

# UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

September 16, 2016

Ms. Nicole O'Loughlin Agent for PROKOZ, Inc. c/o Pyxis Regulatory Consulting, Inc. 4110 136<sup>th</sup> St. Ct. NW Gig Harbor, WA 98332

Subject: Label Amendment – adding me-too uses and other general updates for glyphosate

Product Name: Glyphosate Pro 4 EPA Registration Number: 72112-4 Application Date: 05/13/2016 Decision Number: 517564

Dear Ms. O'Loughlin:

The amended label referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act, as amended, is acceptable. This approval does not affect any conditions that were previously imposed on this registration. You continue to be subject to existing conditions on your registration and any deadlines connected with them.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may distribute or sell this product under the previously approved labeling for 18 months from the date of this letter. After 18 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3.

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.

Continued on pg 2 of 2

Page 2 of 2 EPA Reg. No. 72112-4 Decision No. 517564

Your release for shipment of the product constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6. If you have any questions, please contact Beth Benbow by phone at 703-347-8072, or via email at <a href="mailto:benbow.bethany@epa.gov">benbow.bethany@epa.gov</a>.

Sincerely,

Reuben Baris, Product Manager 25

Herbicide Branch

Registration Division (7505P)

Office of Pesticide Programs

Enclosure

GROUP 9 HERBICIDE

# Glyphosate Pro™ 4

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

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

#### **ACTIVE INGREDIENT:**

*Glyphosate, N-(phosphonomethyl)glycine, in the form of its isopropylamine salt	41.0%
OTHER INGREDIENTS:	59.0%
TOTAL	100.0%

\*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.

# [Optional Marketing Statements]

- [Controls Weeds and Grasses]
- [Concentrate Grass and Weed Killer]
- [Kills unwanted weeds and grasses, roots and all!]
- [Economical to use.]

# ACCEPTED

09/16/2016

Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under

EPA Reg. No. 72112-4

# CAUTION

# **FIRST AID**

#### IF IN EYES:

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

# **HOT LINE NUMBER**

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-424-9300 for emergency medical treatment information.

# PRECAUTIONARY STATEMENTS 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.

EPA Reg. No. 72112-4

EPA Est. No.

Manufactured for: PROKōZ, Inc. 100 North Point Center East, Suite 330 Alpharetta, GA 30022

NET CONTENTS: Gals. (Liters)

FOR CHEMICAL SPILL, LEAK, FIRE, OR EXPOSURE, CALL CHEMTREC (800) 424-9300

# 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 exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

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

# **User Safety Recommendations:**

Users should:

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

#### **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

Mix, store, and apply spray solutions of this product 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.

Read the entire label before using this product. Use only according to label instructions. Read the "CONDITIONS OF SALE AND WARRANTY" statement at the end of the label before buying or using. If terms are not acceptable, return at once unopened.

## **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, and protective eyewear.

# 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.

#### **ATTENTION**

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

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

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

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

## **MIXING**

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

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

# **Mixing with Water**

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

#### Mixing for Hand-held Sprayers

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

# **Spray Solution**

Desired	Amount of Glyphosate Pro 4					
Volume	1/2%	1%	1 1/2%	2%	5%	10%
1 Gal	2/3 oz	1 1/3 oz	2 oz	2 2/3 oz	6 ½ oz	13 oz
25 Gal	1 pt	1 qt	1 ½ qt	2 qt	5 qt	10 qt
100 Gal	2 qt	1 gal	1 ½ gal	2 gal	5 gal	10 gal

2 tablespoons = 1 fluid ounce

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

# **Colorants or Dyes**

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

# **AERIAL SPRAY DRIFT MANAGEMENT**

#### SPRAY DRIFT MANAGEMENT

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

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

- 1. The distance of the outer most nozzles on the boom must not exceed ¾ the length of the wingspan or rotor.
- 2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

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

The applicator must be familiar with and take into account the information covered in the <u>Aerial Drift Reduction Advisory</u>.

# Aerial Drift Reduction Advisory

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

# **INFORMATION ON DROPLET SIZE**

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

# **CONTROLLING DROPLET SIZE**

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

# **BOOM LENGTH**

For some use patterns, reducing the effective boom length to less than ¾ 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. Increase swath adjustment distance 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. Avoid application 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 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**

Apply this pesticide only 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).

# **Ground Broadcast Equipment**

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

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

Apply to foliage of vegetation to be controlled. For applications made on a spray-to-wet basis, make spray coverage 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.

# STORAGE AND DISPOSAL

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

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

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

# **Container Handling:**

#### Plastic Containers - Nonrefillable:

Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying.

**Non-refillable containers with capacities equal to or less than 5 gallons**: Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds

after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Non-refillable containers with capacities greater than 5 gallons: Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Refillable Containers: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. If the container cannot be refilled, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

#### **CONDITIONS OF SALE AND WARRANTY**

The DIRECTIONS FOR USE of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and must be followed carefully. However, it is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of PROKōZ, INC., its Supplemental Distributors, or the Seller. All such risks shall be assumed by the Buyer.

PROKōZ, INC., its Supplemental Distributors and the Seller warrant that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the Directions for Use subject to the inherent risks referred to above. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, NEITHER PROKōZ, INC. NOR ITS SUPPLEMENTAL DISTRIBUTORS MAKE ANY OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE OR OF MERCHANTABILITY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY. THIS WARRANTY DOES NOT EXTEND TO, AND THE BUYER SHALL BE SOLELY RESPONSIBLE FOR, ANY AND ALL LOSS OR DAMAGE WHICH RESULTS FROM THE USE OF THIS PRODUCT IN ANY MANNER WHICH IS INCONSISTENT WITH THE LABEL DIRECTIONS.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BUYER'S EXCLUSIVE REMEDY AND THE EXCLUSIVE LIABILITY OF PROKŌZ, INC., ITS SUPPLEMENTAL DISTRIBUTORS AND THE SELLER FOR ANY AND ALL CLAIMS, LOSSES, DAMAGES, OR INJURIES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, WHETHER OR NOT

BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY IN TORT OR OTHERWISE, SHALL BE LIMITED, AT THE MANUFACTURER'S OPTION, TO REPLACEMENT OF OR THE REPAYMENT OF THE PURCHASE PRICE FOR THE QUANTITY OF PRODUCT WITH RESPECT TO WHICH DAMAGES ARE CLAIMED. When Buyer suffers losses or damages resulting from the use or handling of this product (including claims based on contract, negligence, strict liability, or other legal theories), Buyer must promptly notify Seller in writing of any claims to be eligible to receive either remedy stated above. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, IN NO CASE SHALL PROKŌZ, INC., ITS SUPPLEMENTAL DISTRIBUTORS, OR THE SELLER BE LIABLE FOR CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT. PROKŌZ, INC., its Supplemental Distributors, and the Seller offer this product, and the Buyer accepts it, subject to the foregoing Conditions of Sale and Warranty, which may be varied only by agreement in writing signed by a duly authorized representative of PROKŌZ, INC.

No employee or agent of PROKōZ, INC., its Supplemental Distributor, or the Seller is authorized to vary or exceed the terms of this Warranty in any other manner.

Glyphosate Pro™ is a trademark of PROKōZ, Inc.

For PRODUCT USE Information Call 1-770-619-9832.

# **AGRICULTURAL USES**

#### PRODUCT INFORMATION

**Product Description**: This product is a post-emergent, systemic herbicide with no soil residual activity. It is generally non-selective and gives broad-spectrum control of many annual weeds, perennial weeds, woody brush and trees. It is formulated as a water-soluble liquid. No additional surfactants, additives containing surfactant, buffering agents or pH adjusting agents are needed or recommended. 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.

Do not add surfactants, additives containing surfactants, buffering agents or pH adjusting agents to this product. Ammonium sulfate may be used. See the MIXING section of this label for instructions.

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

Always use the higher rate of this product per acre within the given 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 prior to 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. Refer to specific use sections of this label for additional information on the minimum intervals required before re-application of this product.

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

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

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

When this product comes in contact with soil it is bound to soil particles. Under labeled use situations, once this product is bound to soil particles, it is not available for plant uptake and will not harm off-site vegetation where roots grow into the treated area or if the soil is transported

off-site. The strong affinity of this product to soil particles prevents this product from leaching out of the soil profile and entering ground water.

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

**Volatility**: Glyphosate Pro 4 is non-volatile. Therefore, it cannot move as a vapor after application to affect nearby vegetation.

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

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

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow restrictions, limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements for each product in the tank mixture below.

**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 noncrop uses, the combined total of all treatments must not exceed 10.6 quarts of this product per acre per year.

#### WEED RESISTANCE MANAGEMENT

Glyphosate, the active ingredient in this product, is a Group 9 herbicide based on the mode of action classification system in the Weed Science Society of America. Any weed population can contain plants naturally resistant to Group 9 Herbicides. Weed species resistant to Group 9 Herbicides can be effectively managed by using another herbicide from a different Group, or by other cultural or mechanical methods. Since the occurrence of new glyphosate-resistant weeds cannot be determined until after product use and scientific identification, PROKōZ, Inc. is not responsible for any losses that result from the failure of this product to control glyphosate-resistant weed bio-types.

**Weed Management Practices:** Resistant populations arise when rare individual plants are uncontrolled by a normal dose of a given herbicide under normal environmental conditions. In the absence of other control measures, these individuals survive, produce seed, and eventually become the dominant biotype in the field through continuous selection. The best means of reducing this selection is to use diverse weed control practices such as multiple herbicides with different mechanisms of action, and often in combination with various mechanical and cultural practices. To minimize the occurrence of herbicide-resistant biotypes, including those resistant to glyphosate, implement the following weed management practice options that are practical to your situation. These management practices are applicable to reduce the spread of confirmed resistant biotypes (managing existing resistant biotypes) and to reduce the potential for selecting for resistance in new species (proactive resistance management).

- Use a diversified approach toward weed management focused on preventing weed seed production and reducing the number of weed seeds in the soil.
- Plant crops into fields that are as weed-free as possible and then keep them as weed-free as possible.
- Plant crop seed that is as weed-free as possible.

- Scout fields routinely, before and after herbicide application.
- Use multiple herbicide mechanisms of action that are effective against the most troublesome weeds in your field and against those with known resistance.
- Apply herbicides at application rates listed on the label when weeds are within the size range indicated on the label.
- Emphasize cultural practices that suppress weeds by using crop competitiveness.
- Use mechanical and biological weed management practices, where appropriate.
- Prevent field-to-field and within-field movement of weed seed or vegetative propagules.
- Manage weed seed at harvest and after harvest to prevent a buildup of the weed seedbank.

# **Tank Mixing Procedure**

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

- 1. Place a 20 to 35-mesh screen or wetting basket over filling port.
- 2. Through the screen, fill the spray tank one-half full with water and start agitation.
- 3. If a wettable powder is used, make a slurry with the water carrier, and add it SLOWLY through the screen into the tank. Continue agitation.
- 4. If a flowable formulation is used, premix one part flowable with one part water. Add diluted mixture SLOWLY through the screen into the tank. Continue agitation.
- 5. If an emulsifiable concentrate formulation is used, premix one part emulsifiable concentrate with two parts water. Add diluted mixture slowly through the screen into the tank. Continue agitation.
- 6. Continue filling the spray tank with water and add the required amount of this product near the end of the filling process.
- 7. 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.

Refer to the "Tank Mixing" section of "PRODUCT INFORMATION" for additional precautions.

#### **Ammonium Sulfate**

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

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

#### **Drift Control Additives**

Drift control additives may be used with all equipment types, except wiper applicators, sponge bars and CDA equipment. When a drift control additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label.

# **APPLICATION EQUIPMENT AND TECHNIQUES**

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

This product may be applied with the following application equipment:

Aerial – Fixed Wing and Helicopter

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

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

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

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

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

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

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

# **Aerial Equipment**

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

Use the specified rates of this herbicide in 3 to 15 gallons of water per acre unless otherwise specified on this label. Unless otherwise specified, do not exceed 1 quart per acre. Aerial applications of this product may be made in annual cropping conventional tillage systems, fallow and reduced tillage systems and pre-harvest applications. Refer to the individual use area sections of this label for specified volumes and application rates.

Avoid direct application to any body of water.

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

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

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

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

# For Aerial Application in California Only

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

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

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

When tank mixing this product with 2,4-D for aerial applications, only 2,4-D amine formulations may be used. This tank mixture may be used for fallow and reduced tillage systems and alfalfa and pasture renovation applications only.

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

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

# **Aerial Equipment**

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

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

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

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

#### **Applicable Area:**

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

North: Fresno County line South: Fresno County line East: State Highway 99 West: Fresno County line

# **General Information:**

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

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

# Written Recommendations:

A written recommendation MUST be submitted by or on behalf of the applicator to the Fresno County Agricultural Commissioner 24 hours prior to the application. This written recommendation MUST state the proximity of surrounding crops, and that conditions of each manufacturer's 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. Use coarse droplets in the 300 to 500 (VMD) micron range.

Apply 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.

# Arkansas, Louisiana, Mississippi, Missouri, and Tennessee Only

This product controls annual and perennial weeds listed on this label prior to planting or emergence of corn, cotton, rice, sorghum and soybeans; prior to the harvest of cotton and soybeans; and following the harvest of any crop in the fall via aerial applications in these locations.

Aerial applications of this product may be made in fallow systems and conventional, reduced and zero tillage systems. For applications via aerial equipment, use the specified rates of this product in 3 to 10 gallons of water per acre. Do not exceed a rate of 3 quarts per acre.

The likelihood of injury occurring from the use of this product is greatest when winds are gusty or in excess of 5 miles per hour or when other conditions, including lesser velocities, will allow spray drift to occur.

# **Selective Equipment**

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

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

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

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

# AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION.

Contact of the herbicide solution with desirable vegetation may result in damage or destruction. Adjust the applicators used above desirable vegetation 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.

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

# Shielded and hooded applicators

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

# Wiper applicators and sponge bars

Wiper applicators are devices that physically wipe appropriate amounts of this product directly onto the weed.

Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting desirable vegetation. Operate this equipment at ground speeds no greater than 5 mph. Performance may be improved by reducing speed in areas of heavy weed infestations to ensure adequate wiper saturation. Better results may be obtained if 2 applications are made in opposite directions.

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

Do not use wiper equipment when weeds are wet.

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

Do not add surfactant to the herbicide solution.

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 in this section.

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

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

Corn, volunteer Sicklepod Spanishneedles Rye, common Starbur, bristly

Shattercane

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

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

Pigweed, redroot

# **Injection Systems**

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

# **CDA Equipment**

The rate of this product applied per acre by vehicle-mounted CDA equipment must not be less than the amount 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.

# **ANNUAL & PERENNIAL CROPS (Alphabetical)**

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

SEE THE INDIVIDUAL CROP CATEGORIES FOR SPECIFIC INSTRUCTIONS, PRE-HARVEST INTERVALS, AND ADDITIONAL PRECAUTIONS AND RESTRICTIONS.

See the "ROUNDUP READY CROPS" section of this label or separately published PROKōZ, Inc. supplemental labeling for instructions for treating Roundup Ready crops.

TYPES OF APPLICATIONS: Chemical fallow, Pre-plant fallow beds, Pre-plant, Pre-emergence, At Planting, Hooded Sprayers in Row-Middles, Shielded Sprayers in Row-Middles, Wiper Applications in Row-Middles, and Post-Harvest Treatments.

Additional application types may be specified or allowed in individual Crop Categories.

USE INSTRUCTIONS: 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 in this label, applications must be made at least 30 days prior to planting. UNLESS OTHERWISE SPECIFIED, WEED CONTROL APPLICATIONS MAY BE MADE ACCORDING TO THE RATES LISTED IN "ANNUAL WEEDS, "PERENNIAL WEEDS, AND "WOODY BRUSH & TREES RATE TABLES" IN THIS LABEL. Repeat applications may be made up to a maximum of 8 quarts per acre per year.

Post-directed hooded sprayers and wiper equipment capable of preventing all crop contact with herbicide solutions may be used in mulched or un-mulched row middles after crop establishment. Where specifically noted below, wipers may also be used above certain crops to control tall weeds. Refer to the "SELECTIVE EQUIPMENT" section of this label for essential 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.

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, 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.

Apply before seed germination in coarse sandy soils to further minimize the risk of injury.

Unless otherwise specified in this product's labeling, treatments with selective equipment including wipers and hooded sprayers must be made at least 14 days prior to harvest.

In crops where spot treatments are allowed, do not treat more than 10 percent of the total field to be harvested. The crop receiving spray in treated area will be killed. Take care to avoid drift or spray outside the target area for the same reason.

When making pre-emergence 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.

Post-harvest or fallow applications must be made at least 30 days prior to planting any non-labeled crop.

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

# Alfalfa, Clover, and Other Forage Legumes

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

TYPES OF APPLICATIONS: Dormant, pre-plant, pre-emergence, at-planting, spot treatment, wiper applicators, renovation, pre-harvest (alfalfa only)

# **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, 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 Glyphosate Pro 4. 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.

### Pre-plant, Pre-emergence 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.

# Pre-harvest (Alfalfa only)

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

Make only one application to an existing stand of alfalfa per year. For control of quackgrass, apply in the spring, late summer or fall when quackgrass is actively growing. Treatments for quackgrass must be followed by deep tillage for complete control.

RESTRICTIONS: Do not apply more than 1 quart of this product per acre as a pre-harvest treatment. Do not use for alfalfa grown for seed, as a reduction in germination or vigor may occur.

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

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

RESTRICTIONS: For spot treatment and wiper applications, apply in areas where the movement of domestic livestock can be controlled. Do not treat more than one-tenth of any acre at one time. Remove domestic livestock before application and wait 14 days after application before grazing livestock or harvesting.

#### Renovation

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

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

# **Cereal Crops**

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

TYPES OF APPLICATIONS: See "Annual & Perennial Crops" section

USE DIRECTIONS: See "Annual & Perennial Crops" section.

PRECAUTIONS, RESTRICTIONS: See "Annual & Perennial Crops" section.

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

#### Pre-plant, Pre-emergence and At-planting

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

#### Spot treatment (except rice)

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

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

#### **Postharvest**

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

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

# Pre-harvest (Feed barley & wheat only)

USE INSTRUCTIONS: This product provides weed control when applied prior to harvest of wheat. Apply after the hard-dough stage of grain (30% or less grain moisture) and at least 7 days prior to harvest. Wheat stubble may be grazed immediately after harvest.

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

RESTRICTIONS: Do not apply more than 1 quart of this product per acre. Do not apply to wheat or barley grown for seed, as a reduction in germination or vigor may occur. Allow 7 days between application and harvest or grazing.

# Over the Top Wiper applications (Feed barley & wheat only)

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

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

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

USE INSTRUCTIONS: For ground applications, use 3 to 5 gallons of water per acre. For aerial applications, use 2 to 3 gallons of water per acre.

PRECAUTIONS: The likelihood of injury occurring from the use of this product is greatest when winds are gusty or in excess of 5 miles per hour or when other conditions, including lesser wind velocities, will allow spray drift to occur. Adjust boom height on ground equipment to prevent streaked, overlapped or uneven applications. Avoid spraying when weeds are subject to moisture stress, when dust is on foliage, or when straw canopy covers the weeds.

#### **Red Rice Control Prior To Planting Rice**

USE INSTRUCTIONS: Apply 1.5 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 in the 2-leaf stage and no more than 4 inches tall. Red rice plants with less than 2 true leaves may only be partially controlled.

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

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

# **Conservation Reserve Program (CRP)**

TYPES OF APPLICATIONS: Renovation (rotating out of CRP), site preparation, postemergence weed control in dormant acres, over-the-top wiper application

# Renovation (Rotating out of CRP), Site preparation

USE INSTRUCTIONS: This product may be used to prepare CRP land for crop production. MAKE APPLICATIONS ACCORDING TO THE RATES LISTED IN "ANNUAL WEEDS, "PERENNIAL WEEDS, AND "WOOD BRUSH & TREES RATE TABLES" IN THIS LABEL.

For any crop not listed in the "CROPS" sections of this label applications must be made at least 30 days prior to planting.

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

RESTRICTION: Do not apply more than 3 quarts per acre per year onto CRP grasses.

# Post-emergence Weed Control in Dormant Acres, Over-the-Top Wiper Application

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

RESTRICTION: Do not apply more than 3 quarts per acre per year onto CRP grasses.

# Corn (Non-Roundup Ready)

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

TYPES OF APPLICATIONS: See "Annual & Perennial Crops" section

USE DIRECTIONS: See "Annual & Perennial Crops" section

PRECAUTIONS, RESTRICTIONS: See "Annual & Perennial Crops" section

# Pre-plant, Pre-emergence and At-planting

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

The following tank mixtures may be applied before, during or after planting in conventional tillage systems, into a cover crop, established sod or in previous crop residue.

Apply these tank mixtures in 10 to 20 gallons of water or 10 to 60 gallons of nitrogen solution per acre. For Southern states, do not apply in nitrogen solutions to tough-to-control grasses such as barnyardgrass, fall panicum, broadleaf signalgrass, annual ryegrass and any perennial weeds. See the map in the Annual Weeds section of this label for areas included in this recommendation.

2.4-D

AIM (carfentrazone)

**ATRAZINE** 

AXIOM (metribuzin/flufenacet)

BALANCE (isoxaflutole)

BICEP® MAGNUM (atrazine/s-metolachlor)

BICEP® II MAGNUM (atrazine/s-metolachlor)

DEGREE (acetochlor)

DEGREE XTRA (acetochlor/atrazine)
DISTINCT (diflubenzuron/dicamba)

DUAL® MAGNUM (s-metolachlor)

DUAL® II MAGNUM (s-metolachlor)

FRONTIER®/OUTLOOK (dimethenamid)

FULTIME (atrazine/acetochlor)

GUARDSMAN® (dimethenamid/atrazine)

LEADOFF (thifensulfuron/rimsulfuron)

HARNESS® (atrazine/acetochlor)

HARNESS® XTRA (atrazine/acetochlor)

HARNESS® XTRA 5.6L (atrazine/acetochlor)

LINEX® / LOROX® (linuron)

MARKSMAN® (atrazine/dicamba)

PROWL® (pendimethalin) PYTHON (flumetsulam)

SIMAZINE

TOPNOTCH® (acetochlor)

EPIC (flufenacet/isoxaflutole)

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

Annual weeds – For difficult-to-control weeds such as fall panicum, barnyardgrass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 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.

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

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

# **Spot treatment**

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

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

# **Hooded Sprayers**

USE INSTRUCTIONS: This product may be used through hooded sprayers for weed control between the rows of corn. Only hooded sprayers that completely enclose the spray pattern may be used.

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

Follow these requirements:

- The spray hoods must be operated on the group or skimming across the ground.
- Leave at least 8-inch untreated strop over the drill row. For example, if the crop row width is 38 inches, the maximum width of the spray hood must be 30 inches.
- Maximum tractor speed: 5 mph.
- Maximum wind speed: 10 mph.
- Use low-drift nozzles.

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

PRECAUTIONS: Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage.

RESTRICTIONS: Do not graze or feed corn forage or fodder following applications of this product through hooded sprayers. Corn must be at least 12 inches tall, measured without extending leaves. Do not apply more than 1 quart of this product per acre for each application and no more than 3 quarts of this product per acre per year for hooded sprayer applications.

# **Pre-harvest**

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.

RESTRICTIONS: Allow a minimum of 7 days between application and harvest. Do not make applications to 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.

# Cotton

TYPES OF APPLICATIONS: See "Annual & Perennial Crops" section

USE INSTRUCTIONS: See "Annual & Perennial Crops" section

This product may be applied before, during or after planting cotton.

PRECAUTIONS, RESTRICTIONS: See "Annual & Perennial Crops" section

# Pre-plant, Pre-emergence, 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, shielded applicators or wiper applicators in cotton. Allow at least 7 days between application and harvest.

PRECAUTIONS, RESTRICTIONS: See the "SELECTIVE EQUIPMENT" part of the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for information on proper use and calibration of this equipment.

# **Spot treatment**

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

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

### **Pre-harvest**

USE INSTRUCTIONS: This product provides weed control and cotton regrowth inhibition when applied prior to harvest of cotton. For weed control, apply at rates given in the annual, perennial and woody brush tables. Apply 1 pint to 2 quarts of this product per acre for cotton regrowth inhibition. Allow a minimum of 7 days between application and harvest of cotton.

Up to 2 quarts of this product may be applied using either aerial or ground spray equipment. Apply after sufficient bolls have developed to produce the desired yield of cotton. Applications made prior to this time could affect maximum yield potential.

This product may be tank mixed with DEF<sup>®</sup> 6 (tribufos), Folex<sup>®</sup> (tribufos), Ginstar (diuron/thidiazuron), or  $Prep^{TM}$  (ethephon) to provide additional enhancement of cotton leaf drop.

RESTRICTIONS: Do not apply to cotton grown for seed, as a reduction in germination or vigor may occur. THE USE OF ADDITIVES OTHER THAN THOSE LISTED ON THIS LABEL, FOR PRE-HARVEST APPLICATION TO COTTON IS PROHIBITED.

# Fallow Systems

TYPES OF APPLICATIONS: Chemical fallow, pre-plant fallow beds, aid-to-tillage.

USE INSTRUCTIONS: See "Annual & Perennial Crops" section

PRECAUTIONS, RESTRICTIONS: See "Annual & Perennial Crops" section

#### **Chemical fallow**

USE INSTRUCTIONS: This product may be applied during the fallow period prior to planting or emergence of any crop listed on this label. For any crop not listed on this label, applications must be made at least 30 days prior to planting. This product may be used as a substitute for tillage to control annual weeds in fallow fields. Also, broadcast or spot treatments will control or suppress many perennial weeds in fallow fields. Ground or aerial application equipment may be used. Tank mixtures with 2,4-D and dicamba may be used. Applications up to 2 quarts per acre may be made by aerial application in fallow sites where there is sufficient buffer to prevent injury due to drift onto adjacent crops.

RESTRICTIONS: DO NOT APPLY DICAMBA TANK MIXTURES BY AIR IN CALIFORNIA.

Refer to the specific product labels for crop rotation restrictions and cautionary statements of all products used in tank mixtures.

# Pre-plant fallow beds

USE INSTRUCTIONS: This product may be applied to fallow beds prior to planting or emergence of any crop listed on this label. For any crop not listed on this label, applications must be made at least 30 days prior to planting. This product will control weeds listed in the annual, perennial and woody brush tables.

TANK MIXTURES: In addition, 12 fluid ounces of this product plus appropriately labeled amount of Goal® 2XL (oxyfluorfen) per acre will control the following weeds with the maximum height or length indicated: 3" – common cheeseweed, chickweed, groundsel; 6" – London rocket, shepherdspurse.

Applying 16 fluid ounces of this product plus appropriately labeled amount of Goal® 2XL (oxyfluorfen) per acre will control the following weeds with the maximum height or length indicated: 6" – common cheeseweed, groundsel, marestail (*Conyza canadensis*), 12" – chickweed, London rocket, shepherdspurse.

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

RESTRICTIONS: DO NOT APPLY DICAMBA TANK MIXTURES BY AIR IN CALIFORNIA. Refer to the specific product labels for crop rotation restrictions and cautionary statements of all products used in tank mixtures.

# Aid-to-tillage

USE INSTRUCTIONS: This product may be used in conjunction with tillage practices in fallow systems or pre-plant to labeled crops to control downy brome, cheat, volunteer wheat, tansy mustard and foxtail. Apply 8 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.

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

RESTRICTIONS: Application to fallow systems must be made at least 30 days prior to planting any crop not listed on this label.

# **Grain Sorghum (Milo)**

TYPES OF APPLICATIONS: See "Annual & Perennial Crops" section

USE INSTRUCTIONS: See "Annual & Perennial Crops" section

PRECAUTIONS, RESTRICTIONS: See "Annual & Perennial Crops" section

# Pre-plant, Pre-emergence, At-planting

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

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

ATRAZINE DUAL® II MAGNUM (s-metolachlor) BICEP® II MAGNUM (atrazine/s-metolachlor) MILO-PRO (propazine)

Annual weeds – For difficult-to-control weeds such as fall panicum, barnyardgrass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 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. When using nitrogen solutions as the carrier, the use rate may need to be increased for acceptable weed control.

PRECAUTIONS: The crop receiving spray in the treated area will be killed. Do not spray or allow drift outside target area for the same reason.

RESTRICTIONS: Do not use roller applicators. Do not feed or graze treated milo fodder. Do not ensile treated vegetation.

# **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: The crop receiving spray in treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

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

# **Hooded Sprayers**

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

Follow these requirements:

- The spray hoods must be operated on the ground or skimming across the ground.
- Do not apply more than 26 fluid ounces of this product per acre per application. Mile must be at least 12 inches tall, measured without extending leaves.

Treat before mile sends tillers between the drill rows. If such tillers are contacted with the spray solution, the main plant may be killed.

Leave at least an 8-inch untreated strip over the drill row. For example, if the crop row width is 38 inches, the maximum width of the spray hood should be 30 inches.

Maximum tractor speed: 5 mph.

Maximum wind speed: 10 mph.

Use low-drift nozzles.

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

PRECAUTIONS: Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage.

RESTRICTIONS: Milo must be at least 12 inches tall, measured without extending leaves. Do not graze or feed milo forage or fodder following applications of this product through hooded sprayers. Do not apply more than 1 quart of this product per acre per application and no more than 3 quarts per acre for hooded sprayer applications.

### **Pre-harvest**

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

PRECAUTION: As with other herbicides that cause sudden plant death, avoid pre-harvest applications of this product to mile infected with charcoal rot as lodging can occur.

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. Do not make applications to sorghum grown for seed. The use of this product for pre-harvest 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.

#### **GRASS or TURFGRASS SEED PRODUCTION**

LABELED CROPS: Any grass (Gramineae family) except corn, sorghum, sugarcane and those listed under "CEREAL CROPS"

TYPES OF APPLICATIONS: Pre-plant, Pre-emergence, renovation, site preparation, shielded sprayer, Over-the-Top Wiper Applications, Spot treatments, Creating Rows in Annual Ryegrass

# Pre-plant, Pre-emergence renovation, site preparation

USE INSTRUCTIONS: This product may be applied before, during, or after planting or renovation of turf or forage grass areas grown for seed production. For maximum control of

existing vegetation, delay planting to determine if any regrowth from escaped underground plant parts occurs. Where repeat treatments are necessary, sufficient regrowth must be attained prior to application. For warm-season grasses, such as bermudagrass, summer or fall applications provide best control.

MAKE APPLICATIONS ACCORDING TO THE RATES LISTED IN THE "ANNUAL WEEDS, "PERENNIAL WEEDS, AND "WOOD BRUSH & TREES RATES TABLES" IN THIS LABEL.

PRECAUTIONS: Applications must be made prior to the emergence of the crop to avoid injury.

RESTRICTIONS: Do not disturb soil or underground plant parts before treatment. Delay tillage or renovation techniques such as vertical mowing, coring or slicing for 7 days after application to allow proper translocation into underground plant parts.

If application rates total 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 and wait 8 weeks following application before grazing or harvesting.

# **Shielded Sprayer**

USE INSTRUCTIONS: Apply 1 to 3 quarts of this product as a broadcast spray in 10 to 20 gallons of total spray volume per acre. Uniform planting in straight rows aid in shielded sprayer applications. Best results are obtained when the grass seed crop is small enough to easily pass by or through the protective shields.

PRECAUTIONS: Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage.

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

USE INSTRUCTIONS: 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. 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 clumps, severe infestations, or when weed height varies so that not all weeds are contacted. In these instances, repeat treatments may be necessary. Better results may be obtained if 2 applications are made in opposite directions.

Applicators must be adjusted so that the wiper contact point is at least 2 inches above the desirable vegetation.

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

# **Spot treatments**

USE INSTRUCTIONS: Use a 1- to 1.5 percent solution. Apply this product prior to heading of grasses.

PRECAUTIONS: The crop receiving the spray in the treated area will be killed. Take care not to spray or allow spray to drift outside of the target area for the same reason.

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

USE INSTRUCTIONS: Use 16 to 32 fluid ounces of this product per acre. Use the higher rate when the ryegrass is greater than 6 inches tall. Best results are obtained when applications are made before the ryegrass reaches 6 inches in height.

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

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

#### Herbs

LABELED CROPS: Allspice, Angelica, Star anise, Annatto (seed), Balm, Basil, Borage, Burnet, Chamomile, Caper buds, Caraway, Black caraway, Cardamom, Cassia bark, Cassia buds, Catnip, Celery seed, Chervil (dried), Chive, Chinese chive, Cilantro (seed), Cinnamon, Clary, Clove buds, Coriander leaf (cilantro or Chinese parsley), Coriander seed (cilantro), Costmary, Culantro (leaf), 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 or myoga 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: See "Annual & Perennial Crops" section

USE INSTRUCTIONS: See "Annual & Perennial Crops" section.

PRECAUTIONS: This product could cause crop injury. When applying this product prior to transplanting or direct-seeding crops into plastic mulch, care must be taken to remove product residues from the plastic prior to planting. Residual product can be removed by a single 0.5-inch application of water, either by natural rainfall or via a sprinkler system. Care must be taken to ensure that the washwater flushes off the plastic mulch and does not enter transplant holes. Applications made at emergence will result in injury or death to emerged seedlings.

RESTRICTION: For some crops above, applications must be made 3 days before transplanting or planting.

# Over-the-Top Wiper Application, Spot Treatment (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. In wiper applications, the applicator must be adjusted so that the wiper contact point is at least 2 inches above the crop. Weeds should be a minimum of 6 inches taller than the crop.

PRECAUTIONS: Contact of the herbicide solution with the crop may result in discoloration, stunting, or destruction.

RESTRICTIONS: Allow at least 7 days between application and harvest. Further applications may be made in the same area at 30-day intervals. In spot treatment applications, do not treat more than 10 percent of the total field area at one time. The crop receiving spray in the treated area will be killed. Do not spray or allow drift outside the target area for this reason.

# **OIL SEED CROPS**

LABELED CROPS: Borage, Buffalo gourd (seed), Canola (non-Roundup Ready), Crambe, Flax, Jojoba, Lesquerella, Meadowfoam, Mustard (seed), Rape, Safflower, Sesame, Sunflower

TYPES OF APPLICATIONS: See "Annual & Perennial Crops" section

USE INSTRUCTIONS: Refer to the following table for maximum application rates of this product for use in safflower, sunflower and all other oilseed crops listed in this section, if a preharvest application is to be made. If a preharvest application is NOT to be made, the maximum application rate of this product for all preemergence, selective equipment and post-harvest applications in any oilseed crop listed in this section is limited only by the maximum of 6 quarts per acre per year. If a preharvest application is intended to be made to any crop listed in this section, except buffalo gourd, the maximum combined total of all preemergence and selective equipment applications is limited as indicated in the following table. See the "PRODUCT INFORMATION" section of this label for more information on Maximum Application Rates.

This product may be applied before, during or after planting oil seed crops listed in this section. Broadcast applications must be made prior to crop emergence. Wiper applications or hooded sprayers may be used between the rows once the crop is established.

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

RESTRICTIONS: See "Annual & Perennial Crops" section.

For use with canola, do not apply more than 2 quarts of this product per acre. For use with sunflowers, do not apply more than 1 quart of this product per acre as a single pre-plant or pre-emergence application per year. Do not feed or graze sunflower forage following application of this product.

Maximum Application Rates if a Preharvest Application is Made					
Safflower					
Combined total for all Preemergence and Selective Equipment applications	3 qt/A				
Preharvest application	3 qt/A				
Sunflower					
Combined total for all Preemergence and Selective Equipment applications	1 qt/A				
Preharvest application	1 qt/A				
All Other Oilseed Crops Listed (Except Buffalo Gourd)					
Combined total for all Preemergence and Selective Equipment applications	2 qt/A				
Preharvest application	48 fl. oz./A				

# Preplant, At-Planting, Preemergence

USE INSTRUCTIONS: This product may be applied before, during or after planting oilseed crops listed in this section, but must be applied prior to crop emergence. Observe the maximum application rates listed at the beginning of this section.

TANK MIXTURES: For sunflower, a tank mixture with pendimethalin, such as Prowl herbicide, may be applied before, during or after planting in conventionally tilled soil, a cover crop, established sod or previous crop residue.

RESTRICTIONS: See the use instructions at the beginning of this section for important information on maximum application rates for preemergence and selective equipment applications of this product.

## **Selective Equipment**

USE INSTRUCTIONS: This product may be applied using a wiper applicator or shielded sprayer between crop rows once the crop is established. Observe the maximum application rates listed at the beginning of this section. See additional instructions on the use of wiper applicators and shielded sprayers in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

# **Pre-Harvest (Sunflower & safflower)**

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 when seed has lost its opaque character, approximately 20 to 30 days after the end of flowering of the secondary branches.

For sunflower, apply 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. Apply no more than 3 quarts of this product at pre-harvest timing to safflower. Apply no more than 1 quart of this product at a pre-harvest timing to sunflower.

# Post-Harvest (Sunflower & safflower)

USE INSTRUCTIONS: This product may be applied after harvest of safflower or sunflower. Higher rates may be required for control of large weeds, which are growing in the crops 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. Applications must be made at least 30 days prior to planting any crop not listed on this product's label booklet.

#### **PASTURES**

LABELED CROPS: Any grass (Gramineae family) except corn, sorghum, sugarcane and those listed under "CEREAL CROPS". Including Bahiagrass, bermudagrass, bluegrass, brome, fescue, guineagrass, Kikuygrass, orchardgrass, Pangola grass, ryegrass, timothy, wheatgrass, alfalfa and clover.

TYPES OF APPLICATIONS: Spot treatment, Over-the-Top wiper application, pre-plant, pre-emergence, pasture renovation, Stand Removal, Chemical Mowing

# **Spot treatment and Over-the-Top Wiper Application**

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

RESTRICTIONS: For spot treatment and wiper applications, apply in areas where the movement of domestic livestock can be controlled. When spot treatment or wiper applications are made using rates above 3 quarts per acre, do not treat more than ten percent of the total pasture at one time. Remove domestic livestock before application and wait 7 days after application before grazing livestock or harvesting.

# Pre-plant, Pre-emergence, Pasture renovation, Stand Removal

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

MAKE APPLICATIONS ACCORDING TO THE RATE LISTED IN "ANNUAL WEEDS, "PERENNIAL WEEDS, AND "WOODY BRUSH & TREES RATE TABLES" IN THIS LABEL.

RESTRICTIONS: 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 and wait 8 weeks following 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 fluid ounces per acre to control the weeds listed below and most other winter annual grass and broadleaf weeds in established coastal bermudagrass pastures.

Annual bluegrass, Cheat, Crabgrass, Henbit, Johnsongrass seedling, Little barley, Oats, Ryegrass, Sandbur field, Wheat, Wild Mustard

<u>Applications prior to spring growth:</u> 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.

<u>Applications following the first cutting:</u> 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: Labeled application rates totaling 3 quarts per acre or less do not require a waiting period between treatment and feeding or livestock grazing. If the rate is greater than 3 quarts per acre, remove domestic livestock and wait 8 weeks following application before grazing or harvesting.

NOTE: 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.

# Colorado, Idaho, Iowa, Kansas, Montana, Nebraska, North Dakota, Oregon, South Dakota, Utah, Washington, and Wyoming Only

Bromus Species: This product may be used to treat downy brome (*Bromus tectorum*), Japanese brome (*Bromus japonicas*), soft chess (*Bromus mollis*), and cheatgrass (*Bromus secalinus*) 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.

Medusahead: To treat medusahead, apply 16 fluid ounces of this product per acre as soon as plants are actively growing, and prior to the 4 leaf stage. Applications may be made in the fall or spring.

Application Equipment and Techniques: Applications may be made using ground or aerial equipment. Aerial applications for these uses may be made using fixed wing or helicopter equipment. For aerial applications, apply in 2 to 10 gallons of water per acre. For applications using ground equipment, apply in 10 to 20 gallons of water per acre.

When applied as directed there are no grazing restrictions.

# **RANGELANDS**

TYPES OF APPLICATIONS: Post-emergence

# Post-emergence

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

Delay grazing of treated areas 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 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 goatgrass. Apply when most mature brome plants are in early flower and before the plants, including seedheads, turn color. Allowing for secondary weed flushes to occur in the spring following rain events further depletes the seed reserve and encourages perennial grass conversion on weedy sites. Fall applications are possible, and recommended, where spring moisture is usually limited and fall germination allows for good weed growth.

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 eliminating the thatch layer produced by slow decaying culms prior to application. Allow new growth to occur before spraying after a burn.

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

RESTRICTIONS: Do not use ammonium sulfate when spraying rangeland grasses with this product. Do not apply more than 3 quarts per acre per year.

# Soybeans (Non-Roundup Ready)

TYPES OF APPLICATIONS: See "Annual & Perennial Crops" section

USE INSTRUCTIONS: See "Annual & Perennial Crops" section

PRECAUTIONS. RESTRICTIONS: See "Annual & Perennial Crops" section

# Pre-plant, Pre-emergence and At-planting

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

The following tank mixtures may be applied before, during or after planting in conventional tillage systems, into a cover crop, established sod or in previous crop residue.

AIM (carfentrazone)

ASSURE II (quizalofop-p-ethyl) AUTHORITY (sulfentrazone)

BOUNDARY (metribuzin/s-metolachlor)
CANOPY® (metribuzin/chlorimuron)

CANOPY® XL (chlorimuron/sulfentrazone) COMMAND® (clomazone)

COMMAND® (clomazone)
DOMAIN (thiophanate-methyl)

DUAL® MAGNUM (s-metolachlor)
DUAL® II MAGNUM (s-metolachlor)

FIRSTRATE (cloransulam-methyl)

FLEXSTAR (fomesafen sodium salt)

FRONTIER® / OUTLOOK (dimethenamid)

FUSION® (fluazifop-p-ethyl)/fenoxaprop-p-ethyl)

GAUNTLET (sulfentrazone/cloransulam-methyl)

LINEX® (linuron)
LOROX®/LINURON
LOROX® PLUS (linuron)
PROWL® (pendimethalin)
PURSUIT® (imazethapyr)

PURSUIT® PLUS (imazethapyr/pendimethalin)

REFLEX (fomesafen sodium salt)

SCEPTER® (imazaquin)

SENCOR® / LEXONE (metribuzin)

SQUADRON® (pendimethalin/imazaquin)

STEEL (pendimethalin/imazaquin/imazethapyr)

VALOR (flumioxazin)

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

Annual weeds: For difficult-to-control weeds such as fall panicum, barnyardgrass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6

inches tall, apply this product at 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.

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

### Spot treatment

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

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

#### **Pre-harvest**

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.

Apply after pods have set and lost all green color. Take care to avoid excessive seed shatter loss due to ground application equipment.

RESTRICTIONS: Allow a minimum of 7 days between application and harvest of soybeans. Do not graze or harvest treated crop for livestock feed within 25 days of last pre-harvest application. (If the application rate is 1 quart per acre or lower, the grazing restriction is reduced to 14 days after the last pre-harvest application.) DO NOT APPLY MORE THAN 5 QUARTS PER ACRE OF THIS PRODUCT FOR PRE-HARVEST APPLICATIONS. DO NOT APPLY MORE THAN 2 QUARTS PER ACRE OF THIS PRODUCT BY AIR. Do not apply to soybeans grown for seed as a reduction in germination or vigor may occur.

#### Selective equipment

USE INSTRUCTIONS: This product may be applied through recirculating sprayers, shielded applicators, hooded sprayers, wiper applicators or sponge bars in soybeans. Allow at least 7 days between application and harvest.

PRECAUTIONS: 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.

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

#### Sugarcane

TYPES OF APPLICATIONS: See "Annual & Perennial Crops" section

USE INSTRUCTIONS: See "Annual & Perennial Crops" section

PRECAUTIONS, RESTRICTIONS: See "Annual & Perennial Crops" section

# Pre-plant, Pre-emergence, At-planting

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

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 should have at least 7 new leaves.

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

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

#### **Fallow treatments**

USE INSTRUCTIONS: This product may be used as a replacement for tillage in fields that are lying fallow between sugarcane crops. This product may also be used to remove the last stubble of ratoon cane. For removal of last stubble of ratoon cane, apply 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. Allow 7 or more days after application before tillage.

Ground or aerial application equipment may be used. Applications up to 3 quarts per acre may be made by aerial application in fallow sites where there is sufficient buffer to prevent injury due to drift onto adjacent crops. Tank mixtures with 2,4-D and dicamba may be used.

#### **Hooded sprayers**

USE INSTRUCTIONS: This product may be used through hooded sprayers for weed control between the rows of sugarcane. See "APPLICATION EQUIPMENT & TECHNIQUES" for additional USE DIRECTIONS.

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

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

PRECAUTIONS: 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.

# FOR AID IN SUGARCANE RIPENING (FLORIDA, HAWAII, LOUISIANA, PUERTO RICO AND TEXAS)

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 cane stalk. In order to recover the maximum sugar where topping is practiced during harvest, top at the base of the fourth leaf.

Prior to application, consult your state sugarcane authority or local PROKōZ, Inc. representative regarding the degree of sucrose response anticipated from the variety of sugarcane to be treated. Do not plant subsequent crops in treated fields other than the following for 30 days after applications: 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.

APPLICATION RATES: Use the following application rates and time instructions according to the State in which the sugarcane is grown.

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

FLORIDA – Apply 5 to 12 fluid ounces of this product per acre 3 to 6 weeks before harvest of LAST RATOON CANE ONLY.

HAWAII – Apply 9 to 21 fluid ounces of this product per acre 4 to 10 weeks before harvest.

LOUISIANA – Apply 3.5 to 12 fluid ounces of this product per acre 3 to 7 weeks before harvest of RATOON CANE ONLY.

PUERTO RICO - Apply 5 fluid ounces of this product per acre 3 to 5 weeks before harvest of RATOON CANE ONLY.

TEXAS - Apply 5 to 12 fluid ounces of this product per acre 3 to 5 weeks before harvest of RATOON CANE ONLY.

PRECAUTIONS: Application of this product may initiate development of shooting eyes. This product may not increase the sucrose content of sugarcane under conditions of good nature ripening. Within 2 to 3 weeks after application, this product may produce a slight yellowing to 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.

RESTRICTIONS: Do not make application to sugarcane grown for seed, as a reduction in germination or vigor may occur. Do not feed or graze treated sugarcane forage following application. 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.

## TREE, VINE & SHRUB CROPS (Alphabetical)

NOTE: THIS SECTION GIVES DIRECTIONS THAT APPLY TO ALL LISTED TREE, VINE & SHRUB CROPS WITHIN THE BELOW LISTED CROP GROUPS. INDIVIDUAL CROPS MAY HAVE MORE SPECIFIC INSTRUCTIONS, PRE-HARVEST INTERVALS, PRECAUTIONS AND RESTRICTIONS.

TYPES OF APPLICATIONS: Pre-plant (Site Preparation), Broadcast Sprays, Weed control, Middles (between rows of trees, vines or shrubs), Strips (within row of trees, vines or shrubs), Selective Equipment (shielded sprayers, wiper treatments), Directed Sprays, Spot Treatments, Perennial Grass Suppression, Cut Stump.

USE DIRECTIONS: This product may be applied in middles (between rows of trees or vines), strips (within rows of trees or vines), and for general weed control or perennial grass suppression in established tree fruit and tree nut groves, orchards, berries and vineyards. APPLY AT 1 PINT TO 5 QUARTS PER ACRE ACCORDING TO THE "ANNUAL WEEDS AND "PERENNIAL WEEDS RATES TABLE" SECTIONS OF THIS LABEL. Utilize rates at the higher end of the labeled rate range when weeds are stressed, growing in dense populations or are greater than 12 inches tall. Repeat applications may be made up to a maximum of 10.6 quarts per acre per year. This product may also be used for site preparation prior to transplanting these crops. Allow a minimum of 3 days between application and transplanting. Applications

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

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, RESTRICTIONS: 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 the trees, canes and vines. Avoid applications when recent pruning wounds or other mechanical injury has occurred. Contact of this product other than matured brown bark can result in serious crop damage or destruction. For applications in strips (within rows of trees), only selective equipment (directed sprays, hooded sprayers, shielded applicators, or wipers) must be used to minimize the potential for leakage or drift of herbicide sprays onto crop.

See "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional directions and precautions.

Only wipers or shielded applicators capable of preventing all contact with crop may be used. Only shielded or directed sprayers may be used in crops with potential for crop contact, and then only where there is sufficient clearance. Allow a minimum of 3 days between applications and transplanting.

# Middles (between rows of trees, vines or bushes)

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 (oxyfluorfen) may be used for annual weeds in middles between rows of citrus crops, tree fruits, tree nuts and vine crops. This mixture is recommended when weeds are stressed or growing in dense populations. Applying 16 to 32 oz/A of this product plus appropriately labeled amount of Goal® 2XL (oxyfluorfen) will control annual weeds with a maximum height or diameter of 6 inches, including crabgrass, hairy fleabane (*Conyza bonariensis*), common groundsel, junglerice, common lambsquarters, redroot pigweed, London rocket, common ryegrass, shepherdspurse, annual sowthistle, common cheeseweed (malva), filaree (suppression), horseweed/marestail (*Conyza canadensis*), stinging nettle and common purslane (suppression). Applying 16 to 32 oz/A of this product plus appropriately labeled amount of Goal® 2XL (oxyfluorfen) will control common cheeseweed (malva) with a maximum height or diameter of 3 inches.

### Strips (in rows of trees, vines or bushes)

TANK MIXTURES: This product may be applied in rows of tree or vine crops and may also be tank mixed with the following products (or generic equivalent).

DEVRINOL® 50 DF (napropamide)

DIREX® 4L (diuron)

GOAL® 2XL (oxyfluorfen)

KARMEX® DF (diuron)

KROVAR® I (bromacil/diuron)

KROVAR® II (bromacil/diuron)

PROWL® (pendimethalin)

PRINCEP® CALIBER 90 (simazine)

SIMAZINE 4L

SIMAZINE 80W

SIM-TROL™ 4L (simazine)

SOLICAM® DF (norflurazon)

SURFLAN®AS (oryzalin)

SURFLAN® 75W (oryzalin)

RESTRICTIONS: Ensure that the product used is label for application within the crop being grown. Read and follow label directions for all products in the tank mixture. Do not apply these tank mixtures in Puerto Rico.

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

Apply 1 pint to 5 quarts of this product per acre in these tank mixtures. Use rates at the higher end of the specified rate range when weeds are stressed, growing in dense populations or are greater than 12 inches tall.

## Perennial grass suppression

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

For suppression of tall fescue, fine fescue, orchardgrass and quackgrass, apply 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, use rates of 6 to 10 fluid ounces per acre in shaded conditions or where a lesser degree of suppression is desired.

### **BERRY CROPS**

LABELED CROPS: Blackberry (including bingleberry, black satin berry, boysenberry, Cherokee blackberry, chesterberry, Cheyenne blackberry, coryberry, darrowberry, dewberry, Dirksen thronless 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), Salal

TYPES OF APPLICATIONS: See "Tree, Vine & Shrub Crops" section.

USE INSTRUCTIONS: See "Tree, Vine & Shrub Crops" section.

PRECAUTIONS: See "Tree, Vine & Shrub Crops" section.

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. Do not make directed sprays within the cranberry bush areas prior to berry harvest.

# **Spot Treatment (Cranberry production)**

USE INSTRUCTIONS: May be used to control weeds growing in dry ditches (interior and perimeter) of cranberry production areas. Handheld sprayers or other appropriate application equipment listed under "APPLICATION EQUIPMENT AND TECHNIQUES" in this label may be used. Drop water level to remove standing water in ditches prior to application. In hand-held sprayers, use 1 to 2 percent solution of this product. Spray to wet vegetation, not to run-off.

For treatments after draw down of water in dry ditches, allow 2 or more days after treatment before reintroduction of water to achieve maximum weed control.

Apply this product within 1 day after draw down to ensure application to actively growing weeds.

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

# **Post-harvest (Cranberry production)**

USE INSTRUCTIONS: Make applications only after cranberries have been harvested to control weeds growing within the field. Best results will be obtained if applications are made to vines that appear dormant (after they have turned red). Hand-held sprayers, wipers or other appropriate application equipment listed under "APPLICATION EQUIPMENT AND TECHNIQUES" in this label may be used. If using hand-held sprayers, use a 0.5 to 1 percent solution of this product. Spray to wet vegetation, not to run-off. If using hand-held boom sprayers, apply 2 to 4 quarts of this product per acre.

PRECAUTIONS: Even though vines appear dormant, contact of the herbicide solution with desirable vegetation may result in damage or severe plant injury. Cranberry plants that are directly sprayed may be killed.

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

## **Citrus Crops**

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

TYPES OF APPLICATIONS: See "Tree, Vine & Shrub Crops" section.

NOTE: FOR GENERAL USE DIRECTIONS AND PRECAUTIONS/RESTRICTIONS, SEE THE "TREE, VINE & SHRUB CROPS" SECTION. THE FOLLOWING DIRECTIONS ARE SPECIFIC TO CITRUS CROPS.

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

For goatweed, apply 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 (bromacil/diuron) or Karmex® (diuron) 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	Glyphosate Pro 4 Rate Per Ac			Per Acre
Species	1 QT	2 QT	3 QT	5 QT
Bermudagrass	В	-	PC	С
Guineagrass				
Texas and Florida Ridge	В	С	С	С
Florida Flatwoods	-	В	С	С
Paragrass	В	С	С	С
Torpedograss	S	-	PC	С

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

# **CUT STUMPS (Tree Crops)**

### LABELED CROPS:

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

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

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

TYPES OF APPLICATIONS: Suitable Hand-held Equipment

# **Suitable Hand-held Equipment**

USE INSTRUCTIONS: Cut stump applications of this product may be made during site preparation or site renovation, prior to transplanting tree crops. This product will control regrowth of cut stumps and resprouts of many types of tree species, some of which are listed below.

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: Some sprouts, stems, or trees may share the same root system. Adjacent trees having a similar age, height and spacing may signal shared roots. Whether grafted or shared, injury is likely to occur to non-treated stems/trees when one or more trees sharing common roots are treated.

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.

## **MISCELLANEOUS TREE FOOD CROPS**

LABELED CROPS: Cactus (fruits & pads), Palm (heart, leaves), Palm (oil)

TYPES OF APPLICATIONS: See "Tree, Vine & Shrub Crops" section.

USE INSTRUCTIONS: See "Tree, Vine & Shrub Crops" section.

PRECAUTIONS, RESTRICTIONS: See "Tree, Vine & Shrub Crops" section.

# **NON-FOOD TREE CROPS**

LABELED CROPS: Pine, Poplar, Eucalyptus, Christmas Trees, Other Non-food Tree Crops.

TYPES OF APPLICATIONS: See "Tree, Vine & Shrub Crops" section.

USE DIRECTIONS: See "Tree, Vine & Shrub Crops" section.

PRECAUTIONS, RESTRICTIONS: See "Tree, Vine & Shrub Crops" section.

# Directed sprays, Spot treatments, 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. Care must be exercised to avoid contact of spray, drift or mist with foliage or green bark of established Christmas trees.

RESTRICTION: Do not apply this product as an over-the-top broadcast spray in Christmas trees.

# Site preparation

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

PRECAUTIONS: Protect non-target plants during site preparation applications.

## **Directed Spray (Eucalyptus and Poplar Production)**

USE INSTRUCTIONS: This product can be used around established eucalyptus and poplar trees to control undesirable vegetation. 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 plants.

PRECAUTIONS: Desirable vegetation contacted by the herbicide solution may be injured or controlled. This includes foliage, fruit, or green stems.

### Wiper Application (Eucalyptus and Poplar Production)

USE INSTRUCTIONS: 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 of 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: Desirable vegetation contacted by the herbicide solution may be injured or controlled. This includes foliage, fruit, or green stems.

## TREE FRUITS

### LABELED CROPS:

Pome Fruit: Apple, Crabapple, Loquat, Mayhaw, Pear (including oriental pear), Quince Stone Fruit: Apricot, Cherry (Sweet, Sour), Nectarine, Olive, Peach, Pear (including oriental pear), Plum/Prune (All types), Plumcot

TYPES OF APPLICATIONS: See "Tree, Vine & Shrub Crops" section.

USE DIRECTIONS: See "Tree, Vine & Shrub Crops" section.

PRECAUTIONS, RESTRICTIONS: See "Tree, Vine & Shrub Crops" section.

Allow a minimum of 1 day between last application and harvest of pome fruits. Allow a minimum of 17 days between last application and harvest in stone fruit crops. Remove suckers and low-hanging limbs a minimum of 10 days prior to application. For olive groves, apply as directed sprays only.

# Restrictions on application equipment

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

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

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

## 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 APPLICATIONS: See "Tree, Vine & Shrub Crops" section.

USE DIRECTIONS: See "Tree, Vine & Shrub Crops" section.

PRECAUTIONS, RESTRICTIONS: See "Tree, Vine & Shrub Crops" section.

Allow a minimum of 3 days between last application and harvest of tree nuts, except coconut. Allow 14 days between application and harvest of coconuts.

## TROPICAL CROPS & SUBTROPICAL TREES & FRUITS

LABELED CROPS: Ambarella, Atemoya, Avocado, Banana, Barbados Cherry (acerola), Biriba, Breadfruit, Canistel, Carambola, Cherimoya, Cocoa beans, Coffee, Custard apple, Dates, Durian, Feijoa, Figs, Governor's Plum, Guava, Ilama, Imbe, Imbu, Jaboticaba, Jackfruit, Longan, Lychee, Mamey apple, Mango, Mangosteen, Marmaladebox (genip), Mountain papaya,

Papaya, Pawpaw, Persimmon, Plantain, Pomegranate, Pulasan, Rambutan, Rose apple, Sapodilla, Sapote (black, mamey, white), Soursop, Spanish lime, Star apple, Sugar apple, Surinam cherry, Tamarind, Tea, Ti (roots & leaves), Wax jambu.

TYPES OF APPLICATIONS: See "Tree, Vine & Shrub Crops" section.

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

RESTRICTIONS: See "Tree, Vine & Shrub Crops" section. Allow a minimum of 1 day between last application and harvest of banana, guava, papaya and plantain crops. Allow a minimum of 14 days between last application and harvest of any other tropical or subtropical tree fruit.

Allow a minimum of 28 days between last application and harvest 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 to establish a disease free buffer around plantations. Remove all fruit from the plants within the treatment area prior to treatment. Inject 1/25 fluid ounce (1 mL) of this product's concentrate per 2 to 3 inches of pseudostem diameter. Make the injection at least one foot above ground, except for very small plants, which must be injected vertically into the top. Any subsequent regrowth must also be destroyed. All plants and mats (or units) adjacent (within a 4-foot radius) to a treated mat shall be mechanically destroyed.

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

RESTRICTIONS: Do not apply more than ½ fluid ounce (15 mL) of this product's concentrate per mat (or unit). Remove all fruit from plants and mats (or units) prior to treatment. Do not harvest any fruit or plant materials from treated mats (or units) following injection. Do not allow livestock to consume treated 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.

### **VINE CROPS**

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

TYPES OF APPLICATIONS: See "Tree, Vine & Shrub Crops" section.

USE INSTRUCTIONS: See "Tree, Vine & Shrub Crops" section.

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: See "Tree, Vine & Shrub Crops" section.

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

## **VEGETABLE CROPS**

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

TYPES OF APPLICATIONS: Chemical Fallow, Pre-plant Fallow Beds, Pre-plant, Pre-emergence, Prior to Transplanting Vegetables, At-Planting, Hooded Sprayers in Row Middles, Shielded Sprayers in Row Middles, Wiper Applications in Row Middles, Post-Harvest, Directed Applications (Non-Bearing Ginseng), Over-the-top Wiper Applications (Rutabagas Only).

PRECAUTIONS: When applying this product prior to transplanting or direct-seeding crops into plastic mulch, care must be taken to remove residues of this product, which could cause crop injury, from the plastic prior to planting. Residues can be removed by a single 0.5-inch application of water, either by natural rainfall or via a sprinkler system. Care must be taken to ensure that the wash water is flushed off the plastic mulch and does not enter transplant holes. Applications made at emergence will result in injury or death to emerged seedlings.

Avoid control 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 pre-emergence and at planting applications, applications must be made before crop emergence to avoid severe crop injury. Apply before seed germination in coarse sandy soils to further minimize the risk of injury. In crops with vines, hooded sprayer, shielded sprayer and wiper applications to row middles must be made prior to vine development otherwise severe injury or destruction may result.

RESTRICTIONS: Unless otherwise specified in this product's labeling, treatments with selective equipment including wipers and hooded sprayers must be made at least 14 days prior to harvest. Post-harvest or fallow application must be made at least 30 days prior to planting any non-labeled crop.

See "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional information.

## **BRASSICA VEGETABLES**

LABELED CROPS: Broccoli, Broccoli (raab), Brussels sprouts, Cabbage, Cabbage (Chinese), Cabbage (Chinese mustard), Cauliflower, Cavalo broccoli, Chinese broccoli (gai lon), Chinese cabbage (bok choy & napa), Collards, Kale, Kohlrabi, Mizuna, Mustard greens, Mustard spinach, Rape greens

TYPES OF APPLICATIONS: See "Vegetable Crops" section.

USE INSTRUCTIONS: See "Annual & Perennial Crops" section.

PRECAUTIONS, RESTRICTIONS: See "Vegetable Crops" section.

### **BULB VEGETABLES**

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

TYPES OF APPLICATIONS: See "Vegetable Crops" section.

USE INSTRUCTIONS: See "Annual & Perennial Crops" section.

PRECAUTIONS, RESTRICTIONS: See "Vegetable Crops" section.

## **CUCURBIT VEGETABLES & FRUITS**

LABELED CROPS: Chayote (fruit), Chinese waxgourd, Citron melon, Cucumber, Gherkin, Gourds, Gourds (edible including hyotan, cucuzza, hechima, Chinese okra), Melons (All), *Momordica* spp. (includes balsam apple, balsam pear, bittermelon, Chinese cucumber), Muskmelon (cantaloupe, casaba, golden pershaw, honeydew, honey ball, mango melon & Persian, pineapple, Santa Claus, snake), Pumpkin, Summer Squash (including crookneck, scallop, straightneck, vegetable marrow, zucchini), Winter Squash (including butternut, calabasa, hubbard, accord, spaghetti), Watermelon

TYPES OF APPLICATIONS: See "Vegetable Crops" section.

USE INSTRUCTIONS: See "Annual & Perennial Crops" section.

RESTRICTIONS: Allow at least 3 days between application and planting of 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.

### **LEAFY VEGETABLES**

LABELED CROPS: Amaranth (Chinese spinach), Arrugula (roquette), Beet greens, Cardoon, Celery, Celery (Chinese), Celtuce, Chaya, Chervil, Chrysanthemum (edible leaved & Garland), Corn salad, Cress (garden & upland), Dandelion, Dock (sorrel), Dokudami, Endive (escarole), Fennel (Florence), Gow kee, Lettuce (head & leaf), Orach, Parsley, Purslane (garden & winter), Radicchio (red chicory), Rhubarb, Spinach (All), Swiss Chard, Watercress (upland), Water spinach.

TYPES OF APPLICATIONS: See "Vegetable Crops" section.

USE INSTRUCTIONS: See "Annual & Perennial Crops" section.

RESTRICTIONS: For watercress, do not make applications within 3 days prior to seeding and during the period between seeding and emergence to minimize the risk of injury.

PRECAUTIONS: See "Vegetable Crops" Section.

## **FRUITING VEGETABLES**

LABELED CROPS: Eggplant, Ground cherry (*Physalis* spp.), Pepino, Pepper (includes bell, chili, cooking, pimento, sweet), Tomatillo, Tomato

TYPES OF APPLICATIONS: See "Vegetable Crops" section.

USE INSTRUCTIONS: See "Annual & Perennial Crops" section.

PRECAUTIONS, RESTRICTIONS: See "Vegetable Crops" Section.

For eggplant, ground cherry, pepino, pepper (all), tomatillo and tomato, allow at least 3 days between application and planting.

Do not use hooded or shielded sprayer applications in row middles or tomatoes.

# **LEGUME VEGETABLES (succulent or dried)**

LABELED CROPS: Beans (*Lupinus*: includes grain lupin, sweet lupin, white lupin, and white sweet lupin), Bean (*Phaseolus*: includes field bean, kidney bean, lima bean, navy bean, pinto bean, runner bean, snap bean, tepary bean, wax bean), Bean (*Vigna*: includes adzuki bean, asparagus bean, blackeyed pea, catjang, Chinese longbean, cowpea, crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean, yardlong bean), Broad bean (fava), Chickpea (garbanzo), Guar, Jackbean, Lablab bean, Lentil, Pea (*Pisum*: includes dwarf pea, edible

podded pea, English pea, field pea, garden pea, green pea, snowpea, sugar snap pea), Pigeon pea, Soybean (immature seed), Sword Bean

TYPES OF APPLICATIONS: See "Vegetable Crops" section.

USE INSTRUCTIONS: See "Annual & Perennial Crops" section.

PRECAUTIONS, RESTRICTIONS: See "Vegetable Crops" Section.

# **Pre-harvest Broadcast Spray (Dry beans):**

USE INSTRUCTIONS: This product may be applied as an over the top broadcast spray to control labeled weeds prior to the harvest of dry beans. Apply up to 32 fluid ounces in 3 to 20 gallons of water per acre at the hard dough stage of the legume seed (30 percent grain moisture or less). Either ground broadcast or aerial applications may be made.

RESTRICTIONS: Apply at least 7 days before harvest of dry beans. Only one application per year may be made; do not combine a pre-harvest spray with a spot treatment on the same crop area. Do not feed treated vines and hay from these crops to livestock. Do not apply this product through any type of irrigation system. Do not treat field (feed) peas, since these are considered to be grown as livestock feed. Do not make pre-harvest applications to dry beans grown for seed.

## Pre-harvest Broadcast Spray (Dry Peas, Lentils & Chickpeas):

USE INSTRUCTIONS: This product may be applied as an over the top broadcast spray to control labeled weeds prior to the harvest of dry peas, lentils, and chickpeas. Apply up to 64 fluid ounces in 3 to 20 gallons of water per acre at the hard dough stage of the legume seed (30 percent grain moisture or less). Either ground broadcast or aerial applications may be made.

RESTRICTIONS: Apply at least 7 days before harvest of dry peas, lentils & chickpeas. Only one application per year may be made; do not combine a pre-harvest spray with a spot treatment on the same crop area. Do not feed treated vines and hay from these crops to livestock. Do not apply this product through any type of irrigation system. Do not treat field (feed) peas, since these are considered to be grown as livestock feed. Do not make pre-harvest applications to dry peas, lentils & chickpeas grown for seed.

# Spot Treatment (Dry Beans, Dry Peas, Lentils, Chickpeas):

USE INSTRUCTIONS: This product may be applied as spot treatment to control troublesome weeds such as Canada thistle, quackgrass, mayweed (dog fennel), and milkweed in dry beans. Apply up to 26 fluid ounces in 10 to 20 gallons of water through ground spray equipment or use a 2 percent solution in a handheld sprayer. For best results, make applications at or beyond the bud stage of growth. The crop receiving spray in treated areas will be killed.

RESTRICTIONS: Apply at least 14 days before harvest. Only one application per year may be made; do not combine a pre-harvest spray with a spot treatment on the same crop area. Do not feed treated vines and hay from these crops to livestock. Do not apply this product through any type of irrigation system. Do not treat field cowpeas, since these are considered to be grown as livestock feed.

### **ROOT & TUBER VEGETABLES:**

LABELED CROPS: Arracacha, Arrowroot, Artichoke (Chinese & Jerusalem), Beet (garden), Burdock, Canna, Carrot, Cassava (bitter & sweet), Celeriac, Chayote (root), Chervil, Chicory, Chufa, Dasheen, Galangal, Ginger, Ginseng, Horseradish, Leren, Kava, Parsley, Parsnips, Potato (Irish), Radish, Radish (Oriental), Rutabaga, Salsify, Salsify (Black & Spanish), Skirret, Sweet potato, Tanier, Turneric, Turnip, Wasabi, Yacon, Yams, Yam bean, Yam (True)

TYPES OF APPLICATIONS: See "Vegetable Crops" section.

USE INSTRUCTIONS: See "Annual & Perennial Crops" section.

PRECAUTIONS, RESTRICTIONS: See "Vegetable Crops" section.

## **Direct Application (Non-bearing Ginseng):**

USE INSTRUCTIONS: This product may be used for general weed control in established non-bearing 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.

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.

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

## Over-the-Top Wiper Application (Rutabaga Only)

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

RESTRICTIONS: Allow at least 14 days between application and harvest.

## **MISCELLANEOUS CROPS**

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

TYPES OF APPLICATIONS: See "Vegetable Crops" section.

USE INSTRUCTIONS: See "Annual & Perennial Crops" section.

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.

PRECAUTIONS, RESTRICTIONS: See "Vegetable Crops" section.

When making pre-emergence and at planting applications, applications must be made before crop emergence to avoid severe crop injury. Apply before seed germination in coarse sandy soils to further minimize the risk of injury. In crops with vines, hooded sprayer, shielded sprayer and wiper applications to row middles must be made prior to vine development otherwise severe injury or destruction may result.

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.

### 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. When applying this product prior to transplanting or direct seeding crops into plastic mulch, care must be taken to remove residues of this product from the plastic prior to transplanting. Residues can be removed by 0.5 inch natural rainfall or by applying water via a sprinkler system. Care must be taken to insure that the wash water flushes off the plastic mulch and does not enter transplant holes. Injury made at emergence will result in injury or death to emerged seedlings.

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

## **Spot treatment (Asparagus)**

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

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

# Post-harvest (Asparagus)

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

Select and use recommended types of spray equipment for post-emergence 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.

PRECAUTIONS: Do not allow direct contact of the spray with the asparagus which will result in serious crop injury.

# ROUNDUP READY® CROPS

The following instructions or those separately published on PROKōZ, Inc. supplemental labeling include all applications which can be made on the specified Roundup Ready crops during the complete cropping season. Do NOT combine these instructions with those listed crop varieties that do not contain the Roundup ready gene, in the "ANNUAL AND PERENNIAL CROPS (ALPHABETICAL)" section of this label.

THIS PRODUCT IS TO BE USED FOR POST-EMERGENCE APPLICATION ONLY ON CROP VARIETIES DESIGNATED AS CONTAINING A ROUNDUP READY GENE OR GLYPHOSATE TOLERANT GENE.

Applying this product to crop varieties which 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 which do not contain the Roundup Ready® or glyphosate tolerant gene, since severe injury or destruction will result.

The Roundup Ready<sup>®</sup> designation indicates that the crop variety contains a patented gene which provides tolerance to this product. Information on Roundup Ready<sup>®</sup> crop varieties may be obtained from an authorized licensed seed supplier.

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.

<u>For Ground Applications</u> 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 float spray nozzles. Check for even distribution of spray droplets.

<u>For Aerial Applications</u> apply this product in 3 to 15 gallons of water per acre. See the "APPLICATION EQUIPMENT AND TECHNOLOGIES" 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 recommended for over-the-top applications of this product unless otherwise specified in this product label, or supplemental labeling published separately by PROKōZ, Inc.

RESTRICTIONS: Observe the maximum application rates stated throughout this label. Maximum application rates apply to the use of this product combined with the use of any and all other herbicides containing glyphosate, whether applied separately or as mixtures. Calculate the application rates (glyphosate acid equivalents) and ensure that the total use of this and other glyphosate-containing products does not exceed the stated maximum rate. See the "PRODUCT INFORMATION" section of this label for more information on Maximum Application Rates. When applying this product as a tank mixture with one or more products, refer to each individual tank-mix product label for restrictions and apply the tank mixture in accordance with the most restrictive statements for each product in the tank.

Ammonium sulfate may be mixed with this product for applications to Roundup Ready<sup>®</sup> crops. Refer to the "MIXING" section for USE INSTRUCTIONS for ammonium sulfate.

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

NOTE: The following use directions are based on a clean start at planting by using a burndown application or tillage to control existing weeds before crop emergence. In no-till and stale seedbed systems, use a pre-plant burn-down treatment of this product 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. Make the second application after some regrowth has occurred and at least 10 days after a previous application of this product.

# **ROUNDUP READY CANOLA (Spring Varieties)**

LABELED CROPS: 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.

DO NOT USE THIS PRODUCT ON SPRING CANOLA WITH A ROUNDUP READY GENE PLANTED IN THE FOLLOWING STATES: ALABAMA, DELAWARE, FLORIDA, GEORGIA, KENTUCKY, MARYLAND, NEW JERSEY, NORTH CAROLINA, SOUTH CAROLINA, TENNESSEE, VIRGINIA, AND WEST VIRGINIA, EXCEPT FOR USES IN WILDLIFE FOOD PLOTS THAT WILL NOT BE FORE HUMAN OR LIVESTOCK FOOD.

# Pre-plant, At-planting, Pre-emergence

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

RESTRICTIONS: Maximum quantity of this product that may be applied for all pre-plant, atplanting and pre-emergence applications combined is 2 quarts per season.

# Post-emergence (In-crop)

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

<u>Single Application</u> – Apply 11 to 16 fluid ounces of this product per acre no later than the 6-leaf stage for the control of annual weeds. Avoid overlapping applications as this may result in temporary yellowing, delayed flowering, and or growth reduction. Similar crop injury may result when applications of more than 11 fluid ounces per acre are applied after the 4-leaf stage.

<u>Sequential Application</u> – Apply 11 fluid ounces of this product per acre to 1- to 3-leaf canola followed by a sequential application at a minimum interval of 10 days, but no later than the 6-leaf stage. Sequential applications can be made for early emerged annual weeds and perennial weeds such as Canada thistle and quackgrass, or when multiple applications are needed for adequate weed control.

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 of all in-crop applications must not exceed 22 fluid ounces of this product per acre. Allow a minimum of 60 days between last application and canola harvest.

#### MAXIMUM ALLOWABLE APPLICATION RATES

Total of all Pre-plant, At-planting, Pre-emergence applications	2 quarts/A
Total of all In-crop applications from emergence to 6-leaf stage	1 quart/A

# **ROUNDUP READY CANOLA (Fall & Winter Varieties)**

LABELED CROPS: 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.

## Pre-plant, At-planting, Pre-emergence

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

RESTRICTIONS: Maximum quantity of this product that may be applied for all pre-plant, atplanting and pre-emergence applications combined is 2 quarts per season.

## Post-emergence (In-crop)

USE INSTRUCTIONS: This product may be applied to Roundup Ready winter canola from emergence to canopy closure in the fall and prior to bolting in the spring. Applications made during or after bolting may result in crop injury and yield loss. To maximize yield potential, make applications early to eliminate competing weeds.

Some weeds with multiple germination times, or suppressed (stunted) weeds, or weeds that have overwintered may require sequential applications of this product for control. The second

application should be made after some re-growth has occurred and at least 60 days after a previous application of this product.

<u>Single Application</u> – Apply 22 to 32 fluid ounces of this product per acre in the fall. Make applications in the fall when weeds are small and actively growing. Use the higher rate in the labeled range when weed densities are high, when weeds have overwintered or when weeds become large and well established. Applications of greater than 16 fluid ounces per acre prior to the 6-leaf stage may result in reduced crop growth in the fall. Avoid overlaps. Spray overlaps may result in temporary yellowing and/or growth reduction.

<u>Sequential Application</u> – 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 applications can be made for early emerged 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 applications may be required to reduce competition with the crop.

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 of all in-crop applications must not exceed 2 quarts of this product per acre. 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.

### MAXIMUM ALLOWABLE APPLICATION RATES

Total of all Pre-plant, At-planting, Pre-emergence applications	2 quarts/A
Total of all In-crop applications from emergence to canopy	2 quarts/A
closure or prior to bolting in the spring	

### **ROUNDUP READY CORN**

# Pre-plant, Pre-emergence, At-planting

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

TANK MIXTURES: This product may be tank mixed with Degree (acetochlor), Degree Xtra (acetochlor/atrazine), Harness (acetochlor/atrazine), Harness Xtra (acetochlor/atrazine), or Harness Xtra 5.6L (acetochlor/atrazine) at the labeled rate. Refer to the specific product label and observe all precautions and limitations on the label for any pre-emergence herbicide applications, including application timing restrictions, soil restrictions, minimum re-cropping interval and rotational guidelines – the more restrictive requirements apply.

MAKE APPLICATIONS ACCORDING TO THE RATES LISTED IN "ANNUAL WEEDS, "PERENNIAL WEEDS, AND "WOOD BRUSH & TREES RATE TABLES" IN THIS LABEL.

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

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.

# Post-emergence (in-crop)

USE INSTRUCTIONS: When applied as directed, this product controls annual grass and broadleaf weeds in Roundup Ready corn. Many perennial grasses and broadleaf weeds will be controlled or suppressed with one or more applications of this product. Make the post-emergent application of 0.75 to 1.5 quarts per acre of this product before the weeds reach a height and/or density that the weeds become competitive with the crop, generally 4 inch tall weeds or less.

This product may be applied over-the-top to Roundup Ready corn from emergence through the V8 stage (8 leaves with collars) or until corn height reaches 48 inches, whichever comes first. Use drop nozzles when corn height is 24 to 30 inches (free standing), for optimum spray coverage and weed control. For corn heights 30 to 48 inches (free standing), apply this product ONLY using ground application equipment with drop nozzles adjusted to avoid spraying into the whorls of the corn plants. If product is applied to whorls or corn, plant injury and yield reduction can occur.

Maximum single in-crop application rate of this product up to 48-inch corn is 48 fluid ounces per acre.

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

TANK MIXTURES: This product may be applied in a tank mixture with Degree (acetochlor), Degree Xtra (acetochlor/atrazine), Harness (acetochlor/atrazine), Harness Xtra (acetochlor/atrazine), or Harness Xtra 5.6L (acetochlor/atrazine), at the labeled rate. This product may be applied in a tank mixture with Permit (halosulfuron/thifensulfuron) and Atrazine at labeled rates. Refer to the specific product label and observe all precautions and limitation on the label for any pre-emergence herbicide applications, including application timing restrictions, soil restrictions, minimum re-cropping interval and rotational guidelines – the more restrictive requirements apply.

Tank-mix partner	Maximum Height of Corn for Application
Degree (acetochlor)	
Degree Xtra (acetochlor/atrazine)	
Harness (acetochlor/atrazine)	11 inches
Harness Xtra (acetochlor/atrazine)	
Harness Xtra 5.6L (acetochlor/atrazine)	
Atrazine	12 inches

RESTRICTIONS: Single in-crop applications of this product are not to exceed 1.5 quarts per acre. The maximum combined total of multiple in-crop applications from emergence through the 48-inch stage is 3 quarts per acre. Allow a minimum of 10 days between in-crop applications of this product. Allow a minimum of 50 days between application of this product and harvest of corn forage.

#### **Pre-Harvest**

USE INSTRUCTIONS: In Roundup Ready corn, up to 1 quart per acre of this product can be applied pre-harvest. 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).

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

### **Post-Harvest**

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

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

## **MAXIMUM ALLOWABLE APPLICATION RATES**

Total of all Pre-plant, Pre-emergence, At- 5 quarts/A

planting applications

Maximum single in-crop application rate up to

48-inch corn 1.5 quarts/A

Total in-crop applications from emergence

through 48-inch corn 3 quarts/A Maximum pre-harvest application rate after 1 quart/A

maximum kernel fill is complete and the crop is physiologically mature (black layer formation)

until 7 days before harvest

Combined total per year for all applications 8 quarts/A

## **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, VARIOUS ENVIRONMENTAL CONDITIONS, AGRONOMIC PRACTICES AND OTHER FACTORS MAKE IT IMPOSSIBLE TO ELIMINATE ALL RISKS ASSOCIATED WITH THIS PRODUCT, EVEN WHEN APPLICATIONS ARE MADE IN CONFORMANCE WITH THE LABEL SPECIFICATIONS. IN SOME CASES, THESE FACTORS CAN RESULT IN BOLL LOSS, DELAYED MATURITY AND/OR YIELD LOSS.

## Pre-plant, Pre-emergence, At-planting

USE INSTRUCTIONS: This product may be applied before, during or after planting cotton. MAKE APPLICATIONS ACCORDING TO THE RATES LISTED IN "ANNUAL WEEDS, "PERENNIAL WEEDS, AND "WOOD BRUSH & TREES RATE TABLES" IN THIS LABEL.

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

## Post-emergence (Over-the-Top)

USE INSTRUCTIONS: This product may be applied by aerial or ground application equipment at rates up to 1 quart per acre per application post-emergence to Roundup Ready cotton from the ground cracking stage until the 4-leaf (node) stage of development (until the fifth true leaf reaches the size of a quarter). Over-the-top applications made after the 4-leaf (node) stage of development may result in boll loss, delayed maturity and/or yield loss.

Salvage Treatment: This treatment may be used after the 4-leaf stage of development and must only be used where weeds threaten to cause the loss of the crop. One quart per acre may be applied either as an over-the-top application or as a post-directed treatment sprayed higher on the cotton plants and over the weeds.

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

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

RESTRICTIONS: The combined total application of this product from cotton emergence until harvest must not exceed 6 quarts per acre.

NO MORE THAN TWO OVER-THE-TOP BROADCAST APPLICATIONS MAY BE MADE FROM CROP EMERGENCE THROUGH THE 4-LEAF (NODE) STAGE OF DEVELOPMENT.

NO MORE THAN TWO APPLICATIONS MAY BE MADE FROM THE 5-LEAF STAGE THROUGH LAYBY. SEQUENTIAL IN-CROP OVER-THE-TOP OR POST-DIRECTED APPLICATIONS OF THIS PRODUCT MUST BE AT LEAST 10 DAYS APART AND COTTON MUST HAVE AT LEAST TWO NODES OF INCREMENTAL GROWTH BETWEEN APPLICATION. ALLOW A MINIMUM OF 7 DAYS BETWEEN APPLICATION AND HARVEST.

### **Selective Equipment**

USE INSTRUCTIONS: This product may be applied using precision post-directed or hooded sprayers at rates up to 1 quart per acre per application to Roundup Ready cotton through layby. At this stage, post-directed equipment must be used which directs the spray to the base of the cotton plants. Avoid contact of the spray with cotton leaves to the maximum extent possible. To minimize spray onto the leaves of cotton plants, place nozzles in a low position directing a horizontal spray pattern under the cotton leaves to contact weeds in a row, and maintain low spray pressure (less than 30 psi). For best results, make applications while weeds are small (less than 3 inches).

PRECAUTIONS, RESTRICTIONS: 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.

### **Pre-harvest**

USE INSTRUCTIONS: This product may be applied for pre-harvest annual and perennial weed control as a broadcast treatment to Roundup Ready cotton after 20 percent boll crack. Up to 2 quarts of this product may be applied using either aerial or ground spray equipment.

Do not apply this product to cotton grown for seed, as a reduction in germination or vigor may occur.

TANK MIXTURES: This product may be tank mixed with DEF™ 6 (tribufos), Folex™ (tribufos), Ginstar (diuron/thidiazuron), or Prep™ (ethephon) (or generic equivalents). REFER TO MANUFACTURERS' LABELS FOR USE OF ADDITIVES (such as surfactants, stickers and spreaders) FOR PRE-HARVEST APPLICATION TO COTTON.

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

PRECAUTIONS, RESTRICTIONS: Allow a minimum of 7 days between application and harvest of cotton.

## **MAXIMUM ALLOWABLE APPLICATION RATES**

Combined total per year for all applications	8 quarts/A
Total of all Pre-plant, Pre-emergence, At-planting applications	5 quarts/A
Total in-crop applications from ground cracking to layby	4 quarts/A
Maximum pre-harvest application rate	2 quarts/A

## **ROUNDUP READY SOYBEANS**

THE USE OF THIS PRODUCT FOR IN-CROP APPLICATIONS OVER ROUNDUP READY SOYBEANS MAY NOT BE PRACTICED IN CALIFORNIA UNLESS THE APPLICATOR HAS AT THE TIME OF APPLICATION A CALIFORNIA APPROVED SUPPLEMENTAL LABEL SPECIFYING THE ACCEPTED DIRECTIONS FOR USE.

## Pre-plant, Pre-emergence, At-planting

USE INSTRUCTIONS: This product may be applied before, during or after planting soybeans. MAKE APPLICATIONS ACCORDING TO THE RATES LISTED IN "ANNUAL WEEDS, "PERENNIAL WEEDS, AND "WOOD BRUSH & TREES RATE TABLES" IN THIS LABEL.

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

## Post-emergence (In-Crop)

USE INSTRUCTIONS: When applied as directed, this product will control labeled annual grasses and broadleaf weeds in Roundup Ready soybeans. Applications of this product can be made in Roundup Ready soybeans from emergence (cracking) throughout flowering. Refer to the "ANNUAL WEEDS RATE TABLE" in this label for specific rates on various annual weeds. Make an initial application of 1 quart per acre on 2-to 8-inch tall weeds for best results. Weeds will generally be 2 to 8 inches tall, 2 to 5 weeks after planting. If the initial application is delayed and weeds are larger, apply a higher rate of this product. This product may be used up to 2 quarts per acre in any single in-crop application for control of annual weeds and where heavy weed densities 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, marestail (horseweed), nutsedge, quackgrass, rhizome johnsongrass, redvine, trumpetcreeper, swamp smartweed and wirestem muhly. For best results, allow perennial weed species to achieve at least 6 inches of growth before spraying with this product.

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

RESTRICTIONS: The combined total application from 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 is 2 quarts per acre.

### **Pre-harvest**

USE INSTRUCTIONS: This product provides weed control when applied prior to harvest of soybeans. Up to 1 quart per acre of this product can be applied by aerial or ground application. Take care to avoid excessive seed shatter loss due to ground application equipment.

RESTRICTIONS: Allow a minimum of 14 days between final application and harvest of soybean grain or feeding of soybean grain, forage or hay.

Post-harvest

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

### MAXIMUM ALLOWABLE APPLICATION RATES

Combined total per year for all applications	8 quarts/A
Total of all Pre-plant, Pre-emergence, At-planting applications	5 quarts/A
Total in-crop applications from cracking throughout flowering	3 quarts/A
Maximum pre-harvest application rate	1 quart/A

### ROUNDUP READY SUGAR BEETS

This Roundup Ready designation indicates that the sugar beet contains a patented gene, which provides tolerance to this product. Information on Roundup Ready sugar beet may be obtained from your seed supplier or PROKōZ, Inc. representative. Roundup Ready crop varieties must be purchase from an authorized licensed seed supplier.

Do NOT combine these instructions with those listed crop varieties that do not contain the Roundup ready gene, in the "ANNUAL AND PERENNIAL CROPS (ALPHABETICAL)" section of this label.

## Pre-plant, At-planting, Pre-emergence

USE INSTRUCTIONS: This product may be applied before, during or after planting Roundup Ready sugar beets. MAKE APPLICATIONS ACCORDING TO THE RATES LISTED IN "ANNUAL WEEDS, "PERENNIAL WEEDS, AND "WOOD BRUSH & TREES RATE TABLES" IN THIS LABEL.

RESTRICTIONS: Maximum quantity of this product that may be applied for all pre-plant, atplanting and pre-emergence applications combined is 5 quarts per season.

## Post-emergence (In-crop)

USE INSTRUCTIONS: This product may be applied over-the-top to Roundup Ready sugar beets for control of annual grasses and broadleaf weeds from emergence to 30 days prior to harvest. To maximize yield potential, spray sugar beets early to eliminate competing weeds. Up to 4 sequential applications of this product may be made with at least 10 days between applications. This product will control or suppress most perennial weeds. For some perennial weeds, repeat applications may be required to eliminate crop competition throughout the growing season.

RESTRICTIONS: The combined total application from crop emergence through harvest must not exceed 4.5 quarts per acre. The maximum rate for any single application between the 8 leaf stage and canopy closure is 1.0 quart per acre. Allow a minimum of 30 days between last application and sugar beet harvest.

For any crop NOT listed in the "CROPS" section of this label booklet, applications must be at least 30 days prior to planting.

## **MAXIMUM ALLOWABLE APPLICATION RATES**

Combined total per year for all application	8 quarts/A
Total of all Pre-plant, At-planting, Pre-emergence applications	5 quarts/A
Emergence to 8 leaf stage	2.5 quarts/A
Between 8 leaf stage and canopy closure	2 quarts/A

# **FARMSTEADS**

TYPES OF APPLICATIONS: General nonselective weed control, trim-and-edge, chemical mowing, cut stumps, habitat management, rangelands.

## General nonselective weed control, Trim-and-edge

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

This product may be tank mixed with the following products. 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 1.5 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.

Banvel® (dicamba DMA salt) Simazine 80W

Diuron Surflan® 75W (oryzalin) Princep® Caliber 90 (simazine) Surflan® AS (oryzalin)

Simazine 2,4-D

Simazine 4L

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

# **Chemical Mowing**

USE INSTRUCTIONS: This product will suppress perennial grasses listed in this section to serve as a substitute for mowing. Apply this product at a rate of 6 to 8 fluid ounces per acre. 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. 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: Use only in areas where some temporary injury or discoloration of perennial grasses can be tolerated.

### **Cut Stumps**

TYPES OF APPLICATION: Treating cut stumps in any noncrop site listed on this label.

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

Alder Salt-cedar
Eucalyptus Sweetgum
Madrone Tan oak
Oak Willow

Reed, giant

PRECAUTIONS: DO NOT MAKE CUT STUMP APPLICATIONS WHEN THE ROOTS OF DESIRABLE WOODY BRUSH OR TREES MAY BE GRAFTED TO THE ROOTS OF THE CUT

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

## **Habitat Management**

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

Habitat restoration and maintenance:

USE INSTRUCTIONS: This product may be used to control exotic and other undesirable vegetation in habitat management areas. Applications can be made to allow recovery of native plant species, prior to planting desirable native species, and for similar broadspectrum vegetation control requirements in habitat management areas. Spot treatments can be made to selectively remove unwanted plants for habitat maintenance and enhancement. The tank mixtures listed in this section of the label may be used for habitat restoration and maintenance.

## Wildlife food plots:

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

# Rangelands

TYPES OF APPLICATION: Dormant

USE INSTRUCTIONS: This product will control or suppress many weeds, including downy brome, cheat grass, cereal rye, medusahead rye and jointed goatgrass in dormant rangeland. Apply 8 to 16 fluid ounces of this product per acre in the early spring when the weeds have greened up, but desirable grasses, such as crested and tall wheatgrass, are still truly dormant. Slight discoloration of the desirable grasses may occur, but they will regreen and regrow under moist soil conditions as effects of this product wear off.

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

# ANNUAL WEEDS RATE TABLES ALPHABETICALLY BY SPECIES

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

Apply to actively growing annual weeds.

Do not tank mix with soil residual herbicides when using these rates unless otherwise specified.

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

For those rates less than 48 fluid ounces per acre, this product may be used up to 48 fluid ounces per acre where heavy weed densities exist.

## **ANNUAL WEEDS RATE TABLE**

		APPLICA	ATION R	ATE	
WEED	(FLUID OUNCES PER ACRE)				
SPECIES	16	24	32	40	48
	MAX	IMUM H	EIGHT/	LENGT	Ή
Ammannia, purple	3"	6"	12"	-	18"
Annoda, spurred		2"	3"	5"	8"
Barley	18"	18"+	-	-	-
Barnyardgrass		3"	6"	7"	9"
Bassia, fivehook	-	-	6"	-	-
Beggarweed, Florida	-	5"	8"	-	-
Bittercress	12"	20"	1	-	-
Bluegrass, annual	10"	-	-	-	-
Bluegrass, bulbous	6"	-	-	-	-
Brome, downy <sup>1,2</sup>	6"	12"	-	-	-
Brome, Japanese	6"	12"	24"	-	-
Browntop panicum	6"	8"	12"	-	24"
Buckwheat, wild <sup>3</sup>	-	1"	2"	-	-
Burcucumber	-	6"	12"	-	18"
Buttercup	12"	20"	1	-	-
Carolina geranium	-	-	4"	-	9"
Carpetweed	-	6"	12"	-	-
Cheat <sup>2</sup>	6"	20"	ı	-	-
Chervil	20"	-	1	-	-
Chickweed	-	12"	18"	-	-
Cocklebur	12"	18"	24"	-	-
Copperleaf,	-	2"	4"	-	6"
hophornbeam					
Copperleaf, Virginia	-	2" 6"	4"	-	6"
Coreopsis, plains	-		12"	-	18"
Corn, Volunteer	6"	12"	20"	-	-
Corn speedwell	12"	-	-	-	-
Crabgrass	3"	6"	12"	-	-
Crowfootgrass	-	-	6"	-	12"
Cutleaf evening	-	-	3"	-	6"
primrose					
Devilsclaw (unicorn	-	3"	6"	-	-

	APPLICATION RATE				
WEED			CES PE		
SPECIES	16	24	32	40	48
	MAXI	MUM F	IEIGHT/I	LENGT	Ή
plant)					
Dwarfdandelion	12"	-	-	-	-
Eastern mannagrass	8"	12"	-	-	-
Eclipta	-	4"	8"	12"	-
Fall panicum	4"		6"		12"
Falsedandelion	-	20"	-	ı	-
Falseflax, smallseed	12"	-	-	-	-
Fiddleneck	-	6"	12"	-	-
Field pennycress	6"	12"	-	-	-
Filaree	-	-	6"	-	12"
Fleabane, annual	6"	20"	-	-	-
Fleabane, hairy	-	-	6"	-	10"
(Conyza bonariensis)					
Fleabane, rough	3"	6"	12"	-	-
Florida pusley	-	-	4"	-	6"
Foxtail, giant, bristly,	6"	12"	20"	-	-
yellow					
Foxtail, Carolina	10"	-	-	-	-
Foxtail, green	12"	-	-	-	-
Goatgrass, jointed	6"	12"	-	-	-
Goosegrass	-	3"	6"	-	12"
Grain sorghum (milo)	6"	12"	20"	-	-
Groundcherry	-	3"	6"	-	9"
Groundsel, common	-	6"	10"	-	-
Hemp sesbania	-	2"	4"	6"	8"
Henbit	-	-	6"	-	12"
Horseweed/Marestail	-	6"	12"	-	18"
(Conyza canadensis)					
Itchgrass	6"	8"	12"	-	18"
Jimsonweed	-	-	12"	-	18"
Johnsongrass, seedling	6"	12"	18"	-	24"
Junglerice	-	3"	6"	7"	9"
Knotweed	-	-	6"	-	12"
Kochia <sup>4</sup>	-	3" to	12"	-	-
		6"			
Lambsquarters	-	6"	12"	-	20"
Little barley	6"	12"	-	-	-
London rocket	6"	-	24"	-	-
Mayweed	-	2"	6"	12"	18"
Morningglory	-	-	3"	-	6"
(Lpomoea spp.)					
Mustard, blue	6"	12"	18"	-	-
Mustard, tansy	6"	12"	18"	-	-
Mustard, tumble	6"	12"	18"	-	_
	-				1

(FLUID OUNCES PER ACRE)           SPECIES         16         24         32         40           MAXIMUM HEIGHT/LENGTH           Nightshade, black         -         4"         6"         -           Nightshade, hairy         -         4"         6"         -           Oats         3"         6"         18"         -           Pigweed         -         12"         18"         24"           Prickly lettuce         -         6"         12"         -           Purslane         -         -         6"         12"         -           Ragweed, common         -         6"         12"         -           Ragweed, giant         -         6"         12"         -           Red rice         -         -         4"         -           Rye, volunteer/cereal <sup>2</sup> 6"         18"         18"+         -           Ryegrass         -         -         6"         -         -           Sandbur, field         6"         12"         -         -           Shattercane         6"         12"         -         -           Shepherdspurse         6"	48
MAXIMUM HEIGHT/LENGTH           Nightshade, black         -         4"         6"         -           Nightshade, hairy         -         4"         6"         -           Oats         3"         6"         18"         -           Pigweed         -         12"         18"         24"           Prickly lettuce         -         6"         12"         -           Purslane         -         -         3"         -           Ragweed, common         -         6"         12"         -           Ragweed, giant         -         6"         12"         -           Red rice         -         -         4"         -           Rye, volunteer/cereal <sup>2</sup> 6"         18"         18"+         -           Ryegrass         -         -         6"         -           Sandbur, field         6"         12"         -         -           Shattercane         6"         12"         -         -           Shepherdspurse         6"         12"         -         -	12" 12" 6" 18" - 12"
Nightshade, black         -         4"         6"         -           Nightshade, hairy         -         4"         6"         -           Oats         3"         6"         18"         -           Pigweed         -         12"         18"         24"           Prickly lettuce         -         6"         12"         -           Purslane         -         -         3"         -           Ragweed, common         -         6"         12"         -           Ragweed, giant         -         6"         12"         -           Red rice         -         -         4"         -           Rye, volunteer/cereal²         6"         18"         18"+         -           Ryegrass         -         -         6"         -           Sandbur, field         6"         12"         -         -           Shattercane         6"         12"         -         -           Shepherdspurse         6"         12"         -         -	12" 6" 18" 12"
Nightshade, hairy         -         4"         6"         -           Oats         3"         6"         18"         -           Pigweed         -         12"         18"         24"           Prickly lettuce         -         6"         12"         -           Purslane         -         -         3"         -           Ragweed, common         -         6"         12"         -           Ragweed, giant         -         6"         12"         -           Red rice         -         -         4"         -           Rye, volunteer/cereal²         6"         18"         18"+         -           Ryegrass         -         -         6"         -           Sandbur, field         6"         12"         -         -           Sandbur, longspine         6"         12"         -         -           Shepherdspurse         6"         12"         -         -	12" 6" 18" 12"
Oats         3"         6"         18"         -           Pigweed         -         12"         18"         24"           Prickly lettuce         -         6"         12"         -           Purslane         -         -         3"         -           Ragweed, common         -         6"         12"         -           Ragweed, giant         -         6"         12"         -           Red rice         -         -         4"         -           Rye, volunteer/cereal²         6"         18"         18"+         -           Ryegrass         -         -         6"         -           Sandbur, field         6"         12"         -         -           Sandbur, longspine         6"         12"         -         -           Shattercane         6"         12"         -         -           Shepherdspurse         6"         12"         -         -	- - 6" 18" - - 12" -
Pigweed         -         12"         18"         24"           Prickly lettuce         -         6"         12"         -           Purslane         -         -         3"         -           Ragweed, common         -         6"         12"         -           Ragweed, giant         -         6"         12"         -           Red rice         -         -         4"         -           Rye, volunteer/cereal²         6"         18"         18"+         -           Ryegrass         -         -         6"         -           Sandbur, field         6"         12"         -         -           Sandbur, longspine         6"         12"         -         -           Shattercane         6"         12"         -         -           Shepherdspurse         6"         12"         -         -	- 6" 18" 18" - - 12" -
Prickly lettuce         -         6"         12"         -           Purslane         -         -         3"         -           Ragweed, common         -         6"         12"         -           Ragweed, giant         -         6"         12"         -           Red rice         -         -         4"         -           Rye, volunteer/cereal²         6"         18"         18"+         -           Ryegrass         -         -         6"         -           Sandbur, field         6"         12"         -         -           Sandbur, longspine         6"         12"         -         -           Shattercane         6"         12"         -         -           Shepherdspurse         6"         12"         -         -	- 6" 18" 18" - - 12" -
Purslane         -         -         3"         -           Ragweed, common         -         6"         12"         -           Ragweed, giant         -         6"         12"         -           Red rice         -         -         4"         -           Rye, volunteer/cereal²         6"         18"         18"+         -           Ryegrass         -         -         6"         -           Sandbur, field         6"         12"         -         -           Sandbur, longspine         6"         12"         -         -           Shattercane         6"         12"         -         -           Shepherdspurse         6"         12"         -         -	6" 18" 18" - 12"
Ragweed, common       -       6"       12"       -         Ragweed, giant       -       6"       12"       -         Red rice       -       -       4"       -         Rye, volunteer/cereal²       6"       18"       18"+       -         Ryegrass       -       -       6"       -         Sandbur, field       6"       12"       -       -         Sandbur, longspine       6"       12"       -       -         Shattercane       6"       12"       -       -         Shepherdspurse       6"       12"       -       -	18" - - 12" - -
Ragweed, giant       -       6"       12"       -         Red rice       -       -       4"       -         Rye, volunteer/cereal²       6"       18"       18"+       -         Ryegrass       -       -       6"       -         Sandbur, field       6"       12"       -       -         Sandbur, longspine       6"       12"       -       -         Shattercane       6"       12"       -       -         Shepherdspurse       6"       12"       -       -	18" - - 12" - -
Red rice       -       -       4"       -         Rye, volunteer/cereal²       6"       18"       18"+       -         Ryegrass       -       -       6"       -         Sandbur, field       6"       12"       -       -         Sandbur, longspine       6"       12"       -       -         Shattercane       6"       12"       20"       -         Shepherdspurse       6"       12"       -       -	- - 12" - -
Rye, volunteer/cereal²       6"       18"       18"+       -         Ryegrass       -       -       6"       -         Sandbur, field       6"       12"       -       -         Sandbur, longspine       6"       12"       -       -         Shattercane       6"       12"       20"       -         Shepherdspurse       6"       12"       -       -	- 12" - - -
Ryegrass         -         -         6"         -           Sandbur, field         6"         12"         -         -           Sandbur, longspine         6"         12"         -         -           Shattercane         6"         12"         20"         -           Shepherdspurse         6"         12"         -         -	12" - -
Ryegrass       -       -       6"       -         Sandbur, field       6"       12"       -       -         Sandbur, longspine       6"       12"       -       -         Shattercane       6"       12"       20"       -         Shepherdspurse       6"       12"       -       -	- - -
Sandbur, field       6"       12"       -       -         Sandbur, longspine       6"       12"       -       -         Shattercane       6"       12"       20"       -         Shepherdspurse       6"       12"       -       -	-
Sandbur, longspine         6"         12"         -         -           Shattercane         6"         12"         20"         -           Shepherdspurse         6"         12"         -         -	-
Shattercane         6"         12"         20"         -           Shepherdspurse         6"         12"         -         -	-
Shepherdspurse 6" 12"	
Sicklepod - 2" 4" -	-
J.J J. P.J.	8"
Signalgrass, broadleaf - 3" 6" 7"	9"
Smartweed, ladysthumb 6" -	9"
Smartweed, 6" -	9"
Pennsylvania	
Sowthistle, annual 6" -	12"
Spanishneedles 6" -	12"
Speedwell, purslane 12"	-
Sprangletop 6" 12" 20" -	-
Spurge, prostrate - 6" 12" -	-
Spurge, spotted - 6" 12" -	-
Spurry, umbrella 6"	-
Stinkgrass - 12"	-
Sunflower 12" 18"	-
Swinecress - 5" 12" -	-
Teaweed/Prickly sida - 2" 4" -	6"
Texas panicum 6" 8" 12" -	24"
Thistle, Russian <sup>5</sup> - 6" 12" -	-
Velvetleaf 6" -	12"
Virginia pepperweed - 18"	-
Waterhemp 6" -	12"
Wheat <sup>2</sup> 6" 12" 18" -	_
Wheat (overwintered) - 6" 12" -	18"
Wild oats 3" 6" 18" -	-
Wild proso millet - 6" 12" -	18"
Witchgrass         -         12"         -         -	-
Woolly cupgrass - 6" 12" -	-
Yellow rocket - 12" 20" -	-

<sup>&</sup>lt;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>Use 24 fluid ounces per acre of this product to control wild buckwheat in the cotyledon to 2-leaf stage.

Use 32 fluid ounces per acre to control 2- to 4-leaf wild buckwheat. For improved control of wild buckwheat over 2 inches in size, use sequential treatments of 32 fluid ounces followed by 32 fluid ounces of this product per acre.

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

Apply 1 to 2 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 6 to 12 inches tall and 2 quarts per acre if weeds are greater than 12 inches tall.

These rates will provide control of weeds listed in the annual weed control tables when water carrier volumes are 10 to 40 gallons per acre for ground applications. Older, mature (hardened) annual weed species may require higher rates even if they meet the size requirements.

# Annual Weeds - Tank Mixtures with 2,4-D or Dicamba or Picloram 22K

Applying 12 to 16 fluid ounces of this product plus appropriately labeled amount of Dicamba, 2,4-D,or picloram per acre will control the following weeds with the maximum height or length indicated: 6" – prickly lettuce, marestail/horseweed (*Conyza canadensis*), morningglory (*Ipomoea spp.*), kochia (Banvel<sup>®</sup> (dicamba, DMA salt) only); 12" – cocklebur, lambsquarters, pigweed, Russian thistle.

Applying 16 fluid ounces of this product plus appropriately labeled amount 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.

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

DO NOT APPLY DICAMBA TANK MIXTURES BY AIR IN CALIFORNIA.

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

For control of weed 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 specifies, 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, us a 5 percent solution for annual and perennial weeds and a 5 to 10 percent solution for woody brush and trees.

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

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

Applying 24 to 28 fluid ounces of this product plus the appropriately labeled amount of atrazine per acre will control the following weeds: Barnyardgrass (requires 28 ounces for control), Downy

<sup>&</sup>lt;sup>4</sup>Do not treat kochia in the button stage.

<sup>&</sup>lt;sup>5</sup>Control of Russian thistle may vary based on environmental conditions and spray coverage. Whenever possible, a tank mixture with 2,4-D as described below may improve control.

brome, Green foxtail, Lambsquarters, Prickly lettuce, Tansy mustard, Pigweed, Field sandbur, Stinkgrass, Russian thistle, Volunteer wheat, Witchgrass and Kochia (add appropriately labeled amount of dicamba for control).

## PERENNIAL WEEDS RATE TABLE ALPHABETICALLY BY SPECIES

Apply to actively growing perennial weeds.

NOTE: If weeds have been mowed or tilled, do not treat until plants have resumed active growth and have reached the recommended 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:

## **Spray Solution**

Desired		Ar	nount of Gly	yphosate Pro	4	
Volume	1/2%	1%	1 1/2%	2%	5%	10%
1 Gal	2/3 oz	1 1/3 oz	2 oz	2 2/3 oz	6 ½ oz	13 oz
25 Gal	1 pt	1 qt	1 ½ qt	2 qt	5 qt	10 qt
100 Gal	2 qt	1 gal	1 ½ gal	2 gal	5 gal	10 gal

2 tablespoons = 1 fluid ounce

Weed Species	Rate (QT/A)	Water Volume	Hand-Held % Solution	Comments
Alfalfa	1 - 2	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. Follow applications 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 should have at least 3 inches of growth. Avoid tillage prior to treatment. Tillage 7 to 10 days after application is recommended for best results.

Weed Species	Rate (QT/A)	Water Volume	Hand-Held % Solution	Comments
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%	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. Fall applications only: Apply 1 quart of this product in 5 to 10 gallons of water per acre. Till fallow fields 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.

Weed Species	Rate	Water	Hand-Held	Comments
	(QT/A)	Volume	% Solution	
Bindweed, field	0.5-5	3-20	2%	Do not treat when weeds are under drought stress as good soil moisture is necessary for active growth.  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 appropriately labeled amount of Banvel® (dicamba, DMA salt) 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 of the appropriately labeled amount of 2,4-D in 10 to 20 gallons of water per acre with ground equipment only. Make applications following harvest or in fall fallow ground when the bindweed is actively growing and the majority of runners are 12 inches or more in length. The use of at least one irrigation will promote active bindweed growth.  For suppression, apply 16 fluid ounces of this product plus the appropriately labeled amount 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. Delay applications until maximum emergence has occurred and when vines are between 6 to 18 inches in length.  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 or 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.
Bluegrass, Kentucky	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.

Weed Species	Rate (QT/A)	Water Volume	Hand-Held % Solution	Comments
Blueweed, Texas	3-5	3-40	2%	Apply 4 to 5 quarts of this product per acre west 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 appropriately labeled amount of Banvel® (dicamba, DMA salt) per acre. For partial control, apply 1 quart of this product plus the appropriately labeled amount 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 appropriately labeled amount 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 appropriately labeled amount of 2,4-D in 3 to 10 gallons of water per acre.

Weed Species	Rate	Water	Hand-Held	Comments
	(QT/A)	Volume	% Solution	
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 appropriately labeled amount 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	2-3	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 should 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.

Weed Species	Rate (QT/A)	Water Volume	Hand-Held % Solution	Comments
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 noncrop, 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. Make coverage 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 noncrop 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%	Make applications when at least 60 percent of the plants have berries. Fall treatments must be applied before a killing frost.

Weed Species	Rate (QT/A)	Water Volume	Hand-Held % Solution	Comments
Nutsedge; purple, yellow	0.5-3	3-40	1-2%	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.
				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.
				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.
Orchardgrass	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.  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.
Pampasgrass	-	-	1.5-2%	Pampasgrass should 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.

Weed Species	Rate (QT/A)	Water Volume	Hand-Held % Solution	Comments
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	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.
Pokeweed, common	1	3-40	2%	Apply to actively growing plants up to 24 inches tall.
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. Do not tank mix with residual herbicides when using the 1 quart rate. Spray when quackgrass is 6 to 8 inches in height. Do not till between harvest and fall applications or in fall or spring prior to spring application. Allow 3 or more days after application before tillage. In pastures or sods, use a moldboard plow for best results.  In pastures, sods or noncrop areas where deep tillage does not follow application: Apply 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.

Weed Species	Rate (QT/A)	Water Volume	Hand-Held % Solution	Comments
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 noncrop, 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 appropriately labeled amount of 2,4-D in 3 to 10 gallons of water per acre in the late summer or fall.
Sowthistle, perennial	2-3	3-40	2%	Apply when most plants are at or beyond the bud stage or growth. After harvest, mowing or tillage in the late summer or fall, allow at least 4 weeks for initiation of active growth and rosette development prior to the application of this product. Fall treatments must be applied before a killing frost. Allow 3 or more days after application before tillage.
Spurge, leafy	-	3-10	2%	For suppression, apply 16 fluid ounces of this product plus the appropriately labeled amount 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.

Weed Species	Rate	Water	Hand-Held	Comments
_	(QT/A)	Volume	% Solution	
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 appropriately labeled amount 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.
Trumpetcreeper	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.

## 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)	Hand-Held % Solution	Comments
Alder	3-4	1-1.5%	For control
Ash	2-5	1-2%	Partial control
Aspen, quaking	2-3	1-1.5%	For control
Bearmat	2-5	1-2%	Partial control
(Bearclover)			
Beech	2-5	1-2%	Partial control
Birch	2	1%	For control
Blackberry	3-4	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	1-2%	For control
Bracken	2-5	1-2%	For control
Broom; French,	-	1.5-2%	For control
Scotch			
Buckwheat, California	-	1-2%	For partial control. Thorough coverage of foliage is necessary for best results.
Cascara	2-5	1-2%	Partial control
Catsclaw	-	1-1.5%	Partial control
Ceanothus	2-5	1-2%	Partial control
Chamise	-	1%	For control. Thorough coverage of foliage is necessary for best results.
Cherry; bitter, black, pin	2-3	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.
Dogwood	2-5	1-2%	Partial control
Elderberry	2	1%	For control
Elm	2-5	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	1-2%	Partial control
Gorse	2-5	1-2%	Partial control
Hasardia	-	1-2%	Partial control. Thorough coverage of foliage is necessary for best results.
Hawthorn	2-3	1-1.5%	For control
Hazel	2	1%	For control
Hickory	2-5	1-2%	Partial control
Honeysuckle	3-4	1-1.5%	For control
Hornbeam,	2-5	1-2%	Partial control
American			

Weed Species	Rate (QT/A)	Hand-Held % Solution	Comments	
Kudzu	4	2%	For control. Repeat applications may be required to maintain control.	
Locust, black	2-4	1-2%	Partial control	
Madrone	-	2%	Partial control. Apply to resprouts that are 3 to	
resprouts			6 feet tall. Best results are obtained with	
			spring/early summer treatments.	
Manzanita	2-5	1-2%	Partial control	
Maple, red	2-4	1-1.5%	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	
Mapic, Sugai		1 1.570	the new leaves are fully developed.	
Monkey flower	-	1-2%	Partial control. Thorough coverage of foliage is	
l monitoy notro:		. 270	necessary for best results.	
Oak; black, white	2-4	1-2%	Partial control	
Oak, post	3-4	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	1-1.5%	For control	
Persimmon	2-5	1-2%	Partial control	
Pine	2-5	1-2%	For control	
Poison ivy/Poison	4-5	2%	For control. Repeat applications may be	
oak			required to maintain control. Fall treatments must be applied before leaves lose green color.	
Poplar, yellow	2-5	1-2%	Partial control	
Redbud, eastern	2-5	1-2%	For control	
Rose, multiflora	2	1%	For control. Make treatments prior to leaf deterioration by leaf-eating insects.	
Russian olive	2-5	1-2%	Partial control	
Sage, black	-	1%	For control. Thorough coverage of foliage is necessary for best results.	
Sage, white	2-5	1-2%	Partial control	
Sage brush,	-	1%	For control. Thorough coverage of foliage is	
California	0	40/	necessary for best results.	
Salmonberry	2	1%	For control	
Salt-cedar	2-5	1-2%	For control	
Sassafras	2-5	1-2%	Partial control	
Sourwood	2-5 2-4	1-2% 1-2%	Partial control	
Sumac; poison, smooth, winged	2-4	1-2%	Partial control	
Sweetgum	2-3	1-1.5%	For control	
Swordfern	2-5	1-1.3%	Partial control	
Tallowtree,	-	1%	For control. Thorough coverage of foliage is	
Chinese		1 /0	necessary for best results.	
Tan oak resprouts	-	2%	For partial control. Apply to resprouts that are less than 3 to 6 feet tall. Best results are	
Thimbleherr		40/	obtained with fall applications.	
Thimbleberry Tobacco troo	2	1%	For control  Partial control	
Tobacco, tree	2-3	1-2% 1-1.5%	For control	
Trumpetcreeper Vine maple	2-3 2-5	1-1.5%	Partial control	
Virginia creeper	2-5 2-5	1-2%	For control	
virginia creeper	2-5	I-Z70	FOI CONTION	

Weed Species	Rate (QT/A)	Hand-Held % Solution	Comments
Waxmyrtle, southern	2-5	1-2%	Partial control
Willow	3	1%	For control

Folex® is a registered trademark of AMVAC Chemical Corporation.

Banvel<sup>®</sup>, Clarity<sup>®</sup>, Frontier<sup>®</sup>, Guardsman<sup>®</sup>, Marksman<sup>®</sup>, Prowl<sup>®</sup>, Pursuit<sup>®</sup>, Scepter<sup>®</sup> and Squadron<sup>®</sup> are registered trademarks of BASF Corporation.

DEF® and Sencor® are registered trademarks and Prep™ is a trademark of the Bayer Corporation.

Broadstrike<sup>®</sup>, Goal<sup>®</sup>, Surpass<sup>®</sup>, and TopNotch<sup>®</sup> are registered trademarks of Dow AgroSciences LLC.

Canopy® and Krovar® are registered trademarks of E.I. duPont de Nemours and Company. Command® is a registered trademark of FMC Corporation.

Direx<sup>®</sup> and Karmex<sup>®</sup> are registered trademarks of Adama Agan Ltd.

Linex<sup>®</sup> and Lorox<sup>®</sup> are registered trademarks of Tessenderlo Kerley, Inc.

Harness®, Partner®, Permit®, and Roundup Ready® are registered trademarks of Monsanto Company.

Sim-Trol<sup>®</sup> is a registered trademark of Sipcam Agro USA, Inc.

Bicep®, Dual®, Fusion®, Princep®, and Solicam® are registered trademarks of Syngenta Crop Protection, Inc.

Devrinol® and Surflan® are registered trademarks of United Phosphorous Inc.

#### **NON-CROP USES**

## PRODUCT INFORMATION

**Product Description**: This product is a postemergent, systemic herbicide with no soil residual activity. It gives broad-spectrum control of many annual weeds, perennial weeds, woody brush and trees. It is formulated as a water-soluble liquid containing surfactant and no additional surfactant is needed or recommended.

**Environmental Fate**: When this product comes in contact with the soil it is bound to soil particles. When used in accordance with label directions, once this product is bound it is not available for plant uptake and will not harm off-site vegetation where roots grow into the treatment area or if the soil is transported off-site. The strong affinity of this product to soil particles prevents this product from leaching out of the soil profile and entering ground water. The affinity between this product and soil particles remains until this product is degraded, which is primarily a biological degradation process carried out under both aerobic and anaerobic conditions by soil microflora.

**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.

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

**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 recommended 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.

**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.

**Volatility**: Glyphosate Pro 4 is non-volatile. Therefore, it cannot move as a vapor after application to affect nearby vegetation.

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

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

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow restrictions, limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

**Annual Maximum Use Rate**: The combined total of all treatments must not exceed 10.6 quarts of this product per acre per year.

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

## **Tank Mixing Procedure**

When tank mixing, read and carefully observe label directions, cautionary statements and all information on the labels of all products used. Add the tank-mix product to the tank as directed by the label. Maintain agitation and add the specified amount of this product.

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

Refer to the "Tank Mixing" section of "PRODUCT INFORMATION" for additional precautions.

## **APPLICATION EQUIPMENT AND TECHNIQUES**

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

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

## **Aerial Equipment**

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

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

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

Avoid direct application to any body of water.

Use the specified rates of this herbicide in 3 to 25 gallons of water per acre.

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

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

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

PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART. The maintenance of an organic coating (paint) which meets aerospace specification MIL-C-38413 may prevent corrosion. To prevent corrosion of exposed parts, thoroughly wash aircraft after each day of

spraying to remove residues of this product accumulated during spraying or from spills. Landing gear are most susceptible.

## For Aerial Application in California Only

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

- 1. Prior to the emergence or transplanting of labeled crops
- 2. Aid to burning for establishment and maintenance of fuel breaks
- 3. Establishing fire perimeters and black lines
- 4. Aid to prescribed burning
- 5. Along fire roads
- 6. Range conversion
- 7. Habitat restoration and management
- 8. Wildlife food plots

# **Aerial Applications:**

Apply 1 to 5 quarts of this product in 5 to 15 gallons of water per acre using aerial (helicopter only) applications.

To broaden the spectrum of control, Garlon<sup>®</sup> 4 (triclopyr) may be tank mixed with this product.

Follow the restrictions listed below when aerial applications are made near crops or desirable perennial vegetation after bud break and before total leaf drop, and/or near other desirable vegetation or annual crops.

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

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

# **Applicable Area:**

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

North: Fresno County line South: Fresno County line East: State Highway 99 West: Fresno County line

#### **General Information:**

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

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

#### Written Recommendations:

A written recommendation MUST be submitted by or on behalf of the applicator to the Fresno County Agricultural Commissioner 24 hours prior to the application. This written

recommendation MUST state the proximity of surrounding crops, and that conditions of each manufacturer's 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.

## **Selective Equipment**

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

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

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

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

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

Adjust over-the-top applicators so that the lowest spray stream or wiper contact point is at least 2 inches above the desirable vegetation. Droplets, mist, foam, or splatter of the herbicide solution settling on desirable vegetation is likely to result in discoloration, stunting or destruction.

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

## Shielded and hooded applicators

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

# Wiper applicators and sponge bars

Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting desirable vegetation. Operate this equipment at ground speeds no greater than 5 mph. Performance may be improved by reducing speed in areas of heavy weed infestations to ensure adequate wiper saturation. Better results may be obtained if 2 applications are made in opposite directions.

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

Do not use wiper equipment when weeds are wet.

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

For Rope or Sponge Wick Applicators – Solutions ranging from 33 to 75 percent of this product in water may be used.

**For Porous-Plastic Applicators and pressure-feed systems** – Solutions ranging from 33 to 100 percent of this product in water may be used.

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

Corn, volunteer Sicklepod

Panicum, Texas Spanishneedles Rye, common Starbur, bristly

Shattercane

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

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

Pigweed, redroot Injection Systems

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

# **CDA Equipment**

The rate of this product applied per acre by controlled droplet application equipment (CDA) 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.

CDA 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 is likely to result.

#### SITE AND USE INSTRUCTIONS

Detailed instructions follow alphabetically, by site.

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

#### **CUT STUMPS**

Cut stump treatments may be made on any site listed on this label. This product will control many types of woody brush and tree species, some of which are listed below. Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut trees or resprouts close to the soil surface. Apply a 50 to 100 percent solution of this product to the freshly-cut surface immediately after cutting. Delays in application may result in reduced performance. For best results, make applications during periods of active growth and full leaf expansion.

Alder Salt-cedar
Eucalyptus Sweetgum
Madrone Tan oak
Oak Willow

Reed, giant

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 IS LIKELY TO OCCUR IN ADJACENT WOODY BRUSH OR TREES.

#### NONCROP AREAS AND INDUSTRIAL SITES

Use in areas such as airports, apartment complexes, Christmas tree farms, ditch banks, dry ditches, dry canals, fencerows, golf courses, industrial sites, lumber yards, manufacturing sites, office complexes, ornamental nurseries, parks, parking areas, petroleum tank farms and pumping installations, railroads, recreational areas, residential areas, roadsides, sod or turf seed farms, schools, storage areas, utility substations, warehouse areas, other public areas, and similar industrial and noncrop sites.

# General weed control, Trim-and-edge and Bare ground

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

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

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

ARSENAL® (imazapyr)

BANVEL® (dicamba, DMA salt)

BARRICADE® 65 WG (prodiamine)

DIURON

ENDURANCE® (prodiamine)

PLATEAU® (imazapic)

PRINCEP® DF (simazine)

PRINCEP® LIQUID (simazine)

RONSTAR® 50 WP (oxadiazon)

SAHARA® (diuron/imazapyr)

ESCORT® (metsulfuron)

SIMAZINE

KARMEX® DF (diuron) SURFLAN® (oryzalin) KROVAR® DF (bromacil/diuron) TELAR® (chlorsulfuron)

OUST® (sulfometuron) VANQUISH® (dicamba, diglycoamine salt) PENDULUM® 3.3 EC (pendimethalin) 2,4-D PENDULUM® WDG (pendimethalin)

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 appropriately labeled amount of Oust® (sulfometuron) per acre.

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

# **Chemical mowing - Perennials**

This product will suppress perennial grasses listed in this section to serve as a substitute for mowing. 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. Apply treatments in 10 to 40 gallons of spray solution per acre.

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

# **Chemical mowing – Annuals**

For growth suppression of some annual grasses, such as annual ryegrass, wild barley and wild oats growing in coarse turf on roadsides or other industrial areas, apply 4 to 5 fluid ounces of this product in 10 to 40 gallons of spray solution per acre. Make applications when annual grasses are actively growing and before the seedheads are in the boot stage of development. Treatments may cause injury to the desired grasses.

#### **Dormant Turfgrass**

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

Apply 8 to 64 fluid ounces of this product per acre. 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.

Treatments in excess of 16 fluid ounces per acre may result in injury or delayed greenup in highly maintained areas, such as golf courses and lawns. DO NOT apply tank mixtures of this product plus Oust<sup>®</sup> (sulfometuron) in highly maintained turfgrass areas. For further uses, refer to the "ROADSIDES" section of this label which gives rates for dormant bermudagrass and bahiagrass treatments.

## **Actively growing bermudagrass**

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing bermudagrass. DO NOT apply more than 16 fluid ounces of this product per acre in highly maintained turfgrass areas. DO NOT apply tank mixtures of this product plus Oust<sup>®</sup> (sulfometuron) in highly maintained turfgrass areas. For further uses,

refer to the "ROADSIDES" section of this label which gives rates for actively growing bermudagrass treatments. Use only in areas where some temporary injury or discoloration can be tolerated.

# Turfgrass renovation, seed, or sod production

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

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

Desirable turfgrass may be planted following the above procedures.

Hand-held equipment may be used for spot treatment of unwanted vegetation growing in existing turfgrass. Broadcast or hand-held equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested.

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

# Colorado, Idaho, Iowa, Kansas, Montana, Nebraska, North Dakota, Oregon, South Dakota, Utah, Washington, and Wyoming Only

Bromus Species: This product may be used to treat downy brome (*Bromus tectorum*), Japanese brome (*Bromus japonicus*), soft chess (*Bromus mollis*) and cheatgrass (*Bromus secalinus*) 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. Make applications to the same site each year until seed banks are depleted and the desirable perennial grasses are able to become reestablished on the site.

Medusahead: To treat medusahead, apply 16 fluid ounces of this product per acre as soon as plants are actively growing, and prior to the 4 leaf stage. Applications may be made in the fall or spring.

Application Equipment and Techniques: Applications may be made using ground or aerial equipment. Aerial applications for these uses may be made using fixed wing or helicopter equipment. For aerial applications, apply in 2 to 10 gallons of water per acre. For applications using ground equipment, apply in 10 to 20 gallons of water per acre.

When applied as directed there are no grazing restrictions.

#### **HABITAT MANAGEMENT**

# **Habitat Restoration and Management**

This product may be used to control exotic and other undesirable vegetation in habitat management and natural areas, including rangeland and wildlife refuges. Applications can be

made to allow recovery of native plant species, prior to planting desirable native species, and for similar broad-spectrum vegetation control requirements. Spot treatments can be made to selectively remove unwanted plants for habitat management and enhancement.

#### Wildlife Food Plots

This product may be used as a site preparation treatment prior to planting wildlife food plots. Any wildlife food species may be planted after applying this product, or native species may be allowed to repopulate the area. If tillage is needed to prepare a seedbed, wait 7 days after application before tillage to allow translocation into underground plant parts.

# INJECTION AND FRILL (WOODY BRUSH AND TREES)

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. 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, make applications during periods of active growth and after full leaf expansion. This product will control many species, some of which are listed below:

<u>Control</u>	Partial Control
Oak	Black gum
Poplar	Dogwood
Sweetgum	Hickory
Sycamore	Maple, red

# ORNAMENTALS AND PLANT NURSERIES, CHRISTMAS TREES

## Post-directed, Trim-and-edge

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. 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.

Desirable plants may be protected from the spray solution by using shields or covering made of cardboard or other impermeable material. RESTRICTION: DO NOT USE THIS PRODUCT AS AN OVER-THE-TOP BROADCAST SPRAY IN ORNAMENTALS AND CHRISTMAS TREES.

PRECAUTION: Care must be exercised to avoid contact of spray, drift or mist with foliage or green bark of established ornamental species.

## Site preparation

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

#### Greenhouse/Shadehouse

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

fans must be turned off prior to application. Do not turn on air circulation fans until sprays have dried.

# PARKS, RECREATIONAL AND RESIDENTIAL AREAS

This product may be used in parks, recreational and residential areas. It may be applied with any 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. 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.

All of the instructions in the "NONCROP AREAS AND INDUSTRIAL SITES" section apply to park and recreational areas.

#### **RAILROADS**

All of the instructions in the "NONCROP AREAS AND INDUSTRIAL SITES" section apply to railroads.

# Bare ground, Ballast and Shoulders, Crossings, and Spot treatment

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

ARSENAL® (imazapyr)

BANVEL® (dicamba DMA salt)

DIURON

ESCORT® (metsulfuron)

GARLON® 3A (triclopyr, trimethylamine salt)

KROVAR® I DF (bromacil/diuron)

OUST® (sulfometuron)

SAHARA® (diuron/imazapyr)

SPIKE® (tebuthiuron)

TELAR® (chlorsulfuron)

GARLON® 4 (triclopyr, butoxyethyl ester)

HYVAR® X (bromacil)

VANQUISH® (dicamba, diglycoamine salt)
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® (imazapyr)

ESCORT® (metsulfuron)

GARLON® 4 (triclopyr, butoxyethyl ester)

TORDON® K (picloram-potassium)

## **Bermudagrass Release**

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing bermudagrass. Apply 1 to 3 pints of this product in up to 80 gallons of spray solution per acre. Use the lower rate when treating annual weeds below 6 inches in height (or runner length). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation. These rates will also provide partial control of the following perennial species:

Bahiagrass Johnsongrass
Bluestem, silver Trumpetcreeper
Fescue, tall Vaseygrass

This product may be tank-mixed with Oust<sup>®</sup> (sulfometuron). If tank-mixed, use no more than 1 to 3 pints of this product with appropriately labeled amount of Oust<sup>®</sup> per acre. Use the lower rates of each product to control annual weeds less than 6 inches in height (or runner length) that are listed in this label and the Oust<sup>®</sup> label. Use the higher rates as annual weeds increase in size and approach the flower or seedhead stages. These rates will also provide partial control of the following perennial weeds:

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

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

#### **ROADSIDES**

All the instructions in the "NONCROP AREAS AND INDUSTRIAL SITES" section apply to roadsides.

#### **Shoulder treatments**

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

# 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 shoulder, guardrail, spot and bare ground treatments:

BANVEL® (imazapyr)

DIURON

ENDURANCE® (prodiamine)

ESCORT® (metsulfuron)

PRINCEP® LIQUID (simazine)

RONSTAR® 50 WP (oxadiazone)

SAHARA® (diuron/imazapyr)

SIMAZINE

KROVAR® I DF (bromacil/diuron) SURFLAN® (oryzalin) OUST® (sulfometuron) TELAR® (chlorsulfuron)

PENDULUM® 3.3 EC (pendimethalin) VANQUISH® (dicamba, diglycoamine salt)

PENDULUM® WDG (pendimethalin) 2,4-I

PRINCEP® DF (simazine)

See the "NONCROP AREAS AND INDUSTRIAL SITES" section of this label for general instructions for tank mixing.

## Release Of Bermudagrass Or Bahiagrass

## **Dormant applications**

This product may be used to control or partially control many winter annual weeds and tall fescue for effective release of dormant bermudagrass or bahiagrass. Treat only when turf is dormant and prior to spring greenup. This product may also be tank-mixed with Oust® (sulfometuron) for residual control. Tank mixtures of this product with Oust® (sulfometuron) may delay greenup.

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

Apply 8 to 64 fluid ounces of this product per acre alone or in a tank mixture with the appropriately labeled amount of Oust® (sulfometuron). Apply the specified rates in 10 to 40 gallons of water per acre. Use only in areas where bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated. To avoid delays in greenup and minimize injury, add the appropriately labeled amount of Oust® per acre on bermudagrass and bahiagrass and do not treat when these grasses are in a semi-dormant condition.

## **Actively growing bermudagrass**

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing bermudagrass. Apply 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 Johnsongrass
Bluestem, silver Trumpetcreeper
Fescue, tall Vaseygrass

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

Bahiagrass Johnsongrass Bluestem, silver Poorjoe

Broomsedge Trumpetcreeper
Dallisgrass Vaseygrass
Dock, curly Vervain, blue

Dogfennel

## Fescue, tall

Use only on well-established bermudagrass. Bermudagrass injury may result from the treatment, but regrowth will occur under moist conditions. Do not make repeat applications of the tank mix in the same season, 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® (sulfometuron) may be used. Apply 6 fluid ounces of this product plus appropriately labeled amount of Oust® per acre 1 to 2 weeks following an initial spring mowing. Make only one application per year.

#### POPLAR PRODUCTION

TYPES OF APPLICATIONS: Pre-plant, in-crop

## **Pre-plant**

USE INSTRUCTIONS: Apply this product 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% Glyphosate Pro 4 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: 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.

#### **EUCALYPTUS PRODUCTION**

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

#### **Pre-plant**

Apply this product 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% Glyphosate Pro 4 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: 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.

#### **WEEDS CONTROLLED**

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

Reduced result may occur when treating weeds heavily covered with dust. For weeds that have been mowed, grazed or cut, allow regrowth to occur prior to treatment.

Refer to the following label sections for specified rates for the control of annual and perennial weeds and woody brush and trees. For difficult to control perennial weeds and woody brush and trees, where plants are growing under stressed conditions, or where infestations are dense, this product may be used at 5 to 10 quarts per acre for enhanced results.

#### **ANNUAL WEEDS**

Use 1 quart per acre if weeds are less than 6 inches in height or runner length and 1.5 quarts to 4 quarts per acre if weeds are over 6 inches in height or runner length or when weeds are growing under stressed conditions.

For spray-to-wet applications, apply a 0.5 percent solution of this product to weeds less than 6 inches in height or runner length. Apply prior to seedhead formation in grass or bud formation in broadleaf weeds. For annual weeds over 6 inches tall, or for smaller weeds growing under stressed conditions, use a 1 to 2 percent solution. Use the higher rate for tough-to-control species or for weeds over 24 inches tall.

WEED SPECIES				
Annoda, spurred	Barley*	Barnyardgrass*	Bittercress*	
Black nightshade*	Bluegrass annual*	Bluegrass, bulbous*	Bassia, fivehook	
Brome, downy*	Brome, Japanese*	Browntop panicum*	Buttercup*	
Carolina foxtail*	Carolina geranium	Castor bean	Cheatgrass*	
Cheeseweed (Malva parviflora)	Chervil*	Chickweed*	Cocklebur*	
Copperleaf, hophornbeam	Corn*	Corn speedwell*	Crabgrass*	
Dwarfdandelion*	Eastern mannagrass*	Eclipta*	Fall panicum*	

WEED SPECIES					
Falsedandelion*	Falseflax, smallseed*				
Fiddleneck	Field pennycress*	Filaree	Fleabane, annual*		
Fleabane, hairy (Conyza bonariensis)*	Fleabane, rough*	Florida pusley	Foxtail*		
Goatgrass, jointed*	Goosegrass	Grain sorghum (milo)*	Groundsel, common*		
Hemp sesbania	Henbit	Horseweed/Marestail (Conyza canadensis)	Itchgrass*		
Johnsongrass, seedling	Junglerice	Knotweed	Kochia		
Lambsquarters*	Little barley*	London rocket*	Mayweed		
Medusahead*	Morningglory (Ipomoea spp.)	Mustard, blue*	Mustard, tansy*		
Mustard, tumble*	Mustard, wild*	Oats	Pigweed*		
Plains/Tickseed coreopsis*	Prickly lettuce*	Puncturevine	Purslane, common		
Ragweed, common*	Ragweed, giant	Red rice	Russian thistle		
Rye*	Ryegrass*	Sandbur, field*	Shattercane*		
Shepherdspurse*	Sicklepod	Signalgrass, broadleaf*	Smartweed, ladysthumb*		
Smartweed, Pennsylvania*	Sowthistle, annual	Spanishneedles	Speedwell, purslane*		
Sprangletop*	Spurge, annual	Spurge, prostrate*	Spurge, spotted*		
Spurry, umbrella*	Starthistle, yellow	Stinkgrass*	Sunflower*		
Teaweed/Prickly sida	Texas panicum*	Velvetleaf	Virginia copperleaf		
Virginia pepperweed*	Wheat*	Wild oats*	Witchgrass*		
Woolly cupgrass*	Yellow rocket				

<sup>\*</sup>When using field broadcast equipment (aerial applications or boom sprayers using flat fan nozzles) these species will be controlled or partially controlled using 1 pint of this product per acre. Applications must be made using 3 to 10 gallons of carrier volume per acre. Use nozzles that ensure thorough coverage of foliage and treat when weeds are in an early growth stage.

# **PERENNIAL WEEDS**

Best results are obtained when perennial weeds are treated after they reach the reproductive stage of growth (seedhead initiation in grasses and bud formation in broadleaves). For non-flowering plants, best results are obtained when the plants reach a mature stage of growth. In many situations, treatments are required prior to these growth stages. Under these conditions, use the higher application rate within the specified range.

Ensure thorough coverage when using spray-to-wet treatments using hand-held equipment. When using hand-held equipment for low volume directed spot treatments, apply a 5 to 10 percent solution of this product. Allow 7 or more days after application before tillage.

Weed Species	Rate (QT/A)	<u>Hand-Held % Solution</u>
Alfalfa*	1	2
Alligatorweed*	4	1.5

Weed SpeciesRate (QT/A)Hand-Held % SolutionAnise (fennel)2-41-2Bahiagrass3-52Beachgrass, European (Ammophila arenaria)-5Bentgrass*1.52Bermudagrass52Bermudagrass, water (knotgrass)1.52Bindweed, field4-52Bluegrass, Kentucky22Blueweed, Texas4-52Brackenfern3-41-1.5
Bahiagrass 3-5 2 Beachgrass, European (Ammophila arenaria) - 5 Bentgrass* 1.5 2 Bermudagrass 5 2 Bermudagrass, water (knotgrass) 1.5 2 Bindweed, field 4-5 2 Bluegrass, Kentucky 2 2 Blueweed, Texas 4-5 2
Beachgrass, European (Ammophila arenaria) - 5 Bentgrass* 1.5 2 Bermudagrass 5 2 Bermudagrass, water (knotgrass) 1.5 2 Bindweed, field 4-5 2 Bluegrass, Kentucky 2 2 Blueweed, Texas 4-5 2
Bentgrass*1.52Bermudagrass52Bermudagrass, water (knotgrass)1.52Bindweed, field4-52Bluegrass, Kentucky22Blueweed, Texas4-52
Bermudagrass52Bermudagrass, water (knotgrass)1.52Bindweed, field4-52Bluegrass, Kentucky22Blueweed, Texas4-52
Bermudagrass, water (knotgrass)  1.5  2  Bindweed, field  4-5  2  Bluegrass, Kentucky  2  2  Blueweed, Texas  4-5  2
Bindweed, field 4-5 2 Bluegrass, Kentucky 2 2 Blueweed, Texas 4-5 2
Bluegrass, Kentucky 2 2 Blueweed, Texas 4-5 2
Blueweed, Texas 4-5 2
Brackentern 3-4 1-15
Bromegrass, smooth 2 2
Bursage, wooly-leaf - 2
Canarygrass, reed 2-3 2
Cattail 3-5 2
Clover; red, white 3-5 2
Cogongrass 3-5 2
Dallisgrass 3-5 2
Dandelion 3-5 2
Dock, curly 3-5 2
Dogbane, hemp 4 2
Fescue (except tall) 3-5 2
Fescue, tall 1-3 2
German, ivy 2-4 1-2
Guineagrass 3 1
Horsenettle 3-5 2
Horseradish 4 2
Iceplant 2 1.5-2
Jerusalem artichoke 3-5 2
Johnsongrass 2-3 1
Kikuyugrass 2-3 2
Knapweed 4 2
Lantana - 1-1.25
Lespedeza 3-5 2
Milkweed, common 3 2
Muhly, wirestem 2 2
Mullein, common 3-5 2
Napiergrass 3-5 2
Nightshade, silverleaf 2 2
Nutsedge; purple, yellow 3 1-2
Orchardgrass 2 2
Pampasgrass 3-5 1.5-2
Paragrass 3-5 2
Pepperweed, perennial 4 2
Phragmites* 3-5 1-2
Poison hemlock 2-4 1-2
Quackgrass 2-3 2
Redvine* 2 2
Reed, giant 4-5 2
Ryegrass, perennial 2-3 1
Smartweed, swamp 3-5 2
Spurge, leafy* - 2

Weed Species	Rate (QT/A)	<b>Hand-Held % Solution</b>
Sweet potato, wild*	-	2
Thistle, artichoke	2-3	1-2
Thistle, Canada	2-3	2
Timothy	2-3	2
Torpedograss*	4-5	2
Trumpetcreeper*	2-3	2
Vaseygrass	3-5	2
Velvetgrass	3-5	2
Wheatgrass, western	2-3	2

<sup>\*</sup>Partial control

#### **WOODY BRUSH AND TREES**

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 a high moisture content and are flowering.

Ensure thorough coverage when using spray-to-wet treatments using hand-held equipment. When using hand-held equipment for low volume directed-spray spot treatments, apply a 5 to 10 percent solution of this product.

Symptoms may not appear prior to frost or senescence with fall treatments.

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

Weed Species	Broadcast Rate (QT/A)	Hand-Held Spray-to-Wet % Solution
Alder	3-4	1-1.5
Ash*	2-5	1-2
Aspen, quaking	2-3	1-1.5
Bearmat (Bearclover)*	2-5	1-2
Beech*	2-5	1-2
Birch	2	1
Blackberry	3-4	1-1.5
Blackgum	2-5	1-2
Bracken	2-5	1-2
Broom; French, Scotch	2-5	1.5-2
Buckwheat, California*	2-4	1-2
Cascara*	2-5	1-2
Catsclaw*	-	1-1.5
Ceanothus*	2-5	1-2
Chamise*	2-5	1
Cherry; bitter, black, pin	2-3	1-1.5
Coyote brush	3-4	1.5-2
Deerweed	2-5	1

Weed Species	Broadcast Rate (QT/A)	<u>Hand-Held</u> <u>Spray-to-Wet %</u> <u>Solution</u>
Dogwood*	2-5	1-2
Elderberry	2	1
Elm*	2-5	1-2
Eucalyptus		2
Florida holly (Brazilian Peppertree)*	2-5	1-2
Gorse*	2-5	1-2
Hasardia*	2-4	1-2
Hawthorn	2-3	1-1.5
Hazel	2	1
Hickory*	2-5	1-2
Honeysuckle	3-4	1-1.5
Hornbeam, American*	2-5	1-2
Kudzu	4	2
Locust, black*	2-4	1-2
Madrone resprouts*	-	2
Manzanita*	2-5	1-2
Maple, red	2-4	1-1.5
Maple, sugar	<u>-</u> .	1-1.5
Monkey flower*	2-4	1-2
Oak; black, white*	2-4	1-2
Oak, post	3-4	1-1.5
Oak; northern, pin	2-4	1-1.5
Oak; Scrub*	2-4	1-1.5
Oak; southern red	2-3	1-1.5
Persimmon*	2-5	1-2
Pine	2-5	1-2
Poison ivy	4-5	2
Poison oak	4-5	2
Poplar, yellow*	2-5	1-2
Redbud, eastern	2-5	1-2
Rose, multiflora	2	1
Russian olive*	2-5	1-2
Sage, black	2-4	1
Sage, white*	2-4	1-2
Sage brush, California	2-4	1
Salmonberry	2	1
Saltcedar*	2-5	1-2
Sassafras*	2-5	1-2
Sourwood*	2-5	1-2
Sumac; laurel, poison, smooth, sugarbush,	2-4	1-2
winged*		
Sweetgum	2-3	1-1.5
Swordfern*	2-5	1-2
Tallowtree, Chinese	-	1
Tan oak resprouts*	-	2
Thimbleberry	2	1
Tobacco, tree*	2-4	1-2
Toyon*	-	2
Trumpetcreeper	2-3	1-1.5

Weed Species	Broadcast Rate (QT/A)	Hand-Held Spray-to-Wet % Solution
Vine maple*	2-5	1-2
Virginia creeper	2-5	1-2
Waxmyrtle, southern*	2-5	1-2
Willow	3	1
Yerbasenta*	-	2

Ronstar® is a registered trademark of Bayer.

Banvel® is a registered trademark of BASF Corporation.

Arsenal®, Pendulum®, Plateau®, and Sahara® are registered trademarks of BASF Specialty Products.

Garlon®, Spike®, and Tordon® are registered trademarks of Dow AgroSciences LLC.

Escort®, Hyvar®, Krovar®, Oust® and Telar® are registered trademarks of E.I. duPont de Nemours and Company.

Karmex<sup>®</sup> is a registered trademark of Adama Agan Ltd.

Barricade® and Endurance® are registered trademarks of Syngenta Professional Products.

Princep® and Vanguish® are registered trademarks of Syngenta Crop Protection, Inc.

Surflan® is a registered trademark of United Phosphorus, Inc.

**EPA Approval Date** 

\*Partial control