial Grass Suppression, Cut Stump.

This product may be applied using boom spray equipment, CDA, a shielded sprayer, a wiper applicator, a hand-held or backpack wand, lance, or orchard gun, unless prohibited in the specific crop sections that follow.

**Use Instructions:** This product may be applied in middles, strips and for weed control or perennial grass suppression in established tree fruit and tree nut orchards, berries and vineyards. It may also be used for site preparation prior to planting or transplanting these crops. Apply at 1 pint to 5 quarts per acre according to the ANNUAL WEEDS RATE SECTION AND PERENNIAL WEEDS RATE SECTION of this label. Use the higher rates in the given range when weeds are stressed, growing in dense populations or are greater than 12 inches tall. Repeat applications may be made up to a maximum of 10.6 quarts per acre per year.

**Precaution and Restrictions:** Use extreme care to avoid contact of this herbicide solution, spray, drift or mist with foliage or green bark of trunk branches, suckers, fruit or other part of trees, canes, and vines. Avoid application when recent pruning wounds or other mechanical injury has occurred. Contact of this product with other than matured brown bark can result in serious crop damage or destruction. For application in strips (within rows of trees), only use selective equipment (directed spray, hooded sprayer, shielded sprayer, or wiper applicator) in order to minimize the potential for overspray or drift of this product on to the crop. For berry crops, hooded or shielded sprayers must be fully enclosed including top, sides, front and back. Only wiper applicator or shielded sprayers that are capable of preventing all contact with the crop may be used. See additional instructions and precautions in the APPLICATION EQUIPMENT AND TECHNIQUES section of this label.

Allow a minimum of 3 days between application and transplanting.

#### MIDDLES (Between Rows)

**Use Instructions:** This product will control or suppress annual and perennial weeds and ground covers growing between



the rows of labeled tree and vine crops. If weeds are under drought stress, irrigate prior to application. Reduced control may result if weeds have been mowed prior to application.

**Tank Mixtures:** A tank mixture of this product plus Goal® 2XL may be used for annual weeds in middles between rows of citrus crops, tree fruits, tree nuts and vine crops. 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 this mixture when weeds are stressed or growing in dense populations. 12 to 32 oz/A of this product plus the Goal® 2XL will control annual weeds.

This product may be applied in rows of tree or vine crops and may also 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.

Devrinol 50DF	Karmex DF	Simazine 4L	Solicam DF
Direx 4L	Prowl	Simazine 80W	Surflan AS
Goal 2XL	Princep Caliber 90	Sim-trol 4L	Surflan 75W

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

#### STRIPS (In Rows)

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

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

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

#### PERENNIAL GRASS SUPPRESSION

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

For suppression of tall fescue, fine fescue, orchardgrass and quackgrass, apply 8 fluid ounces of this product in 10 to 20 gallons of water per acre.

For suppression of Kentucky bluegrass covers, apply 6 fluid ounces of this product per acre. Do not add ammonium sulfate.

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

For suppression of vegetative growth and seedhead inhibition of bahiagrass for approximately 45 days, apply 6 fluid ounces of this product in 10 to 25 gallons of water per acre. Apply 1 to 2 weeks after full green-up or after mowing to a uniform height of 3 to 4 inches. This application must be made prior to seedhead emergence.

For suppression up to 120 days, apply 4 fluid ounces of this product per acre, followed by an application of 2 to 4 fluid ounces per acre about 45 days later. Make no more than 2 applications per year.

For burndown of bermudagrass, apply 1 to 2 quarts 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 6 to 16 fluid ounces of this product per acre east of the Rocky Mountains and 16 fluid ounces of this product per acre west of the Rocky Mountains. Apply in a total spray volume of 3 to 20 gallons per acre, no sooner than 1 to 2 weeks after full green-up. If the bermudagrass is mowed prior to application, maintain a minimum of 3 inches in height. Sequential applications may be made when regrowth occurs and bermudagrass injury and stand reduction can be tolerated. East of the Rocky Mountains, rates of 6 to 10 fluid ounces per acre must be used in shaded conditions or where a lesser degree of suppression is desired.

#### CUT STUMP (TREE CROPS)

**Use Instructions:** Application of this product to freshly cut tree stumps may be made during site preparation or site

renovation, prior to transplanting tree crops. This product will control re-growth of cut stumps and re-sprouts of many types of tree species, some of which are listed below.

Citrus Trees: Calamondin, Chironja, Citron, Citrus hybrids, Grapefruit, Kumquat, Lemon, lime, Mandarin (tangerine), Orange (all), Pummelo, Tangelo (ugli), Tangor

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

Nut Trees: Almond, Beachnut, 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 application may result in reduced performance. For best results, make applications during periods of active growth and full leaf expansion.

**Precautions, Restrictions:** Do not make cut stump application when the roots of adjacent desirable trees may be grafted to the roots of the cut stump. Injury resulting from root grafting may occur in adjacent trees. Some sprouts, stems, or trees may share the same root system. Adjacent trees having 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.

### 10.1 Berry Crops

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

**TYPES OF APPLICATION:** Those listed in TREE, VINE AND SHRUB CROPS section plus Spot Treatment in Cranberry Production, Post-Harvest in Cranberry Production.

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

#### SPOT TREATMENT IN CRANBERRY PRODUCTION

**Use Instructions:** Spot treatment may be used to control weeds growing in dry ditches (interior and perimeter) of cranberry production areas. A hand-held sprayer or other appropriate application equipment listed under the APPLICATION EQUIPMENT AND TECHNIQUES section of this label may be used. Drop water level to remove standing water in ditches prior to application. With a hand-held sprayer, use 1 to 2 percent solution of this product and spray adequately to wet the vegetation only; do not spray to the point of runoff.

**Precautions, Restrictions:** To achieve maximum weed control in dry ditches after water drawdown, allow 2 or more days after treatment before reintroduction of water. Apply this product within 1 day after drawdown to ensure application to actively growing weeds. Allow a minimum of 30 days between last application and harvest of cranberries. Do not apply by air. Do not apply directly to water. Use nozzles that emit medium to large-sized droplets in order to minimize spray drift and avoid crop injury.

#### POST-HARVEST IN CRANBERRY PRODUCTION

**Use Instructions:** Application of this product may be made after the harvest of cranberries to control weeds growing in the field. Apply this product to vines that appear dormant (after they have turned red). Hand-held sprayers, wiper applicators, or other appropriate application equipment listed in the APPLICATION EQUIPMENT AND TECHNIQUES section of this label may be used for this use. With hand-held sprayers, use a 0.5 to 1 percent solution of this product and spray adequately to wet the vegetation only; do not spray to the point of runoff. With hand-held boom sprayers, apply 2 to 4 quarts of this product per acre.

**Precautions, Restrictions:** Apply this product only after cranberries have been harvested. Do not treat more than 10 percent of the total bog. Allow a minimum of 6 months between last application and next harvest of cranberries. Do not apply 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.

### 10.2 Citrus Crops

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

TYPES OF APPLICATIONS: Weed control, middles (between rows of trees), strips (in row of trees), selective equipment  
**Note:** For product use directions, see the Tree, Nut And Vine Section.

FLORIDA AND TEXAS ONLY: For burndown or control of the weeds listed below, apply the specified rates of this product in 3 to 30 gallons of water per acre. Where weed foliage is dense, use 10 to 30 gallons of water per acre.

For goatweed, apply 2 to 3 quarts of this product per acre. Apply in 20 to 30 gallons of water per acre when plants are actively growing. Use 2 quarts per acre when plants are less than 8 inches tall and 3 quarts per acre when plants are greater than 8 inches tall. If goatweed is greater than 8 inches tall, the addition of Krovar II® or Karmex® may improve control. Refer to the individual product labels for specific crops, rates, geographic restrictions and precautionary statements.

**Perennial weeds:**

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

Weed Species	Rate Per Acre			
	1 QT	2 QT	3 QT	5 QT
Bermudagrass	B	-	PC	C
Guineagrass				
Texas and Florida Ridge	B	C	C	C
Florida Flatwoods	-	B	C	C
Paragrass	B	C	C	C
Torpedograss	S	-	PC	C

Precautions, Restrictions: Allow a minimum of 1 day between last application and harvest.

**10.3 Miscellaneous Tree Food Crops**

LABELED CROPS: Cactus (fruit and pads), palm (heart, leaves), palm (oil).

TYPES OF APPLICATIONS: Those listed in the TREE, VINE, AND SHRUB CROPS section of this label.

**10.4 Non-Food Tree Crops**

LABELED CROPS: Pine, poplar, eucalyptus, Christmas trees, other non-food tree crops.

TYPES OF APPLICATIONS: Those listed in the Tree, Vine and Shrub Crops section of this label.

**Restriction:** Do not apply this product as an over-the-top broadcast spray in plantations or tree crops.

**SITE PREPARATION**

**Use Instructions:** This product may be used for weed control prior to planting non-food tree crops.

**Precautions:** Protect non-target plants from being sprayed with this product during site preparation application.

**DIRECTED SPRAYS, SPOT TREATMENT, WIPER APPLICATIONS**

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

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

**Restriction:** This product is not directed for use as an over-the-top broadcast spray in Christmas trees and other pine trees.

**10.5 Pome Fruit**

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

TYPES OF APPLICATION: Those listed in TREE, VINE and SHRUBS crops section.

**Precautions, Restrictions:** Allow a minimum of 1 day between last application and harvest in pome fruit crops.

**10.6 Stone Fruit**

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

TYPES OF APPLICATION: Those listed in TREE, VINE and SHRUBS crops section. For olive groves, apply only as a directed spray.

**Precautions, Restrictions:** Allow a minimum of 17 days between last application and harvest in stone fruit crops.

Remove suckers and low-hanging limbs at least 10 days prior to application. Avoid application 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. USE EXTREME CARE TO ENSURE THAT NO PART OF THE PEACH TREE IS CONTACTED WITH OVERSPRAY OR DRIFT OF THIS PRODUCT.

#### 10.7 Tree Nuts

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

TYPES OF APPLICATION: Those listed in TREE, VINE AND SHRUB CROPS section

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

#### 10.8 Tropical and Subtropical Trees And Fruits

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

TYPES OF APPLICATION: Those listed in TREE, VINE AND SHRUB CROPS section and as described below as a Bananacide (Bananas Only).

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

BANANACIDE (Banana Only)

**Use Instructions:** This product may be used to destroy banana plants infected with the Banana Bunchy Top Virus, as well as non-infected banana plants in order to establish disease free buffers around plantations. Remove all fruit from the plants within the treatment area prior to treatment. Inject 1/25 of a fluid ounce (1 milliliter) of this concentrated product (undiluted) for every 2 to 3 inches of pseudostem diameter of the banana plant. Make the injection at least one foot above the ground, except for very small plants, which can be injected vertically into the top. Any subsequent re-growth must also be destroyed. Mechanically destroy all plants and mats (or units) within a 4-foot radius around a treated mat.

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.

**Precautions, Restrictions:** Do not apply more than 0.5 fluid ounce (15 milliliter) 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.

#### 10.9 Vine Crops

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

TYPES OF APPLICATIONS: Those listed in Section 8.0.

**Use Instructions:** 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.

**Precautions, Restrictions:** Allow a minimum of 14 days between last application and harvest. Do not use selective equipment in kiwi. 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 sprayer or wiper equipment.

#### 11.0 PASTURE GRASSES, FORAGE LEGUMES, & RANGELAND

**Use Instructions:** Refer to the ANNUAL WEEDS, PERENNIAL WEEDS, and WOODY BRUSH & TREES rate tables of this label for application rates of this product for specific weeds. When applied as directed, this product will control those annual and perennial grasses and broadleaf weeds. Application rates specified on this label for the control of tough weeds supercede rates listed in the rate tables of this label.

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

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

**TYPES OF APPLICATIONS:** Dormant, preplant, preemergence, at-planting, spot treatment, wiper applicators, renovation, preharvest.

#### PREPLANT, PREEMERGENCE AND AT-PLANTING

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

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

#### SPOT TREATMENT OR WIPER APPLICATIONS (ALFALFA AND CLOVER ONLY)

**Use Instructions:** This product may be applied as a spot treatment in alfalfa or clover. This product may be applied with wiper applicators to control or suppress the weeds listed under WIPER APPLICATORS in the SELECTIVE EQUIPMENT section of this label. Applications may be made in the same area at 30-day intervals.

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

#### DORMANT (ALFALFA ONLY)

**Use Instructions:** This product will control or suppress many weeds including quackgrass, downy brome and cheatgrass in dormant alfalfa. Apply 8 to 12 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 trifoliate leaf expansion of the alfalfa. Applications made after expansion of the first trifoliate leaf of the alfalfa will cause growth reduction and reduced crop yield.

**Precautions, Restrictions:** Do not use ammonium sulfate when spraying dormant alfalfa with this product. Do not use this product where a slight yield reduction in the first cutting of alfalfa cannot be tolerated. Do not make more than one application per year. Allow 36 hours after application before grazing livestock or harvesting. Slight discoloration of the alfalfa may occur, but the alfalfa will regreen and regrow under moist soil conditions as effects of this product wear off. Application of this product can cause crop injury. To the extent consistent with applicable law, any crop injury is the sole responsibility of the applicator.

#### PREHARVEST (ALFALFA ONLY)

**Use Instructions:** This product may be used in declining alfalfa stands or any stand of alfalfa where crop destruction is acceptable. This application will severely injure or destroy the stand of alfalfa. This product will control annual and perennial weeds including quackgrass, when applied prior to the harvest of alfalfa.

**Precautions, Restrictions:** The treated crop and weeds can be harvested and fed to livestock after 36 hours. Do not apply more than 2 quarts of this product per acre as a preharvest treatment. Applications may be made at any time of the year. Make only one application to an existing stand of alfalfa per year. For control of quackgrass, apply in the spring, late summer or fall when quackgrass is actively growing. Treatments for quackgrass must be followed by deep tillage for complete control. Do not use for alfalfa grown for seed, as a reduction in germination or vigor may occur.

#### RENOVATION

**Use Instructions:** This product may be applied as a broadcast spray to existing stands of alfalfa, clover, and other labeled forage legumes. Labeled crops may be planted into the treated area. Make applications according to the rates listed in the ANNUAL WEEDS, PERENNIAL WEEDS, and WOODY BRUSH & TREES rate tables.

**Precautions, Restrictions:** Remove domestic livestock before application. If application rates of 2 quarts per acre or less are used, wait 36 hours after application before grazing or harvesting. If application rates greater than 2 quarts per acre are used, wait 8 weeks after application before grazing or harvesting.

### 11.2 Conservation Reserve Program (CRP)

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

#### RENOVATION (ROTATING OUT OF CRP), SITE PREPARATION

**Use Instructions:** This product may be used to prepare CRP land for crop production. Refer to Federal, state or local use guides for CRP renovation directions.

**Precautions, Restrictions:** For any crop not listed for treatment in this product's label booklet, applications must be made at least 30 days prior to planting.

#### POSTEMERGENCE WEED CONTROL IN DORMANT CRP GRASSES, WIPER APPLICATIONS OVER-THE-TOP

**Use Instructions:** This product may be used to suppress competitive growth and seed production of undesirable vegetation in CRP acres. Such applications may be made with wiper application equipment or as a broadcast or spot treatment to dormant CRP grasses. For selective applications with broadcast spray equipment, apply 12 to 16 fluid ounces of this product per acre in early spring before desirable CRP grasses, such as crested and tall wheatgrass, break dormancy and initiate green growth. Late fall applications can be made after desirable perennial grasses have reached dormancy.

**Precautions, 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 3 quarts per acre per year onto CRP grasses.

### 11.3 Grass Seed or Sod Production

**LABELLED CROPS:** Any grass (*Gramineae* family) except Corn, Sorghum, Sugarcane and those listed in this product's label booklet under Cereal and Grain Crops.

**TYPES OF APPLICATION:** Preplant, At-Planting, Preemergence, Renovation, Site Preparation, Shielded Sprayers, Wiper Applications, Spot Treatments, Creating Rows in Annual Ryegrass.

#### PREPLANT, AT-PLANTING, PREEMERGENCE, RENOVATION, SITE PREPARATION

**Use Instructions:** This product controls most existing vegetation prior to renovating turf or forage grass seed areas or establishing turf grass grown for sod. Make applications before, during or after planting or for renovation. For maximum control of existing vegetation, delay planting to determine if any regrowth from escaped underground plant parts occurs. Where existing vegetation is growing under mowed turfgrass management, apply this product after omitting at least one regular mowing to allow sufficient growth for good interception of the spray. Where repeat treatments are necessary, sufficient regrowth must be attained prior to application. For warm-season grasses, such as Bermudagrass, summer or fall applications provide best control. Broadcast equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested.

**Precautions, Restrictions:** Do not disturb soil or underground plant parts before treatment. Tillage or renovation techniques such as vertical mowing, coring or slicing should be delayed for 7 days after application to allow proper translocation into underground plant parts. If application rates total 3 quarts per acre or less, no waiting period between treatment and feeding or livestock grazing is required. If the rate is greater than 3 quarts per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting. For any crop not listed for treatment in this product's label booklet, applications must be made at least 30 days prior to planting. Applications must be made prior to the emergence of the crop to avoid crop injury.

#### SHIELDED SPRAYERS

**Use Instructions:** Apply 1 to 3 quarts of this product in 10 to 20 gallons of water per acre to control weeds between grass seed rows. Uniform planting in straight rows 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 instructions, see Shielded Applicators in the APPLICATION EQUIPMENT AND TECHNIQUES section of this product's label booklet.

**Precautions, Restrictions:** 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.

#### WIPER APPLICATIONS OVER-THE-TOP

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

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

#### SPOT TREATMENTS

**Use Instructions:** Use a 1.0 to 1.5 percent solution.

**Precautions, Restrictions:** Apply this product prior to heading of grass. Crop sprayed in treated area will be killed. Take

care not to spray or to allow spray to drift outside the target area to avoid unwanted crop destruction. Hand-held equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested.

#### CREATING ROWS IN ANNUAL RYEGRASS

**Use Instructions:** Use 1 to 2 pints of this product per acre. Use the higher rate when the ryegrass is greater than 6 inches tall. Best results are obtained when applications are made before the ryegrass reaches 6 inches in height.

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

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

### 11.4 Pasture

**LABELED CROPS:** Any grass except Corn, Sorghum, Sugarcane and those listed in the CEREAL AND GRAIN CROPS section, but including Bahiagrass, bermudagrass, bluegrass, brome, fescue, orchardgrass, ryegrass, timothy, wheatgrass.

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

#### SPOT TREATMENT AND WIPER APPLICATION

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

**Precautions, Restrictions:** For spot treatment and wiper applications at rates of 3 quarts per acre or less, no waiting period between treatment and feed or livestock grazing is required. If rate is greater than 3 quarts per acre, no more than one-tenth of any acre must be treated at one time. Remove domestic livestock before application and wait 7 days after application before grazing livestock or harvesting.

#### PREPLANT, PREEMERGENCE AND PASTURE RENOVATION

**Use Instructions:** This product may be applied prior to planting or emergence of forage grasses and legumes. In addition, this product may be used to control perennial pasture species listed on this label prior to replanting. Make applications according to the rates listed in ANNUAL WEEDS and PERENNIAL WEEDS and WOODY BRUSH & TREES rate tables.

**Precautions, Restrictions:** If application rates total 3 quarts per acre or less, no waiting period between treatment and feed or livestock grazing is required. If rate is greater than 3 quarts per acre, remove domestic livestock and wait 8 weeks after application before grazing or harvesting.

#### CHEMICAL MOWING (BERMUDAGRASS PASTURES PRIOR TO SPRING GROWTH OR IMMEDIATELY AFTER FIRST CUTTING)

**Use Instructions:** This product may be applied at 16 ounces per acre to control Annual bluegrass, Cheat, Crabgrass, Henbit Johnsongrass seedling, Little barley, Oats, Ryegrass, Sandbur field, Wheat, Wild mustard and most other winter annual grass and broadleaf weeds in established coastal bermudagrass pastures.

Applications prior to spring growth: Apply this product in the late winter or early spring but before new coastal bermudagrass growth begins in the spring. Applications to new growth can damage the bermudagrass.

Applications following the first cutting: Apply this product after the first bermudagrass cutting when the bermudagrass has not yet begun to regrow. Applications made after regrowth has begun can damage the bermudagrass.

**Precautions, Restrictions:** Directed application rates totaling 3 quarts per acre or less do not require a waiting period between treatment and feeding or livestock grazing.

**Restriction:** Only one application per year may be made to any one field. A spring application prior to growth and an application following the first cutting may not be made on the field during the same year.

#### BROMUS SPECIES

This product may be used to treat downy brome, Japanese brome, soft chess, and cheatgrass found in industrial, rangeland and pasture sites. Apply 8 to 16 fluid ounces of product per acre on a broadcast basis. For best results, treatment should coincide with early seedhead emergence of the most mature plants. Delaying the application until this growth stage will maximize the emergence of other weedy grass flushes. Applications should be made to the same site each year until seed banks are depleted and the desirable perennial grasses are able to become reestablished on the site.

### 11.5 Rangeland

LABELED CROPS: Rangeland (Perennial cool and warm season grass rangelands)

TYPES OF APPLICATION: Postemergent

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

Grazing of treated areas should be delayed to encourage growth of desirable perennials. Allowing desirable perennials to flower and reseed in the treated area will encourage successful transition. Apply 12 to 16 fluid ounces of this product per acre to control or suppress many annual weeds growing in perennial cool and warm-season grass rangelands including downy brome, cheat grass, cereal rye and jointed goat grass. Apply when most mature brome plants are in early flower and before the plants, including seedheads, turn color. Allowing for secondary weed flushes to occur in the spring following rain events further depletes the seed reserve and encourages perennial grasses conversion on weedy sites. Fall applications are possible, when directed, where spring moisture is usually limited and fall germination allows for good weed growth. For Medusahead, apply 16 fluid ounces per acre at the 3-leaf stage. Delaying applications beyond this stage will result in reduced or unacceptable control. Fire may be useful in elimination of the thatch layer produced by slow decaying culms prior to application. Allow new growth to occur before spraying after a burn.

**Precautions, Restrictions:** Do not use ammonium sulfate when spraying dormant rangeland grasses with this product. Do not apply more than 3 quarts per acre per year. 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.

### 11.6 Release of Bermudagrass or Bahiagrass

**Use Instructions:** This product may be used to control or partially control many winter annual weeds and tall fescue for effective release of dormant bermudagrass or bahiagrass. Treat only when turf is dormant and prior to spring greenup. This product may also be tank-mixed with Oust® for residual control. Tank mixtures of this product with Oust® may delay greenup. 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 8 to 64 fluid ounces of this product per acre alone or in a tank mixture with the labeled rate of Oust®. Apply the specified rates in 10 to 40 gallons of water per acre. Use only in areas where bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated.

#### ACTIVELY GROWING BERMUDAGRASS

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing bermudagrass. Apply 1 to 3 pints of this product in 10 to 40 gallons of spray solution per acre. Use the lower rate when treating annual weeds below 6 inches in height (or runner length). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation. These rates will also provide partial control of the following perennial species: Bahiagrass, Bluestem (silver), Fescue (tall), Johnsongrass, Trumpet creeper, Vaseygrass.

This product may be tank-mixed with Oust®. If tank-mixed, use no more than 1 to 2 pints of this product with the labeled rate of Oust®. Use the lower rates of this product to control annual weeds less than 6 inches in height (or runner length) that are listed in this label and the Oust® label. Use the higher rates as annual weeds increase in size and approach the flower or seedhead stages.

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

#### ACTIVELY GROWING BAHIAGRASS

For suppression of vegetative growth and seedhead inhibition of bahiagrass for approximately 45 days, apply 6 fluid 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 4 fluid ounces of this product per acre, followed by an application of 2 to 4 fluid ounces per acre about 45 days later. Make no more than 2 applications per year. A tank mixture of this product plus Oust® may be used. Apply 6 fluid ounces of this product plus the labeled rate of Oust® 1 to 2 weeks following an initial spring mowing. Make only one application per year.



## 12.0 ROUNDUP READY® CROPS

THE ROUNDUP READY DESIGNATION INDICATES THAT THE CROP VARIETY CONTAINS A PATENTED GENE THAT PROVIDES TOLERANCE TO THIS PRODUCT. INFORMATION ON ROUNDUP READY CROP VARIETIES MAY BE OBTAINED FROM YOUR SEED SUPPLIER. ROUNDUP READY CROP VARIETIES MUST BE PURCHASED FROM AN AUTHORIZED LICENSED SEED SUPPLIER.

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

THE MANUFACTURER SPECIFIES USE OF THIS PRODUCT FOR POSTEMERGENCE APPLICATION ONLY ON CROP VARIETIES DESIGNATED AS CONTAINING A ROUNDUP READY GENE OR GLYPHOSATE RESISTANT GENE.

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

**NOTE:** Roundup Ready seed, and the method of selectivity controlling weeds using glyphosate on a Roundup Ready crop, are protected under several U.S. Patents. A license to use Roundup Ready seed must be obtained prior to use.

Refer to ANNUAL WEEDS RATE SECTION and PERENNIAL WEEDS RATE SECTION of this label for application rates for specific weeds. When applied as directed, this product will control the annual and perennial grasses and broadleaf weeds listed. Observe the maximum application rates and crop stage timings specified for individual Roundup Ready Crops in the sections that follow.

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 A GLYPHOSATE TOLERANT 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 fertilizers may result in reduced weed control or crop injury and are NOT specified for over-the-top applications. Read all labels for products used in the tank mixture prior to use to determine the potential for crop injury. 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. Always predetermine the compatibility of tank-mix products together in the carrier by mixing small proportional quantities in advance. The manufacturer has not tested all tank-mix product formulations for compatibility, antagonism or product performance. To the extent consistent with applicable law, buyer and users are responsible for any and all loss or damage in connection with use or handling of mixture of this product with herbicides or other materials that are not specifically identified on this label.

Unless otherwise directed, nonionic surfactant may be added to the spray solution for application to the Roundup Ready crops. The addition of certain surfactant to the product may result in some crop response, including leaf speckling or leaf necrosis due to the surfactant added to the spray mixture. Refer to the MIXING section for information on use of surfactants.

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

### SPRAYER PREPARATION

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

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

### 12.1 Roundup Ready® Alfalfa

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

**Use Instructions:** Refer to the following table for the maximum application rates of this product.

Annual Maximum Application Rates	
Combined total per year for all applications, including preplant during year of establishment	8 quarts per acre
Combined total per year for in-crop applications for newly established and established stands(non-seeding year).	6 quarts per acre

**Precautions, Restrictions:** See the ROUNDUP READY CROPS section of this label for precautionary instructions for use of this product in Roundup Ready crops. See the PRODUCT INFORMATION section of this label for more information on Annual Maximum 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.

#### PREPLANT, AT-PLANTING, PREEMERGENCE

**Use Instructions:** This product may be applied before, during or after planting alfalfa with a Roundup Ready gene, up to a maximum of 2 quarts per acre.

#### POSTEMERGENCE (IN-CROP)

**Use Instructions:** Applications of this product may be made over the top of Roundup Ready alfalfa (in-crop) from emergence to 5 days prior to harvest. To maximize crop yield and quality potential, applications of this product must be made after weeds have emerged but before alfalfa growth or regrowth interferes with coverage of the target weeds.

Refer to the ANNUAL WEEDS RATE SECTION and PERENNIAL WEEDS RATE SECTION in this label for rate specified for specific weeds. 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 the parasitic weed Dodder (*Cuscuta spp*) in Roundup Ready alfalfa. Repeat applications may be necessary for complete control.

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

STAND ESTABLISHMENT (Seeding Year) Application Rates	
Prior to First Cutting	
From emergence up to 4 trifoliolate leaves	1 to 2 quarts per acre
From 5 trifoliolate leaves up to 5 days before first cutting	Up to 2 quarts per acre
After First Cutting	
In-crop application, per cutting, up to 5 days before cutting	Up to 2 quarts per acre

**ESTABLISHED STANDS (Non-Seeding Year) –** Refer to the following table for directions and maximum application rates for in-crop applications to established stands of alfalfa (non-seeding year).

ESTABLISHED STANDS (non-seeding year) Application Rates	
In-crop application, per cutting, up to 5 days before cutting	Up to 2 quarts per acre

**Precautions, Restrictions:** 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-glyphosate tolerant species. Any single in-crop application of this product must not exceed 2 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 6 quarts per acre. Remove domestic livestock before application. Wait a minimum of 5 days after application before grazing, cutting and feeding of forage and hay.

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

### 12.2 Roundup Ready Canola (Spring Varieties)

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

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

Do not use this product on canola with a glyphosate tolerant gene planted in the following states: Alabama, Delaware, Florida, Georgia, Kentucky, Maryland, New Jersey, North Carolina, South Carolina, Tennessee, Virginia and West Virginia, except for uses in wildlife, food plots that will not be harvested for human or livestock food.

**Use Instructions:** Refer to the following table for the maximum application rates for this product with spring varieties of Roundup Ready canola.

Maximum Application Rates	
Total of all Preplant, At-Planting, Preemergence applications	2 quarts per acre
Total of all In-crop Applications from emergence to 6-Leaf Stage	1 quart per acre

**Precautions, Restrictions:** See the ROUNDUP READY CROPS section of this label for precautionary instructions regarding the use of this product in Roundup Ready crops. See the PRODUCT INFORMATION section of this label for more information on Maximum Application Rates.

#### PREPLANT, AT-PLANTING, PREEMERGENCE

**Use Instructions:** This product may be applied before, during or after planting Roundup Ready canola.

**Precautions, Restrictions:** Maximum quantity of this product that may be applied for all preplant, at-planting and preemergence applications combined is 2 quarts per acre per season.

#### POSTEMERGENCE (IN-CROP)

**Use Instructions:** This product may be applied postemergence to spring varieties of Roundup Ready canola from emergence through the 6-leaf stage of development. Application made during bolting or flowering could result in crop injury and yield loss. To maximize yield potential, eliminate competing weeds early.

Single Application – Apply 16 to 24 fluid ounces per acre no later than the 6-leaf stage for the control of annual weeds. Avoid overlapping applications, which could result in temporary yellowing, delayed flowering, and/or growth reduction. Similar crop injury could result when more than 16 fluid ounces per acre is applied after the 4-leaf stage.

Sequential Application – Apply 16 fluid ounces per acre to 1 to 3-leaf canola followed by a sequential application at a minimum interval of 10 days, but no later than the 6-leaf stage. Sequential application works best for control of early emerging annual weeds and perennial weeds such as Canada thistle and quackgrass, or when more than one application is needed for adequate weed control.

**Precautions, Restrictions:** No more than two in-crop (over-the-top) broadcast applications may be made from crop emergence through the 6-leaf stage of development and the total in-crop application must not exceed 32 fluid ounces of this product per acre. Allow a minimum of 60 days between last application and canola harvest.

### 12.3 Roundup Ready Canola (Winter Varieties)

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

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

**Use Instructions:** Refer to the following table for the maximum application rates of this product with winter varieties of Roundup Ready canola.

Maximum Application Rates	
Total of all Preplant, At-Planting, Preemergence applications	2 quarts per acre
Total of all In-crop Applications from emergence to canopy closure or prior to bolting in the spring	2 quarts per acre

**Precautions, Restrictions:** See the ROUNDUP READY CROPS section of this label for precautionary instructions regarding the use of this product in Roundup Ready crops. See the PRODUCT INFORMATION section of this label for more information on Maximum Application Rates.

#### PREPLANT, AT-PLANTING, PREEMERGENCE

**Use Instructions:** This product may be applied to winter varieties of Roundup Ready canola during or after planting, up to a maximum of 2 quarts per acre.

#### POSTEMERGENCE (In-crop)

**Use Instructions:** This product may be applied to winter varieties of Roundup Ready canola from emergence to canopy closure in the fall and prior to bolting in the spring. Application made during or after bolting could result in crop injury and yield loss. To maximize yield potential, eliminate competing weeds early. Some weeds with multiple germination times, or suppressed (stunted) weeds, or weeds that have overwintered may require a sequential application of this product for control. Make second application after some weed regrowth has occurred and at least 60 days after a previous application of this product.

Single Application – Apply 24 to 32 fluid ounces of this product per acre in the fall when weeds are small and actively growing. Use the higher rate within this range when weed densities are high, when weeds have overwintered or when weeds become large and well established. Application of greater than 24 fluid ounces per acre prior to the 6-leaf stage may result in reduced crop growth in the fall. Avoid spray overlaps. Spray overlaps could result in temporary yellowing and/or growth reduction.

Sequential Application – Apply 16 to 32 fluid ounces of this product per acre to 2-leaf or larger canola in the fall, followed by a sequential application at the same rate and at a minimum interval of 60 days, but before bolting in the spring. Sequential application works best for control of early emerging annual weeds and winter emerging weeds such as downy brome, jointed goatgrass and ryegrass, and for weeds that have overwintered. This product will control or suppress most perennial weeds. For some perennial weeds, sequential application may be required to reduce competition with the crop.

**Precautions, Restrictions:** No more than two over-the-top broadcast applications may be made from crop emergence up to the onset of bolting, and the total in-crop application must not exceed 64 fluid ounces of this product per acre. Application of greater than 24 fluid ounces per acre prior to the 6-leaf stage could result in reduced crop growth in the fall. Allow a minimum of 60 days between last application and harvest of canola grain. No waiting period is required between application and open grazing of livestock.

### 12.4 ROUNDUP READY CORN

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

TYPES OF APPLICATIONS: Preplant, at-planting, Preemergence, Postemergence (in-crop), Spot treatment, Preharvest, Post-harvest

USE INSTRUCTIONS: The following table gives the maximum application rates of this product with corn hybrids with the Roundup Ready technology.

Maximum Yearly Rates Allowed	
Total of Preplant/Preemergence (Maximum)	5 quarts /A
Total In-crop Applications from Emergence to 12-leaf Stage or 30 inches	2 quarts/A
Maximum Preharvest Rate	1 quart/A
Combined Total Per Year for All Applications	8 quarts /A

#### PREPLANT, PREEMERGENCE AND AT-PLANTING

**Use Instructions:** This product may be applied before, during or after planting corn.

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.

BULLET®  
DEGREE®

HARNESS®  
HARNESS® XTRA

HARNESS® XTRA 5.6L  
MICRO-TECH®

#### POSTEMERGENCE (IN CROP)

**Use Instructions:** This product may be applied emergence through V8 stage (8 leaves with collars) or until corn height reaches 30 inches, whichever comes first. When applied as directed, this product will control annual grasses and broadleaf weeds listed on this label. Many perennial grasses and broadleaf weeds will be controlled or suppressed with one or more applications of this product. Make a postemergence application of 24 to 32 fluid ounces of this product per acre before weeds exceed 4 inches in height. Single in-crop application of this product must not exceed 1 quart per acre. If new flushes of weeds occur, sequential in-crop applications of this product from emergence through 30 inches in height may be needed. Sequential applications must not exceed 2 quarts per acre per growing season. Allow a minimum of 10 days between in-crop applications of this product. Allow a minimum of 50 days between application of this product and harvest of corn forage.

**Tank Mixtures:** This product may be applied in tank mixture with a labeled rate of Degree, Degree Xtra, Harness, Harness Xtra, Harness Xtra 5.6, Micro-Tech and Bullet at the 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.

Tank mixtures with other products may result in increased potential for crop injury and/or weed antagonism. Refer to the table below for height limitation for tank mix partner.

**Precautions, Restrictions:** Allow a minimum of 10 days between in-crop applications of this product. Allow a minimum of 50 days between application of this product and harvest of corn forage or grain.

#### PREHARVEST

**Use Instructions:** This product may be applied for annual and perennial weed control prior to crop harvest at use rates up to 1 quart per acre. 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).

**Precautions, Restrictions:** A preharvest application of this product may only be made if the combined total of previous applied over-the-top or drop nozzle applications does not exceed 64 fluid ounces of this product per acre. Allow a minimum of 7 days between application and harvest.

#### POST-HARVEST

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

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

### 12.5 Roundup Ready® Cotton

**TYPES OF APPLICATION:** Preplant, Preemergence, At-Planting, Postemergence (In-Crop), Selective Equipment (In-Crop), Preharvest

**Use Instructions:** Refer to the following table for maximum application rates of this product with Roundup Ready cotton.

Maximum Application Rates	
Combined total per year for all applications	8 quarts per acre
Total of all Preplant, At-Planting, Preemergence applications	5 quarts per acre
Total of all In-Crop applications from ground checking to layby	4 quarts per acre
Maximum Preharvest application rate	2 quarts per acre

**Precautions, Restrictions:** See the ROUNDUP READY CROPS sections of this label for precautionary instructions regarding the use of this product in Roundup Ready crops. Allow a minimum of 7 days between application and harvest.

#### PREPLANT, AT-PLANTING, PREEMERGENCE

**Use Instructions:** This product may be applied before, during or after planting Roundup Ready cotton.

**Restriction:** 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.

#### POSTEMERGENCE (IN-CROP)

This product must be used for postemergence application only on crop varieties designated as containing the Roundup Ready gene. Applying to crop varieties not designated as Roundup Ready will result in severe crop injury and yield loss.

##### **Use Instructions:**

- This product may be applied over the top of Roundup Ready cotton (in-crop) at rates up to 1 quart per acre per application from the ground cracking stage until the 4-leaf (node) stage of development (until the fifth leaf reaches the size of a quarter).
- No more than two over-the-top broadcast applications may be made from crop emergence through the 4-leaf (node) stage of development. Sequential over-the-top or post-directed applications of this product in-crop must be at least 10 days apart and cotton must have at least two nodes of incremental growth between applications.
- Over-the-top applications made after the 4-leaf (node) stage of development may result in boll loss, delayed maturity, and/or yield loss.

**Restrictions:** Do not add additional surfactant or additives containing surfactant to this product for over-the-top applications to Roundup Ready cotton.

#### SALVAGE TREATMENT

**Use Instructions:** This treatment may be used after the 4-leaf stage of development and only where weeds threaten to cause the loss of the crop. Apply 1 quart 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.

**Precaution:** Salvage treatment will result in significant boll loss, delayed maturity and/or yield loss.

**Restrictions:** Do not add additional surfactant or additives containing surfactant to this product for over-the-top applications to Roundup Ready cotton. No more than one salvage treatment may be used per growing season.

#### SELECTIVE EQUIPMENT (IN-CROP)

**Use Instructions:** This product may be applied using precision post-direct or hooded sprayers at rates up to 1 quart per acre per application to Roundup Ready cotton through layby. At this stage, use post-directed equipment to direct the spray to the base of the cotton plants. Avoid contact of the herbicide spray with the cotton leaves to the maximum extent possible. To minimize spray contact maintain low spray pressure (less than 30 pounds per square inch) and place nozzles in a low position, directing a horizontal spray pattern under the cotton leaves and onto weeds in the row. For best results, apply this product while weeds are small (less than 3 inches). See additional use instructions in the APPLICATIONS EQUIPMENT AND TECHNIQUES section of this label.

**Precautions, Restrictions:** No more than two applications of this product may be made from the 5-leaf stage through layby. Sequential over-the-top or post-directed applications of this product in-crop must be at least 10 days apart and cotton must have at least two nodes of incremental growth between applications. Refer to individual tank-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

#### PREHARVEST

**Use Instructions:** This product may be applied for annual and perennial weed control prior to crop harvest after 20 percent boll crack. Apply up to 2 quarts of this product per acre. **NOTE:** This product will not enhance the performance of harvest aids when applied to Roundup Ready cotton.

**Restrictions:** Allow a minimum of 7 days between application and harvest of cotton. Do not apply this product for preharvest weed control to Roundup Ready cotton grown for seed, as a reduction in germination or vigor may occur. Buyer and all users are responsible for any and all loss or damage in connection with the preharvest use of this product on Roundup Ready cotton grown for seed. Do not add additional surfactant or additives containing surfactant to this product for preharvest application to Roundup Ready cotton.

**ATTENTION:** Use of this product in accordance with label directions is expected to result in normal growth of Roundup Ready cotton. However, due to the sensitivity of cotton fruiting to various environmental conditions, agronomic practices and other factors, it is impossible to eliminate all risks associated with this product, even when applications are made in conformance with the label specifications. In some cases, these factors can result in boll loss, delayed maturity and/or yield loss.

#### **12.6 Roundup Ready Flex Cotton**

THE INSTRUCTIONS PROVIDED IN THIS SECTION ARE SPECIFIC TO, AND MAY ONLY BE USED WITH, VARIETIES DESIGNATED AS ROUNDUP READY *FLEX* COTTON. APPLICATIONS DESCRIBED IN THIS SECTION

ON OTHER THAN ROUNDUP READY FLEX COTTON WILL CAUSE CROP INJURY AND REDUCED YIELDS. DO NOT combine the instructions in this section, with those in the Roundup Ready Cotton sections of this label, or with any other Roundup Ready cotton or Roundup Ready Flex cotton instructions on labeling for this or any other glyphosate-containing products. Drift of this product from any application 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.

TYPES OF APPLICATION: Preplant, At-Planting, Preemergence, Postemergence (In-Crop), Preharvest

**Use Instructions:** Refer to the following table for maximum application rates of this product with Roundup Ready Flex cotton.

Maximum Application Rates	
Combined total per year for all applications	8 quarts per acre
Total of all Preplant, At-Planting, Preemergence applications	5 quarts per acre
Total of all in-crop applications from cracking to 60 percent open bolls	6 quarts per acre
Total of all in-crop applications between layby and 60 percent open bolls	2 quarts per acre
Total of all in-crop applications from 60 percent bolls open to 7 days prior to harvest	2 quarts per acre
Total of all in-crop applications from emergence through harvest	6 quarts per acre

**Precautions, Restrictions:** See the ROUNDUP READY CROPS section of this label for precautionary instructions regarding the use of this product in Roundup Ready crops. See the PRODUCT INFORMATION section of this label for more information on Maximum Application Rates.

#### PREPLANT, AT-PLANTING, PREEMERGENCE

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

**Precautions, Restrictions:** Maximum quantity of this product that may be applied for all preplant, at-planting and preemergence applications combined is 5 quarts per acre per season. Refer to individual tank-mix product label for restrictions and precautions; used according to the most restrictive precautionary statements for each product in the tank mixture.

#### POSTEMERGENCE (IN –CROP)

**Use Instructions:** This product may be applied to control annual grasses and broadleaf weeds listed on this label in Roundup Ready Flex cotton. To maximize yield potential, eliminate competing weeds early. Many perennial weeds will be controlled or suppressed with one or more applications of this product. Use an initial application of 1 quart per acre to control or suppress 1 to 3 inch tall annual grasses and broadleaf weeds. This product may be applied postemergence to Roundup Ready Flex cotton using ground application equipment at rates up to 1.5 quarts per acre per application. In addition to broadcast application, post-directed spray equipment may be used to achieve more through weed coverage.

**Precautions, Restrictions:** The maximum single, in-crop application rate of this product to Round Up Ready Flex cotton using ground application equipment is 1.5 quarts per acre. In-crop application rates above 1 quart per acre made alone or with the addition of another crop chemical product containing surfactant may cause a crop response including leaf speckling or leaf necrosis. Do not exceed a maximum rate of 1 quart of this product per acre when making application by air. Between layby and 60 percent open bolls, the maximum combined total of all applications of this product made from crop emergence to 60 percent open bolls must not exceed 6 quarts per acre. **DO NOT ADD ADDITIONAL SURFACTANT OR ADDITIVES CONTAINING SURFACTANT TO THIS PRODUCT FOR OVER-THE-TOP APPLICATION TO ROUNDUP READY FLEX COTTON.** Refer to individual tank-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

#### PREHARVEST

**Use Instructions:** This product may be applied to Roundup Ready Flex cotton up to 2 quarts per acre for annual and perennial weed control prior to harvest after 60 percent boll crack.

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

**Restrictions:** Allow a minimum of 7 days between application and harvest of Roundup Ready Flex cotton. Do not add additional surfactant or additives containing surfactant to this product for preharvest application to roundup ready flex cotton.

**ATTENTION:** Use of this product in accordance with label directions is expected to result in normal growth of roundup ready flex cotton. However, due to the sensitivity of cotton fruiting to various environmental conditions, agronomic practices and other factors, it is impossible to eliminate all risks associated with this product, even when applications are

made in conformance with the label specifications. In some cases, these factors can result in boll loss, delayed maturity and/or yield loss.

### 12.7 Roundup Ready Soybean

TYPES OF APPLICATION: Preplant, Preemergence, At-Planting, Postemergence (In-crop), Preharvest, Post-Harvest

**Use Instructions:** Refer to the following table for maximum application rates of this product with Roundup Ready soybean.

Maximum Application Rates	
Combined total per year for all applications	8 quarts per acre
Total of all Preplant, At-Planting, Preemergence applications	5 quarts per acre
Total of all In-crop applications from cracking through flowering (R2 stage soybean)	3 quarts per acre
Maximum preharvest application rate	1 quart per acre

**Precautions/Restrictions:** See the ROUNDUP READY CROPS section of this label for precautionary instructions regarding the use of this product in Roundup Ready crops. The maximum combined total quantity of this product for all applications in a season is 8 quarts per acre. See the PRODUCT INFORMATION section of this label for more information on Maximum Application Rates.

#### PREPLANT, AT-PLANTING, PREEMERGENCE

**Use Instructions:** This product may be applied before, during or after planting Roundup Ready soybean.

**Precautions, Restrictions:** Maximum quantity of this product that may be applied for all preplant, at-planting and preemergence applications combined in 5 quarts per acre per season.

#### POSTEMERGENCE (IN-CROP)

**Use Instructions:** This product may be used to control annual grasses and broadleaf weeds in Roundup Ready soybean. This product can be applied from emergence (cracking) through flowering (R2 stage soybean). R2 soybean ends when a pod 5 millimeters (3/16 inch) long appears at one of the four uppermost nodes on the main stem with a fully developed leaf (R3 Stage). Refer to the ANNUAL WEEDS RATE SECTION in the label for application rates for specific annual weeds. An initial application rate of 1 quart per acre can be used to control or suppress most 2 to 8 inch tall weeds. Weeds will be 2 to 8 inches tall, approximately 2 to 5 weeks after planting. If the initial application is delayed and weeds are larger, apply a higher rate of this product. This product may be used up to 2 quarts per acre in any single in-crop application for control of annual weeds and where dense weed populations exist.

A 1 to 2 quarts per acre rate (single or multiple applications) of this product will control or suppress perennial weeds such as bermudagrass, Canada thistle, common milkweed, field bindweed, hemp dogbane, horsenettle, maretail (horseweed), nutsedge, quackgrass, rhizome johnsongrass, redvine, trumpetcreeper, swamp smartweed and wirestem muhly. For best results, allow perennial weed species to achieve at least 6 inches of growth before spraying with this product.

Under adverse growing conditions such as drought, hail, wind damage, or a poor soybean stand that slows or delays canopy closure, a sequential application of this product may be necessary to control late flushes of weeds. IN THE SOUTHERN STATES, A SEQUENTIAL APPLICATION OF THIS PRODUCT WILL BE REQUIRED TO CONTROL NEW FLUSHES OF WEEDS IN THE ROUNDUP READY SOYBEAN CROP. To control giant ragweed, apply 1 quart of this product per acre when the weed is 8 to 12 inches tall to increase control and possibly avoid the need for sequential application.

**Precautions, Restrictions:** The combined total application of this product from crop emergence through harvest must not exceed 3 quarts per acre. The maximum rate for any single in-crop application is 2 quarts per acre. The maximum combined total of this product that can be applied during flowering (R2 stage soybean) is 2 quarts per acre. Refer to individual tank-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture. In some cases, these tank-mix products will cause visual soybean injury.

#### PREHARVEST

**Use Instructions:** This product may be applied to Roundup Ready soybean for weed control prior to harvest. Apply up to 1 quart of this product per acre after pods have set and lost all green color.

**Precautions, Restrictions:** Take care to avoid excessive seed shatter loss due to ground application equipment. Allow a minimum of 14 days between final application and harvest of soybean grain or feeding of soybean grain, forage or hay.

#### POST-HARVEST



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

**Precautions, Restrictions:** Ensure that the specific product being used is labeled for weed control application after harvest of soybean. Read and follow label directions of all products in the tank mixture.

### 12.8 Roundup Ready Sugar Beet

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

**Use Instructions:** Refer to the following table for maximum application rates of this product with Roundup Ready sugar beet.

Maximum Application Rates	
Combined total per year for all applications	8 quarts per acre
Total of all Preplant, At-Planting, Preemergence applications	5 quarts per acre
Total of all applications made from emergence through the 8-leaf stage	2.5 quarts per acre
Between 8-leaf stage and canopy closure	2 quarts per acre

**Precautions, Restrictions:** See the ROUNDUP READY CROPS section of this label for precautionary instructions regarding the use of this product in Roundup Ready crops. The maximum combined total quantity of product for all applications in a season is 8 quarts per acre. See the PRODUCT INFORMATION section of this label for more information of Maximum Application Rates.

#### PREPLANT, AT-PLANTING, PREEMERGENCE

**Use Instructions:** This product may be applied before, during or after planting Roundup Ready sugar beet.

#### POSTEMERGENCE (IN-CROP)

**Use Instructions:** This product may be applied over the top of Roundup Ready sugar beet for control of annual grasses and broadleaf weeds from emergence to 30 days prior to harvest. To maximize yield potential eliminate competing weeds early. Up to 4 sequential applications of this product may be made with at least 10 days between applications. This product will control or suppress most perennial weeds. For some perennial weeds, repeat applications may be required to eliminate crop competition throughout the growing season. Refer to the ANNUAL WEEDS RATE SECTION and PERENNIAL WEEDS RATE SECTION of this label for application rates for specific weeds.

**Precautions, Restrictions:** The combined total application of this product from crop emergence through harvest must not exceed 4.5 quarts per acre. The maximum rate for any single application from crop emergence until the 8-leaf stage is 1.5 quarts per acre. The maximum rate for any single application between the 8-leaf stage and canopy closure is 1 quart per acre. Allow a minimum of 30 days between last application and sugar beet harvest. Tank mixtures of this product with herbicides, insecticides or fungicides may result in crop injury or reduced weed control. Refer to individual tank-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

### 13.0 NON-AGRICULTURAL USES AROUND FARMSTEADS

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

**Use Instructions:** Make applications according to the rates listed in the ANNUAL WEEDS, PERENNIAL WEEDS, AND WOODY BRUSH & TREES rate tables.

#### 13.1 Nonselective Weed Control, Trim-And-Edge

**Use Instructions:** This product may be used to control annual weeds, perennial weeds and woody brush which are found in any part of the farmstead, including building foundations, along and in fences, in dry ditches and canals, along ditch banks, farm roads, shelterbelts, prior to landscape plantings and equipment storage areas. This product may be tank mixed with the following products. Refer to these product labels for approved farmstead sites and application rates. For annual weeds, use 1 quart per acre of this product when weeds are less than 6 inches tall and 2 quarts per acre when weeds are greater than 6 inches tall. For perennial weeds, apply 2 to 5 quarts per acre in these tank mixes. For tank mixtures with these products through backpack sprayers, handguns or other high-volume spray-to-wet applications, see the HAND-HELD AND HIGH VOLUME EQUIPMENT section of this label for specified rates.

ARSENAL  
CLARITY  
ESCORT

SURFLAN  
BANVEL  
DIURON

RONSTAR  
ELAR  
BARRICADE

KORVAR  
PLATEAU  
SAHARA

OUST  
PRINCEP

KARMEX  
PENDULUM

ENDURANCE

2,4-D

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

For control or partial control of Bahiagrass, Bermudagrass, Broomsedge, Dallisgrass, Dock (curly), Dogfennel, Fescue (tall), Johnsongrass, Poorjoe, Quackgrass, Vaseygrass, Vervain (blue), apply 1 to 2 quarts of this product plus 2 to 4 ounces of Oust per acre.

### 13.2 Greenhouse/Shadehouse

**Use Instructions:** This product may be used to control weeds growing in and around greenhouses and shadehouses. Make applications according to the rates listed in the ANNUAL WEEDS, PERENNIAL WEEDS, AND WOODY BRUSH & TREES rate tables.

**Precautions, Restrictions:** Desirable vegetation must not be present during application and air circulation fans must be turned off.

### 13.3 Chemical Mowing

**Use Instructions:** This product will suppress perennial grasses listed in this section to serve as a substitute for mowing using equipment in APPLICATION EQUIPMENT AND TECHNIQUES. Use 8 fluid ounces of this product per acre when treating tall fescue, fine fescue, orchardgrass or quackgrass covers. Use 6 fluid ounces of this product per acre when treating Kentucky bluegrass. Use 16 fluid ounces of this product when treating bermudagrass. Use 64 fluid ounces of this product 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.

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

### 13.4 Cut Stumps

TYPES OF APPLICATIONS: Treating cut stumps on any non-agricultural site listed on this label.

**Use Instructions:** This product will control regrowth of cut stumps and resprouts of many types of woody brush and tree species, such as Alder, Eucalyptus, Madrone Oak, Reed (giant), Salt-cedar, Sweetgum, Tan oak, Willow. Apply this product using suitable hand-held equipment described on this label to ensure coverage of the entire cambium. Cut trees or resprouts close to the soil surface. Apply a 50 to 100 percent solution of this product to the freshly-cut surface immediately after cutting. Delays in application may result in reduced performance. For best results, applications must be made during periods of active growth and full leaf expansion.

**Precautions, Restrictions:** Do not make cut stump applications when the roots of desirable woody brush or trees may be grafted to the roots of the cut stump. Injury resulting from root grafting may occur in adjacent woody brush or trees.

### 13.5 Habitat Management

TYPES OF USES: Habitat restoration and maintenance, wildlife food plots

**Use Instructions:** This product may be used to control exotic and other undesirable vegetation in habitat management areas. Applications can be made to allow recovery of native plant species, prior to planting desirable native species, and for similar broadspectrum vegetation control requirements in habitat management areas. Make applications according to the rates listed in the ANNUAL WEEDS, PERENNIAL WEEDS, AND WOODY BRUSH & TREES rate tables. Spot treatments can be made to selectively remove unwanted plants for habitat maintenance and enhancement. The tank mixtures listed in this section of the label may be used for habitat restoration and maintenance. This product may be used as a site preparation treatment to control annual and perennial weeds prior to planting wildlife food plots. Any wildlife food species may be planted after applying this product, or native species may be allowed to repopulate the area.

**Precautions, Restrictions:** If tillage is needed to prepare a seedbed, wait 7 days after application before tillage.

### 14.0 FORESTRY , INDUSTRIAL, TURF & ORNAMENTAL SITES

TYPES OF APPLICATIONS: Boom Sprayer, Shielded Boom Sprayer, High-Volume Off-Center Nozzles, Hand-held equipment, and Similar Equipment.

**Use Instructions:** This product may be used in non-agricultural areas including airports, apartment complexes, commercial sites, ditch banks, driveways, dry ditches, dry canals, fencerows, golf courses, greenhouses, industrial sites, landscape areas, lumber yards, manufacturing sites, municipal sites, natural areas, office complexes, ornamentals, parks, parking areas, pastures, petroleum tank farms and pumping installations, public areas, railroads, rangeland, recreation areas, residential areas, rights-of-way, roadsides, schools, shade houses, sports complexes, storage areas, substations,

turfgrass areas, utility sites, warehouse areas and wildlife management areas.

This product may also be used in non-food crop sites such as Christmas tree farms, plant nurseries, and sod or turf seed farms.

Unless otherwise specified, applications may be made to control any weeds listed in the ANNUAL WEEDS, PERENNIAL WEEDS, AND WOODY BRUSH & TREES rate tables section of this label.

#### 14.1 Forestry Site Preparation

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

This product may be used for site preparation prior to planting any tree species, including Christmas trees, eucalyptus, hybrid tree cultivars and silvicultural nursery sites.

Refer to the ANNUAL WEEDS, PERENNIAL WEEDS, AND WOODY BRUSH & TREES rate tables section of this label for specific application rates and instructions. Use the higher rates of this product within the specified range for control or partial control of woody brush, trees and hard-to-control perennial herbaceous weeds. For best results, apply to actively growing woody brush and trees after full leaf expansion and before fall color and leaf drop. Increase rates within the specified range for control of perennial herbaceous weeds any time after emergence and before seedheads, flowers or berries appear. Use the lower rates of this product within the specified range for control of annual herbaceous weeds and actively growing perennial herbaceous weeds after seed heads, flowers or berries appear. Apply to the foliage of actively growing annual herbaceous weeds any time after emergence. This product has no herbicidal or residual activity in the soil.

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

This product may be used in a tank-mix with the following products for forestry site preparation: Arsenal Applicators Concentrate, Chopper Escort or Escort XP, Garlon 3A, Garlon 4A, Landmark XP, Oust or Oust XP, Westar. For control of herbaceous weeds, use the lower specified tank mixture rates. For control of dense stands or tough-to-control woody brush and trees, use the higher application rates.

**Precautions, Restrictions:** Do not apply this product as an over-the-top broadcast spray for forestry conifer or hardwood release unless otherwise specified on this label.

#### 14.2 Non-Agricultural Areas And Industrial Sites

**TYPES OF APPLICATION:** Weed Control, Trim-And-Edge, Bare Ground

**LABELED USES:** This product may be used in non-agricultural and non-food areas. It may be applied with any application equipment described in the APPLICATION EQUIPMENT AND TECHNIQUES section. This product may be used to trim-and-edge around objects in these 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, provided that the specific product is labeled for application at the use site. Refer to the individual product labels for approved sites and application rates.

Arsenal	diuron	Krovar	Ronstar
Atrazine	Endurance	Landmark	Surflan
Barricade	Escort	Oust	Telar
Certainty	Gallery	Outrider	Velpar
Crossbow	Garlon	Pendimethalin	Poast
Dicamba	Goal	Plateau	2,4-D

**Precautions, Restrictions:** User is responsible for ensuring that the mixture product's label allows the specific applications.

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

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

For control or partial control of the following perennial weeds, apply 1 to 2 quarts of this product plus 2 to 4 ounces of Oust XP per acre: Bahiagrass, Johnsongrass, Bermudagrass, Poorjoe, Broomsedge, Quackgrass, Dallisgrass, Vaseygrass Dock, Curly Vervain, Blue Dogfennel, Tall Fescue.

#### 14.3 Injection and Frill (Woody Brush And Trees)

**Use Instructions:** This product may be used to control woody brush and trees by injection or frill applications. Apply this product using suitable equipment which must penetrate into the living tissue. Apply the equivalent of 1 mL of this product per each 2 to 3 inches of trunk diameter at breast height (DBH). This is best achieved by applying a 50 to 100 percent concentration of this product either to a continuous frill around the tree or as cuts evenly spaced around the tree below all branches. As tree diameter increases in size, better results are achieved by applying diluted material to a continuous frill or more closely spaced cuttings.

**Precautions, Restrictions:** Avoid application techniques that allow runoff to occur from frilled or cut areas in species that exude sap freely. In species such as this, make the frill or cuts at an oblique angle to produce a cupping effect and use a 100 percent concentration of this product. For best results, application must be made during periods of active growth and after full leaf expansion.

#### 14.4 Hollow Stem Injection

**Use Instructions:** This product may be applied through hand-held injection devices that deliver the proper amount of this product into targeted hollow-stem plants growing in any non-agricultural site specified on this label.

For control of the following hollow-stem plants, follow the use instructions below:

Castorbean, *Ricinus communis* - Inject 4 milliliters of this product per plant into the lower portion of the main stem.

Hemlock, Poison, *Conium maculatum* - Inject one leaf cane per plant 10 to 12 inches above the root crown with 5 milliliters of a 5-percent (by volume) solution of this product.

Hogweed, Giant, *Hercleum mantegazzianum* - Inject one leaf cane per plant 12 inches above the root crown with 5 milliliters of a 5-percent (by volume) solution of this product.

Horsetail, Field, *Equisetum arvense* - Inject one segment above the root crown with 0.5 milliliter of this product per stem. Use a low-volume syringe capable of accurately delivering this amount of product.

Knotweed, Bohemian, *Polygonum bohemicum* - Inject 5 milliliters of this product per stem between the second and third internode.

Knotweed, Giant, *Polygonum sachalinense* - Inject 5 milliliters of this product per stem between the second and third internode.

Knotweed, Japanese, *Polygonum cuspidatum* - Inject 5 milliliters of this product per stem between the second and third internode.

Reed, Giant, *Arun do donax* - Inject 6 milliliters of this product per stem between the second and third internode.

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 milliliter of this product per stem is injected into the stem.

**Precautions, Restrictions:** The combined total for all treatments must not exceed 10.6 quarts of this product per acre. At 5 milliliters per stem, 7 quarts will treat approximately 1300 stems per acre.

#### 14.5 Ornamentals, Plant Nurseries & Christmas Trees

**LABELED SITES:** This product may be used as a post-directed spray around established woody ornamental species such as arborvitae, azalea, boxwood, crabapple, euonymus, fir, douglas fir, jojoba, hollies, lilac, magnolia, maple, oak, privet, pine, spruce and yew, growing in plant nurseries, on Christmas tree farms, or on other non-food tree production sites. This product may also be used to trim and edge around trees, buildings, sidewalks and roads, potted plants and other objects in a nursery setting. Apply at rates in the ANNUAL WEEDS RATE TABLE and PERENNIAL WEEDS RATE TABLE.

**Precautions, Restrictions:** Desirable plants may be protected from the spray solution by using shields or covering made of cardboard or other impermeable material. THIS PRODUCT IS NOT TO BE USED AS AN OVER-THE-TOP BROADCAST SPRAY IN ORNAMENTALS AND CHRISTMAS TREES. Care must be exercised to avoid contact of spray, drift or mist with foliage or green bark of established ornamental species.

#### SITE PREPARATION

**Use Instructions:** This product may be used prior to planting any ornamental, nursery or Christmas tree species.

#### POST-DIRECTED, TRIM-AND-EDGE

**Use Instructions:** This product may be used as a post-directed spray around established woody ornamental species, or to trim and edge around trees, buildings, sidewalks, roads, potted plants, and other objects in a production setting.

**Precautions, Restrictions:** Desirable plants may be protected from the spray solution by using shields or covering made of cardboard or other impermeable material.

#### WIPER APPLICATION

**Use Instructions:** This product may be used through wick or other suitable wiper applicator to control or partially control undesirable vegetation around established trees, shrubs or vines. See SELECTIVE EQUIPMENT section of this label for further information about the proper use of wiper applicators.

#### 14.6 Parks, Recreational & Residential Areas

This product may be used in parks, recreational and residential areas. It may be applied with any suitable hand-held application equipment described in this label. This product may be used 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. Make applications according to the rates listed in the ANNUAL WEEDS, PERENNIAL WEEDS, AND WOODY BRUSH & TREES rate tables. This product may be used 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. Do not use for spot weed control in lawns since desirable lawn grass will also be killed. Spray only when air is calm to avoid drift to desirable plants. If necessary, shield desirable plants. Soil may be tilled, fertilized and seeded 7 days after application. All of the instructions in the NON-AGRICULTURAL AREAS AND INDUSTRIAL SITES section apply to park and recreational areas.

#### 14.7 Railroads

**APPLICATION SITES:** Railroad Rights-of-Way, Railroad Ballast areas

**TYPES OF APPLICATIONS:** All instructions in the NONCROP AREAS and INDUSTRIAL SITES section apply to railroads.

#### BARE GROUND, BALLAST AND MUSTERS, CROSSINGS, AND SPOT TREATMENT

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

ARSENAL®  
BANVEL®  
DIURON  
ESCORT®

GARLON® 3A  
GARLON® 4  
HYVAR® X  
KROVAR® I DF

OUST®  
SAHARA®  
SPIKE®

TELAR®  
VANQUISH®  
2,4-D

#### BRUSH CONTROL

This product may be used to control woody brush and trees on railroad rights-of-way. Apply 4 to 10 quarts of this product per acre as a broadcast spray, using boom-type or boomless nozzles. Up to 80 gallons of spray solution per acre may be used. Apply a ¾ to 2 percent solution of this product when using high-volume spray-to-wet applications. Apply a 5 to 10 percent solution of this product when using low volume directed sprays for spot treatment. This product may be mixed with the following products for enhanced control of woody brush and trees:

ARSENAL®  
ESCORT®

GARLON® 3A  
GARLON® 4

TORDON® K

#### 14.8 Roadsides

All the instructions in the NON-AGRICULTURAL AREAS AND INDUSTRIAL SITES section apply to roadsides.

#### MUSTER TREATMENTS

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

**Guardrails and Other Obstacles to Mowing:** This product may be used to control weeds growing under guardrails and around signposts and other objects along the roadside.

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

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

treatments:

BANVEL®	OUST®	PRINCEP® LIQUID	SURFLAN®
DIURON	PENDULUM® 3.3 EC	RONSTAR® 50 WP	TELAR®
ENDURANCE®	PENDULUM® WDG	SAHARA®	VANQUISH®
ESCORT®	PRINCEP® DF	SIMAZINE	2,4-D
KROVAR® 1 DF			

See the NON-AGRICULTURAL AREAS AND INDUSTRIAL SITES section of this label for instructions for tank mixing.

#### 14.9 Utility Sites

**LABELED SITES:** 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.

**TYPES OF APPLICATIONS:** Boom Sprayers, Shielded Boom Sprayers, High-Volume Off-Center Nozzles, Hand-Held Equipment, and Similar Equipment.

**Use Directions:** This product may be used in utility sites and substations to control unwanted vegetation and to eliminate unwanted weeds growing in established shrub beds or ornamental plantings. This product may be used prior to planting a utility site to ornamentals, flowers, turfgrass (sod or seed), or beginning construction projects.

Make applications according to the rates listed in the ANNUAL WEEDS, PERENNIAL WEEDS, AND WOODY BRUSH & TREES rate tables.

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

This product can also be used when preparing or establishing wildlife openings within these sites, maintaining access roads and for side trimming along utility rights-of-way.

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

**Precautions, Restrictions:** Observe application precautions in the APPLICATION EQUIPMENT AND TECHNIQUES section. Avoid application to non-target plants due to drift, overspray or runoff.

#### TANK MIXTURES

Tank mixtures of this product may be used to increase the spectrum of control for herbaceous weeds, woody brush and trees. This product may be tank mixed with the following products or generic equivalent. Refer to these products' labels for approved non-agricultural sites and application rates. Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used. Use according to the most restrictive precautionary statements for each product in the mixture.

User is responsible for ensuring that the mixture product's label allows the specific application when tank mixing with a single generic active ingredient listed below:

Arsenal	Garlon 3A <sup>2</sup>	pendimethalin <sup>1</sup>	Surflan WDG
atrazine <sup>1</sup>	Garlon 4 <sup>3</sup>	Plateau	Telar DF
Barricade 65WG	Krenite	Princep	Transline
dicamba <sup>1</sup>	Krovar 1 DF	Ronstar 50WP	Vanquish
diuron <sup>1</sup>	Oust	Sahara	Velpar DF
Endurance	Oust XP	simazine <sup>1</sup>	Velpar L
Escort	Outrider	Surflan AS	2,4-D <sup>2</sup>
Escort XP			

<sup>1</sup> Tank mixtures with product containing this generic active ingredient may be made provided the specific product is registered for the use.

<sup>2</sup> 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 incompatibility problems.

<sup>3</sup> For side trimming treatments, it is directed that this product be used alone or in a tank mixture with Garlon 4.

#### 14.10 Poplar Production

**TYPES OF APPLICATIONS:** Preplant, in-crop

##### PREPLANT

**Use Instructions:** This product is specified for use prior to planting *Populus spp.* This includes, but is not limited to, hybrid poplars and hybrid cottonwoods.

##### IN-CROP

##### **Use Instructions:**

**Directed Sprays:** Use a 2 percent spray solution as a spray-to-wet application for the control of undesirable woody brush

and trees. To control herbaceous weeds, use a 1 to 2 percent solution. Avoid contact of spray, drift, or mist with foliage, green bark or non-woody surface roots of the *Populus spp.*

**Wipers:** This product may be used through wick or other suitable wiper applicators for control or partial control of grass and broadleaf weeds listed on this label. For wick applicators, mix 1 gallon of this product with 2 gallons water to make a 33% solution. For wiper systems that can handle thicker solutions, such as force-fed systems, a 33-100% solution may be used. For best results ensure that the herbicide solution is allowed to contact the maximum amount of leaf surface. As weed densities increase, decrease equipment speed to allow sufficient herbicide flow to wet all weed surfaces contacted. Weeds not contacted will be unaffected.

**Precautions, Restrictions:** AVOID HERBICIDE CONTACT WITH DESIRABLE VEGETATION. Desirable vegetation contacted by the herbicide solution may be injured or controlled. This includes foliage, fruit, or green stems.

#### 14.11 Eucalyptus Production

TYPES OF APPLICATIONS: Preplant, directed spray (spray-to-wet), wiper

##### PREPLANT

This product is specified for use prior to planting eucalyptus species.

**Ground Broadcast Spray:** Use the specified rates of this product in 3 to 40 gallons of water per acre as a broadcast spray unless otherwise specified.

##### IN ESTABLISHED EUCALYPTUS

This product can be used around established eucalyptus trees to control undesirable vegetation.

**Directed Sprays (Spray-to-wet applications):** Use a 1 to 2 percent spray solution to control herbaceous weeds in eucalyptus farms. Use a 2 percent spray solution for control of undesirable woody brush and trees. For hard-to-control weeds, use a 5 to 10 percent spray solution. Avoid contact of spray, drift, or mist with foliage, green bark or non-woody surface roots of eucalyptus plants.

**Wipers:** This product may be used through wick or other suitable wiper applicators for control or partial control of grass and broadleaf weeds listed in the WEEDS CONTROLLED section of this label. For wick applicators, mix 1 gallon of this product with 2 gallons water to make a 33% solution. For wiper systems that can handle thicker solutions, such as force-fed systems, a 33 to 100% solution may be used. For best results, ensure that the herbicide solution is allowed to contact the maximum amount of leaf surface. As weed densities increase, decrease equipment speed to allow sufficient herbicide flow to wet all weed surfaces contacted. Weeds not contacted will be unaffected.

**Precautions, Restrictions:** AVOID HERBICIDE CONTACT WITH DESIRABLE VEGETATION. Desirable vegetation contacted by the herbicide solution may be injured or controlled. This includes foliage, fruit, or green stems.

#### 15.0 ANNUAL WEEDS RATE TABLES (ALPHABETICALLY BY SPECIES)

WEED SPECIES	REGION	RATE (FLUID OUNCES PER ACRE)					
		12	16	24	32	40	48
		MAXIMUM HEIGHT/LENGTH					
Annoda, spurred		-	1	2	3	5	8
Barley		-	18	18+	-	-	-
Barnyardgrass*	South	-	3	5	7	9	12
	North	-	-	6	12	-	-
Bassia, fivehook					6		
Bittercress		-	12	20	-	-	-
Bluegrass, annual		-	10	-	-	-	-
Brome, downy <sup>1,2</sup>		6	-	-	-	-	-
Brome, Japanese		-	6	-	24	-	-
Browntop panicum		-	6	8	12	-	24
Burcucumber		-	-	6	12	-	-
Buttercup		-	12	20	-	-	-
Carolina foxtail		-	20	-	-	-	-
Carolina geranium*		-	-	-	4	-	9
Carpetweed		-	-	6	12	-	-
Cheat		-	6	20	-	-	-
Chervil		-	20	-	-	-	-
Chickweed		-	12	18	-	-	-
Cocklebur		-	12	18	24	-	-
Copperleaf		-	1	2	3	4	6

WEED SPECIES	REGION	RATE (FLUID OUNCES PER ACRE)					
		12	16	24	32	40	48
		MAXIMUM HEIGHT/LENGTH					
hophornbeam*							
Copperleaf, Virginia*		-	1	2	3	4	6
Corn		-	12	20	-	-	-
Corn speedwell		-	12	-	-	-	-
Crabgrass*		-	12	18	-	-	-
Cutleaf evening primrose		-	-	-	3	-	6
Dwarf dandelion*		-	20	-	-	-	-
Eastern manna grass		-	8	12	-	-	-
Eclipta		-	4	8	12	-	-
Fall panicum*	South	-	4	6	8	12	24
	North	-	6	12	18	-	-
Falsedandelion*		-	20	-	-	-	-
Falseflax, smallseed		-	12	-	-	-	-
Fiddleneck*		-	-	-	6	-	12
Field pennycress		-	6	12	-	-	-
Filaree		-	-	-	-	-	12
Fleabane, annual		-	6	20	-	-	-
Fleabane, hairy* ( <i>Conyza bonariensis</i> )		-	6	-	-	-	-
Fleabane, rough		-	3	6	12	-	-
Florida pusley*		-	-	-	12	-	-
Foxtail*	South	-	8	12	20	-	-
	North	18	18+	-	-	-	-
Goatgrass, jointed*		-	6	-	-	-	-
Goosegrass*		-	3	5	8	-	18
Grain sorghum (milo)		-	6	12	20	-	-
Groundsel, common*		-	6	-	-	-	-
Hemp sesbania*		-	-	2	4	6	8
Henbit		-	-	-	6	-	20
Horseweed/Marestail ( <i>Conyza Canadensis</i> )	South	-	-	12	30	-	-
	North	-	6	12	18	-	-
Itchgrass*		-	6	12	18	-	-
Jimsonweed*		-	-	6	-	12	-
Johnsongrass, seedling*	South	-	-	18	-	-	-
	North	-	12	18	-	-	-
Junglerice*		-	3	5	7	9	12
Knotweed*		-	3	8	12	-	20
Kochia <sup>3*</sup>		-	3 to 6	12	-	-	-
Lambsquarters*		-	6	8	12	-	20
Little barley*		-	20	-	-	-	-
London rocket*		-	6	-	-	-	-
Mayweed*		-	-	2	6	12	18
Morningglory* ( <i>Lpomoea spp.</i> )		-	-	2	4	-	6
Mustard, blue*		6	-	-	-	-	-
Mustard, tansy*		6	12	20	-	-	-
Mustard, tumble*		6	-	-	-	-	-
Mustard, wild*		6	12	18	-	-	-
Nightshade, black*		-	6	12	-	-	-
Nightshade, hairy*		-	6	12	-	-	-
Oats*		-	-	6	20	-	-
Pigweed*		-	12	18	24	-	-
Plains/Tickseed coreopsis*		-	5	12	18	-	-



WEED SPECIES	REGION	RATE (FLUID OUNCES PER ACRE)					
		12	16	24	32	40	48
		MAXIMUM HEIGHT/LENGTH					
Prickly lettuce*		-	6	12	20	-	-
Purslane*		-	-	-	6	-	12
Ragweed, common*	South	-	4	6	8	-	11
	North	-	6	12	18	-	-
Ragweed, giant*		-	-	4	6	-	11
Red rice*		-	-	-	4	-	-
Russian thistle*		-	-	-	6	-	-
Rye <sup>2*</sup>	South	-	6	20	60	-	-
	North	-	18	18+	-	-	-
Ryegrass*		-	-	-	6	-	7+
Sandbur, field*		12	-	-	-	-	-
Shattercane*		-	12	18	-	-	-
Shepherdspurse*		-	6	12	-	-	-
Sicklepod*		-	-	2	4	-	8
Signalgrass, broadleaf*		-	3	5	7	9	12
Smartweed, ladysthumb*		-	4	6	8	-	12
Smartweed, Pennsylvania*		-	4	6	8	-	12
Sowthistle, annual*		-	-	-	6	-	12
Spanishneedles*		-	-	-	8	-	18
Speedwell, purslane		-	12	-	-	-	-
Sprangletop		-	6	12	20	-	-
Spurge, prostrate		-	6	12	20	-	-
Spurge, spotted		-	6	12	20	-	-
Spurry, umbrellae		6	-	-	-	-	-
Stinkgrass*		12	-	-	-	-	-
Sunflower*		-	12	18	-	-	-
Teaweed/Prickly sida*		-	1	2	3	4	6
Texas panicum*		-	6	8	12	-	24
Velvetleaf*	South	-	2	3	4	5	8
	North	-	3	6	12	-	-
Virginia pepperweed*		-	18	-	-	-	-
Waterhemp*		-	-	6	12	-	-
Wheat*	South	-	6	30	-	-	-
	North	-	18	18+	-	-	-
Wheat * (overwintered)		-	6	18	-	-	-
Wild oats*		-	12	-	-	-	-
Witchgrass		-	12	-	-	-	-
Woolly cupgrass		-	6	12	-	-	-
Yellow rocket		-	-	12	20	-	-

<sup>1</sup>For control of Downy brome in no-till systems, use 24 fluid ounces per acre.

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

<sup>3</sup>Do not treat kochia in the button stage.

\*Not registered for use in California.

#### 15.1 Annual Weeds – Water Carrier Volumes Of 10 To 40 Gallons Per Acre

Apply 1 to 1.5 quarts of this product per acre. Use 1 quart per acre if weeds are less than 6 inches tall and 1.5 quarts per acre if weeds are over 6 inches tall.

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

#### 15.2 Annual Weeds – Tank Mixtures With 2,4-D Or Banvel®

12 to 16 fluid ounces of this product plus 0.25 pounds a.i. of Banvel® or 0.5 pounds a.i. of 2,4-D per acre will control the

following weeds with the maximum height or length indicated: 6 – prickly lettuce, marestalk/horseweed (*Conyza Canadensis*), morningglory (*Ipomoea spp.*), kochia (Banvel® only). 12 – cocklebur, lambsquarters, pigweed, Russian thistle.

16 fluid ounces of this product plus 0.5 pounds a.i. of 2,4-D per acre will control the following weeds when they are a maximum height or length of 6 inches: common ragweed, giant ragweed, Pennsylvania smartweed, and velvetleaf. 12 fluid ounces of this product plus 0.25 pounds a.i. of Banvel® or 0.5 pounds a.i. of 2,4-D per acre will control foxtail up to 18.

Refer to the specific product labels for crop rotation restrictions and cautionary statements of all products used in tank mixtures. Some crop injury may occur if Banvel® is applied within 45 days of planting. DO NOT APPLY DICAMBA TANK MIXTURES BY AIR IN CALIFORNIA.

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

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

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

When using application methods that result in less than complete coverage, use a 5 percent solution for annual and perennial weeds and a 5 to 10 percent solution for woody brush and trees.

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

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

24 to 28 fluid ounces of this product plus 1 to 2 pounds of atrazine per acre will control the following weeds: Barnyardgrass (requires 28 ounces for control), Downy brome, Green foxtail, Lambsquarters, Prickly lettuce, Tansy mustard, Pigweed, Field sandbur, Stinkgrass, Russian thistle, Volunteer wheat, Witchgrass and Kochia (add 1/8 pound of dicamba for control).

### 16.0 PERENNIAL WEEDS RATE TABLE ALPHABETICALLY BY SPECIES

Weed Species	Rate (QT/A)	Water Volume	Hand-Held % Solution	Instructions
Alfalfa	1	3-10	2%	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	4	3-20	1.5%	Partial control. Apply when most of the plants are in bloom. Repeat applications will be required to maintain control.
Anise (fennel)	-	-	1-2%	Apply as a spray-to-wet treatment. Optimum results are obtained when plants are treated at the bud to full-bloom stage of growth.
Bahiagrass	3-5	3-20	2%	Apply when most plants have reached the early head stage.
Bentgrass	1.5	10-20	2%	For suppression in grass seed production areas. For ground applications only. Ensure entire crown area has resumed growth prior to a fall application. Bentgrass must have at least 3 inches of growth. Tillage prior to treatment must be avoided. Tillage 7 to 10 days after application is specified for best results.
Bermudagrass	3-5	3-20	2%	For control, apply 5 quarts of this product per acre. For partial control, apply 3 quarts per acre. Treat when bermudagrass is actively growing and seedheads are present. Retreatment may be necessary to maintain control.

Bermudagrass water (knotgrass)	1-1.5	5-10	2%	<p>Apply 1.5 quarts 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.</p> <p>Fall applications only. Apply 1 quart of this product in 5 to 10 gallons of water per acre. Fallow fields must be tilled prior to application. Apply prior to frost on water bermudagrass that is 12 to 18 inches in length. This product is not registered in California for use on water bermudagrass.</p>
Bindweed, field	0.5-5	3-20	2%	<p>Do not treat when weeds are under drought stress as good soil moisture is necessary for active growth.</p> <p>For control, apply 4 to 5 quarts of this product per acre west of the Mississippi River and 3 to 4 quarts east of the Mississippi River. Apply when the weeds are at or beyond full bloom. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost. Also for control, apply 2 quarts of this product plus the labeled rate of Banvel® in 10 to 20 gallons of water per acre. Do not apply by air. For suppression on irrigated agricultural land, apply 1 to 2 quarts 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.</p> <p>For suppression, apply 16 fluid 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. Apply by air in fallow and reduced tillage systems only. Applications must be delayed until maximum emergence has occurred and when vines are between 6 to 18 inches in length.</p> <p>In California only, apply 1 to 5 quarts of this product per acre. Actual rate needed for suppression or control will vary within this range depending on local conditions. For suppression on irrigated land where annual tillage is performed, apply 1 quart of this product in 3 to 10 gallons of water per acre. Apply to bindweed that has reached a length of 12 inches or greater. Allow maximum weed emergence and runner growth. Allow 3 or more days after application before tillage.</p>
Bluegrass, Kentucky	1-2	3-40	2%	<p>Apply 2 quarts of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1 to 1.5 quarts of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height</p>
Blueweed,	3-5	3-40	2%	<p>Apply 4 to 5 quarts of this product per acre west</p>

Texas				of the Mississippi River and 3 to 4 quarts per acre east of the Mississippi River. Apply when plants are at or beyond full bloom. New leaf development indicates active growth. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost.
Brackenfern	3-4	3-40	1-1.5%	Apply to fully expanded fronds which are at least 18 inches long.
Bromegrass, smooth	1-2	3-40	2%	Apply 2 quarts of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1 to 1.5 quarts of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.
Bursage, woolly-leaf	-	3-20	2%	For control, apply 2 quarts of this product plus the labeled rate of Banvel® per acre. For partial control, apply 1 quart of this product plus the labeled rate of Banvel® per acre. Apply when plants are producing new active growth which has been initiated by moisture for at least 2 weeks and when plants are at or beyond flowering.
Canarygrass, reed	2-3	3-40	2%	For best results, apply when most plants have reached the boot-to-head stage of growth.
Cattail	3-5	3-40	2%	Apply when most plants have reached the early head stage.
Clover, red, white	3-5	3-20	2%	Apply when most plants have reached the early bud stage.
Cogongrass	3-5	10-40	2%	Apply when cogongrass is at least 18 inches tall in late summer or fall. Due to uneven stages of growth and the dense nature of vegetation preventing good spray coverage, repeat treatments may be necessary to maintain control.
Dallisgrass	3-5	3-20	2%	Apply when most plants have reached the early head stage.
Dandelion	3-5	3-40	2%	Apply when most plants have reached the early bud stage of growth. Also for control, apply 16 fluid ounces of this product plus the labeled rate of 2,4-D in 3 to 10 gallons of water per acre.
Dock, curly	3-5	3-40	2%	Apply when most plants have reached the early bud stage of growth. Also for control, apply 16 fluid ounces of this product plus the labeled rate of 2,4-D in 3 to 10 gallons of water per acre.
Dogbane, hemp	4	3-40	2%	Apply when most plants have reached the late bud to flower stage of growth. Following crop harvest or mowing, allow weeds to regrow to a mature stage prior to treatment. For best results, apply in late summer or fall. For suppression, apply 16 fluid 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.
Fescue (except tall)	3-5	3-20	2%	Apply when most plants have reached the early head stage.
Fescue, tall	1-3	3-40	2%	Apply 3 quarts of this product per acre when most plants have reached boot-to-early

				seedhead stage of development. Fall applications only: Apply 1 quart of this product in 3 to 10 gallons of water per acre. Apply to fescue in the fall when plants have 6 to 12 inches of new growth. A sequential application of 1 pint per acre of this product will improve long-term control and control seedlings germinating after fall treatments or the following spring.
Guineagrass	3	3-40	1%	Apply when most plants have reached at least the 7-leaf stage of growth. Ensure thorough coverage when using hand-held equipment.
Horsenettle	3-5	3-20	2%	Apply when most plants have reached the early bud stage.
Horseradish	4-	3-40	2%	Apply when most plants have reached the late bud to flower stage of growth. For best results, apply in late summer or fall.
Iceplant	-	-	1.5-2%	Iceplant must be at or beyond the early bud stage of growth. Thorough coverage is necessary for best control.
Jerusalem artichoke	3-5	3-20	2%	Apply when most plants are in the early bud stage.
Johnsongrass	0.5-3	3-40	1%	In annual cropping systems apply 1 to 2 quarts of this product per acre. Apply 1 quart of this product in 3 to 10 gallons of water per acre. Use 2 quarts of this product when applying 10 to 40 gallons of water per acre. In non-agricultural or areas where annual tillage (no-till) is not practiced, apply 2 to 3 quarts of this product in 10 to 40 gallons of water per acre. For best results, apply when most plants have reached the boot-to-head stage of growth or in the fall prior to frost. Allow 7 or more days after application before tillage. Do not tank mix with residual herbicides when using the 1 quart per acre rate. For burndown of Johnsongrass, apply 1 pint of this product in 3 to 10 gallons of water per acre before the plants reach a height of 12 inches. For this use, allow at least 3 days after treatment before tillage. Spot treatment (partial control or suppression) – Apply a 1 percent solution of this product when Johnsongrass is 12 to 18 inches in height. Coverage must be uniform and complete.
Kikuyugrass	2-3	3-40	2%	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	4	3-40	2%	Apply when most plants have reached the late bud to flower stage of growth. For best results, apply in late summer or fall.
Lantana	-	-	1-1.25%	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	3-5	3-20	2%	Apply when most plants have reached the early bud stage.
Milkweed, common	3	3-40	2%	Apply when most plants have reached the late bud to flower stage of growth.
Muhly, wirestem	1-2	3-40	2%	Use 1 quart of this product in 3 to 10 gallons of water per acre. Use 2 quarts of this product when applying 10 to 40 gallons of water per acre or in pasture, sod, or non-agricultural areas.

				Spray when the wirestem muhly is 8 inches or more in height. Do not till between harvest and fall applications or in the fall or spring prior to spring applications. Allow 3 or more days after application before tillage.
Mullein, common	3-5	3-20	2%	Apply when most plants are in the early bud stage.
Napiergrass	3-5	3-20	2%	Apply when most plants are in the early head stage.
Nightshade, silverleaf	2	3-10	2%	Applications must be made when at least 60 percent of the plants have berries. Fall treatments must be applied before a killing frost.
Nutsedge, purple, yellow	0.5-3	3-40	1-2%	<p>Apply 3 quarts of this product per acre or apply a 1 to 2 percent solution for control of nutsedge plants and immature nutlets attached to treated plants. Treat when plants are in flower or when new nutlets can be found at rhizome tips. Nutlets which have not germinated will not be controlled and may germinate following treatment. Repeat treatments will be required for long-term control of ungerminated tubers.</p> <p>Sequential applications: 1 to 2 quarts of this product in 3 to 10 gallons of water per acre will also provide control. Make applications when a majority of the plants are in the 3 to 5-leaf stage (less than 6 inches tall). Repeat this application, as necessary, when newly emerging plants reach the 3 to 5-leaf stage. Subsequent applications will be necessary for long-term control</p> <p>For partial control of existing plants, apply 1 pint to 2 quarts 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	1-2	3-40	2%	<p>Apply 2 quarts of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1 to 1.5 quarts of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.</p> <p>Orchardgrass sods going to no-till corn: Apply 1 to 1.5 quarts of this product in 3 to 10 gallons of water per acre. Apply to orchardgrass that is a minimum of 12 inches tall for spring applications and 6 inches tall for fall applications. Allow at least 3 days following application before planting. A sequential application of atrazine will be necessary for optimum results.</p>
Pampasgrass	-	-	1.5-2%	Pampasgrass must be at or beyond the boot stage of growth. Thorough coverage is necessary for best control.
Paragrass	3-5	3-20	2%	Apply when most plants are in the early head stage.
Phragmites	3-5	10-40	1-2%	For partial control. For best results, treat during late summer or fall months or when plants are

				actively growing and in full bloom. Treatment before or after this stage may lead to reduced control. Due to the dense nature of the vegetation, which may prevent good spray coverage or uneven stages of growth, repeat treatments may be necessary to maintain control. Visual control symptoms will be slow to develop.
Poison hemlock	-	-	1-2%	Apply as a spray-to-wet treatment. Optimum results are obtained when plants are treated at the bud to full-bloom stage of growth.
Quackgrass	1-3	3-40	2%	In annual cropping systems, or in pastures and sods followed by deep tillage: Apply 1 quart of this product in 3 to 10 gallons of water per acre. For 10 to 40 gallons of water per acre, apply 2 quarts of this product.  <b>Restriction:</b> Do not tank mix with residual herbicides when using the 1 quart rate. Spray when quackgrass is 6 to 8 inches in height. Do not till between harvest and fall applications or in fall or spring prior to spring application. Allow 3 or more days after application before tillage. In pastures or sods, use a moldboard plow for best results.  In pastures, sods or non-agricultural areas where deep tillage does not follow application: Apply 2 to 3 quarts of this product in 10 to 40 gallons of water per acre when the quackgrass is greater than 8 inches tall.
Redvine	0.75-2	5-10	2%	For suppression, apply 24 fluid ounces of this product per acre at each of two applications 7 to 14 days apart or a single application of 2 quarts per acre. Apply specified rates in 5 to 10 gallons of water per acre. Apply in late September or early October to plants which are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.
Reed, giant	-	-	2%	Best results are obtained when applications are made in late summer to fall.
Ryegrass, perennial	1-3	3-40	1%	In annual cropping systems apply 1 to 2 quarts of this product per acre. Apply 1 quart of this product in 3 to 10 gallons of water per acre. Use 2 quarts of this product when applying 10 to 40 gallons of water per acre. In non-agricultural, or areas where annual tillage (no-till) is not practiced, apply 2 to 3 quarts of this product in 10 to 40 gallons water per acre.  For best results, apply when most plants have reached the boot-to-head stage of growth or in the fall prior to frost. Do not tank-mix with residual herbicides when using the 1 quart per acre rate.
Smartweed, swamp	3-5	3-40	2%	Apply when most plants have reached the early bud stage of growth. Also for control, apply 16 fluid 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.
Spurge, leafy	-	3-10	2%	For suppression, apply 16 fluid 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	2	10-40	2%	Best results are obtained when applications are made during the rosette, bolting and early flower stages.
Sweet potato, wild	-	-	2%	Partial control. Apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.
Thistle, artichoke	-	-	2%	Partial control. Apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.
Thistle, Canada	2-3	3-40	2%	Apply when most plants are at or beyond the bud stage of growth. After harvest, mowing or tillage in the late summer or fall, allow at least 4 weeks for initiation of active growth and rosette development prior to the application of this product. Fall treatments must be applied before a killing frost. Allow 3 or more days after application before tillage.  For suppression, apply 1 quart of this product, or 1 pint 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 after harvest, mowing or tillage. Allow rosette regrowth to a minimum of 6 inches in diameter before treating. Applications can be made as long as leaves are still green and plants are actively growing at the time of application. Allow 3 or more days after application before tillage.
Timothy	2-3	3-40	2%	For best results, apply when most plants have reached the boot-to-head stage of growth.
Torpedograss	4-5	3-40	2%	For partial control. Apply when most plants are at or beyond the seedhead stage of growth. Repeat applications will be required to maintain control. Fall treatments must be applied before frost.
Trumpet creeper	2	5-10	2%	Partial control. Apply in late September or October, to plants which are at least 18 inches tall and have been growing 45-60 days since the last tillage operation. Make applications at least 1 week before a killing frost.
Vaseygrass	3-5	3-20	2%	Apply when most plants are in the early head stage.
Velvetgrass	3-5	3-20	2%	Apply when most plants are in the early head stage.
Wheatgrass, western	2-3	3-40	2%	For best results, apply when most plants have reached the boot-to-head stage of growth.

Apply to actively growing perennial weeds.

**Restriction:**

- If weeds have been mowed or tilled, do not treat until plants have resumed active growth and have reached the specified stages.
- Repeat treatments may be necessary to control weeds regenerating from underground parts or seed. Repeat treatments must be made prior to crop emergence.
- Unless otherwise stated, allow 7 or more days after application before tillage.
- Do not treat when weeds are under drought stress as good soil moisture is necessary for active growth.

For hand-held sprayers, prepare the desired volume of spray solution by mixing the amount of this product in water as shown in the following table:



Desired Volume	Amount of Plus					
	½%	1%	1½%	2%	5%	10%
1 Gal	⅔ oz	1⅓ oz	2 oz	2⅔ oz	6½ oz	13 oz
25 Gal	1 pt	1 qt	1½ qt	2 qt	5 qt	10 qt
100 Gal	2 qt	1 gal	1½ gal	2 gal	5 gal	10 gal

2 tablespoons = 1 fluid ounce

### 17.0 WOODY BRUSH AND TREES RATE TABLE (ALPHABETICALLY BY SPECIES)

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

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

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

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

Weed Species	Rate (QT/A)	Water Volume	Hand-Held % Solution	Instructions
Alder	3-4	3-40	1-1.5%	For control
Ash	2-5	3-40	1-2%	Partial control
Aspen, quaking	2-3	3-40	1-1.5%	For control
Bearmat (Bearclover)	2-5	3-40	1-2%	Partial control
Beech	2-5	3-40	1-2%	Partial control
Birch	2	3-40	1%	For control
Blackberry	3-4	10-40	1-1.5%	For control. Make applications after plants have reached full leaf maturity. Best results are obtained when applications are made in late summer or fall. Applications may also be made after leaf drop and until a killing frost or as long as stems are green. After berries have set or dropped in late fall, blackberry can be controlled by applying a ¾ percent solution of this product. For control of blackberries after leaf drop and until a killing frost or as long as stems are green, apply 3 to 4 quarts of this product in 10 to 40 gallons of water per acre.
Blackgum	2-5	3-40	1-2%	For control
Bracken	2-5	3-40	1-2%	For control
Broom, French, Scotch	-	-	1.5-2%	For control
Buckwheat, California	-	-	1-2%	For partial control. Thorough coverage of foliage is necessary for best results.
Cascara	2-5	3-40	1-2%	Partial control
Catsclaw	-	-	1-1.5%	Partial control
Ceanothus	2-5	3-40	1-2%	Partial control
Chamise	-	-	1%	For control. Thorough coverage of foliage is necessary for best results.
Cherry; bitter, black, pin	2-3	3-40	1-1.5%	For control
Coyote brush	-	-	1.5-2%	For control. Apply when at least 50 percent of the new leaves are fully developed.

Weed Species	Rate (QT/A)	Water Volume	Hand-Held % Solution	Instructions
Dogwood	2-5	3-40	1-2%	Partial control
Elderberry	2	3-40	1%	For control
Elm	2-5	3-40	1-2%	Partial control
Eucalyptus	-	-	2%	For control of eucalyptus resprouts, apply when resprouts are 6 to 12 feet tall. Ensure complete coverage. Avoid application to drought-stressed plants.
Florida holly (Brazilian Peppertree)	2-5	3-40	1-2%	Partial control
Gorse	2-5	3-40	1-2%	Partial control
Hasardia	-	-	1-2%	Partial control. Thorough coverage of foliage is necessary for best results.
Hawthorn	2-3	3-40	1-1.5%	For control
Hazel	2	3-40	1%	For control
Hickory	2-5	3-40	1-2%	Partial control
Honeysuckle	3-4	3-40	1-1.5%	For control
Hornbeam, American	2-5	3-40	1-2%	Partial control
Kudzu	4	3-40	2%	For control. Repeat applications may be required to maintain control.
Locust, black	2-4	3-40	1-2%	Partial control
Madrone resprouts	-	-	2%	Partial control. Apply to resprouts that are 3 to 6 feet tall. Best results are obtained with spring/early summer treatments.
Manzanita	2-4	3-40	1-2%	Partial control
Maple, red	2-4	3-40	1-2.5%	For control, apply a 1 to 1.5 percent solution when at least 50 percent of the new leaves are fully developed. For partial control, apply 2 to 4 quarts of this product per acre.
Maple, sugar	-	-	1-1.5%	For control. Apply when at least 50 percent of the new leaves are fully developed.
Monkey flower	-	-	1-2%	Partial control. Thorough coverage of foliage is necessary for best results.
Oak; black, white	2-4	3-40	1-2%	Partial control
Oak, post	3-4	3-40	1-1.5%	For control
Oak; northern, pin	-	-	1-1.5%	For control. Apply when at least 50 percent of the new leaves are fully developed.
Oak, southern, red	2-3	3-40	1-1.5%	For control
Persimmon	2-5	3-40	1-2%	Partial control
Pine	2-5	3-40	1-2%	For control
Poison ivy/Poison oak	4-5	3-40	2%	For control. Repeat applications may be required to maintain control. Fall treatments must be applied before leaves lose green color.
Poplar, yellow	2-5	3-40	1-2%	Partial control
Redbud, eastern	2-5	3-40	1-2%	For control
Rose, multiflora	2	3-40	1%	For control. Treatments must be made prior to leaf deterioration by leaf-eating insects.
Russian olive	2-5	3-40	1-2%	Partial control
Sage, black	-	-	1%	For control. Thorough coverage of foliage is necessary for best results.
Sage, white	2-5	3-40	1-2%	Partial control
Sage brush, California	-	-	1%	For control. Thorough coverage of foliage is necessary for best results.

Weed Species	Rate (QT/A)	Water Volume	Hand-Held % Solution	Instructions
Salmonberry	2	3-40	1%	For control
Salt-cedar	2-5	3-40	1-2%	For control
Sassafras	2-5	3-40	1-2%	Partial control
Sourwood	2-5	3-40	1-2%	Partial control
Sumac; poison, smooth, winged	2-4	3-40	1-2%	Partial control
Sweetgum	2-3	3-40	1-1.5%	For control
Swordfern	2-5	3-40	1-2%	Partial control
Tallowtree, Chinese	-	-	1%	For control. Thorough coverage of foliage is necessary for best results.
Tan oak sprouts	-	-	2%	For partial control. Apply to sprouts that are less than 3 to 6 feet tall. Best results are obtained with fall applications.
Thimbleberry	2	3-40	1%	For control
Tobacco, tree	-	-	1-2%	Partial control
Trumpet creeper	2-3	3-40	1-1.5%	For control
Vine maple	2-5	3-40	1-2%	Partial control
Virginia creeper	2-5	3-40	1-2%	For control
Waxmyrtle, southern	2-5	3-40	1-2%	Partial control
Willow	3	3-40	1%	For control

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