



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

**ACTIVE INGREDIENT:**

\*Glyphosate, N-(phosphonomethyl)glycine, in the form of its isopropylamine salt ..... 41.0%

OTHER INGREDIENTS: ..... 59.0%  
**TOTAL 100.0%**

Prowl

\*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.

Licensed for Roundup Ready® alfalfa, cotton, corn, canola, Flex cotton, sugarbeets and soybeans.

**KEEP OUT OF REACH OF CHILDREN  
 CAUTION**

**FIRST AID**

<b>If in eyes:</b>	<ul style="list-style-type: none"> <li>Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If on skin or clothing:</b>	<ul style="list-style-type: none"> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. **FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: 1-866-944-8565.**

**EPA REG. NO. 34704-889**

**EPA EST. NO. 34704-MS-001**

**NET CONTENTS 2½ GALS. (9.46 L)**

040809 V3D 02M11

**PRECAUTIONARY STATEMENTS  
 HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**CAUTION**

Harmful if absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing.

**PERSONAL PROTECTIVE EQUIPMENT: (PPE)**

Some of the materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category A on an EPA chemical-resistance category selection chart.

**Applicators and other handlers must wear:**

- Long-sleeved shirt and long pants
- Shoes plus socks
- Protective eyewear
- Chemical resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, 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 hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

**ENVIRONMENTAL HAZARDS**

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

**PHYSICAL OR CHEMICAL HAZARDS**

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

**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
- Chemical resistant gloves made of any waterproof material
- Shoes plus socks.

**NON-AGRICULTURAL USE REQUIREMENTS**

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

**GENERAL INFORMATION**

Read the entire label before using this product. Use only according to label instruction. Read the "WARRANTY DISCLAIMER AND NOTICE" statement at the end of the label before buying or using. If terms are not acceptable, return at once unopened. **DO NOT APPLY THIS PRODUCT USING AERIAL SPRAY EQUIPMENT EXCEPT UNDER CONDITIONS AS SPECIFIED WITHIN THIS LABEL.**

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.

This product, a water soluble liquid, mixes readily with water to be applied as a foliar spray for the control or destruction of most herbaceous plants. It may be applied through most standard industrial or field-type sprayers after dilution and thorough mixing with water in accordance with label instructions.

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This product moves through the plant from the point of foliage contact 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 visual effects of control. Visible effects are a gradual wilting and yellowing of the plant which advances to complete browning of above-ground growth and deterioration of underground plant parts.

Unless otherwise specified on this label, delay application until vegetation has emerged and reached the stages described for control of such vegetation under the "WEEDS CONTROLLED" section of this label. Unemerged plants arising from unattached underground rhizomes or root stocks of perennials will not be affected by the herbicide and will continue to grow. For this reason, best control of most perennial weeds is obtained when treatment is made at late growth stages approaching maturity.

Always use the higher rate of this product per acre within the specified range when (1) weed growth is heavy or dense, or (2) 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.

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 specified stage for treatment.

Rainfall or irrigation occurring within 6 hours after application may reduce effectiveness. Heavy rainfall or irrigation within 2 hours after application may wash the chemical off the foliage and a repeat treatment may be required.

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.

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

For best results, spray coverage should be uniform and complete. Do not spray weed foliage to the point of runoff.

**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.

### ATTENTION

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

Do not allow the herbicide solution to mist, drip, drift, or splash onto desirable vegetation since minute quantities of this product can cause severe damage or destruction to the crop, plants, or other areas on which treatment was not intended. The likelihood of injury occurring from the use of this product increases when winds are gusty or in excess of 5 miles per hour or when other conditions, including lesser wind velocities, will allow spray drift to occur. When spraying, avoid combinations of pressure and nozzle type that will result in splatter or fine particles (mist) 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 combination.

### MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS

APPLY THESE SPRAY SOLUTIONS IN PROPERLY MAINTAINED AND CALIBRATED EQUIPMENT CAPABLE OF DELIVERING DESIRED VOLUMES. DO NOT APPLY WHEN WIND OR OTHER CONDITIONS FAVOR DRIFT. HANDGUN APPLICATIONS SHOULD BE PROPERLY DIRECTED TO AVOID SPRAYING DESIRABLE PLANTS. **NOTE: REDUCED RESULTS MAY OCCUR IF WATER CONTAINING SOIL IS USED, SUCH AS WATER FROM PONDS AND UNLINED DITCHES.**

#### MIXING

This product mixes readily with water. Mix spray solutions of this product as follows: Fill the mixing or spray tank with the required amount of water. Add the specified amount of this product (see the "DIRECTIONS FOR USE" and "WEEDS CONTROLLED" sections of this label) 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.

#### TANK MIXTURES

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

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

- Place a 20 to 35-mesh screen or wetting basket over filling port.
- Through the screen, fill the spray tank one-half full with water and start agitation.
- 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.
- 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.
- 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.
- Continue filling the spray tank with water and add the required amount of this product near the end of the filling process.
- Where nonionic surfactant is specified, add this to the spray tank before completing the filling process.
- Add individual formulations to the spray tank as follows: wettable powder, flowable, emulsifiable concentrate, drift control additive, water-soluble liquid followed by surfactant.

Maintain good agitation at all times until the contents of the tank are sprayed. If the spray mixture is allowed to settle, thorough agitation is required to 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 should be no finer than 50 mesh. Carefully select proper nozzle to avoid spraying a fine mist. For best results with conventional ground application equipment, use flat fan nozzles.

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

### ADDITIVES SURFACTANTS

Nonionic surfactants which are labeled for use with herbicides may be used. Do not reduce rates of this product when adding surfactant. When adding additional surfactant, use 0.5 percent surfactant concentration (2 quarts per 100 gallons of spray solution) when using surfactants which contain at least 70 percent active ingredient or a 1 percent surfactant concentration (4 quarts per 100 gallons of spray solution) for those surfactants containing less than 70 percent active ingredient. Read and carefully observe surfactant cautionary statements and other information appearing on the surfactant label.

### 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, and this product plus 2,4-D, Banvel® or residual herbicide tank mixtures on annual and perennial weeds. The improvement in performance may be apparent when environmental stress is a concern. Low-quality ammonium sulfate may contain material that will not readily dissolve, which could result in nozzle tip plugging. To determine quality, perform a jar test by adding 1/3 cup of ammonium sulfate to 1 gallon of water and agitate for 1 minute. If undissolved sediment is observed, predissolve the ammonium sulfate in water and filter prior to addition to the spray tank. If ammonium sulfate is added directly to the spray tank, add slowly with agitation. Adding too quickly may clog outlet line. Ensure that ammonium sulfate is completely dissolved in the spray tank before adding herbicides or surfactant. Thoroughly rinse the spray system with clean water after use to reduce corrosion.

**NOTE:** The use of ammonium sulfate as an additive does not preclude the need for additional surfactant. Do not use herbicide rates lower than specified in this label.

### COLORANTS OR DYES

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

### 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

**Broadcast Spray**

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

**Hand-held and High-Volume Spray Equipment** – Knapsack and backpack sprayers, pump-up pressure sprayers, handguns, handwands, mistblowers\*, lances and other hand-held and motorized spray equipment used to direct the spray onto weed foliage. \*This product is not registered in California or Arizona for use in mistblowers.

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

See the appropriate part of this section for specific instructions and rates of application.

### AERIAL EQUIPMENT

Use the specified rates in 3 to 15 gallons of water per acre unless otherwise specified on this label. See the "WEEDS CONTROLLED" section of this label for specific rates. Unless otherwise specified, do not exceed 1 quart per acre. Aerial applications of this product may be in annual cropping conventional tillage systems, fallow and reduced tillage systems and preharvest applications. Refer to the individual use sections of this label for specified volumes and application rates.

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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.

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.

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

This product plus BANVEL® or 2,4-D tank mixtures may not be applied by air in California.

### 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 applications using dry formulations.

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

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

The applicator should be familiar with and take into account the information covered in the [Aerial Drift Reduction Advisory](#).

#### Aerial Drift Reduction Advisory

(This section is advisory in nature and does not supersede the mandatory label requirements)

#### Information on Droplet Size

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

#### 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 nozzle 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 lowest drift.

#### Boom Length

For some use patterns, reducing the effective boom length to less than  $\frac{3}{4}$  of the wingspan or rotor length may further reduce drift without reducing swath width.

#### Application Height

Application should not be made at a height greater than 10 feet above the top of the target plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

#### Swath Adjustment

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

#### Wind

Drift potential is lowest between wind speeds of 2-10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. NOTE: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

#### Temperature and Humidity

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

#### Temperature Inversions

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

#### Sensitive Areas

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

#### Arkansas Only:

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

Use the specified rate of this product in 3 to 15 gallons of water per acre. Use sufficient carrier volume and appropriate equipment set-up to form droplets large enough to avoid drift potential. Coarse droplets in the 300 to 500 (VMD) micron range are recommended.

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

The distance of the outermost nozzles on the boom must not exceed 75% of the length of the wingspan or rotor. In many cases reducing the 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.

Winds blowing from 5 to 10 miles per hour toward desirable vegetation or crops will likely require buffer zones in excess of 500 feet.

### BROADCAST EQUIPMENT

**For control of annual or perennial weeds listed on this label using 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 on this label. See the "WEEDS CONTROLLED" section of this label for specific rates. As density of weeds increases, spray volume should be increased within the recommended 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.

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**CONTROLLED DROPLET APPLICATION (CDA)**

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 labeled 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).

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.

**HAND-HELD and HIGH VOLUME EQUIPMENT**

Use coarse sprays only.

Mix this product in clean water and apply to foliage of vegetation to be controlled. For applications made on a spray-to-wet basis, spray coverage should be uniform and complete. Do not spray to the point of runoff.

For control of annual weeds listed on this label, apply a 0.5 percent solution of this product plus nonionic surfactant to weeds less than 6 inches in height or runner length. Apply prior to seedhead formation in grass or bud formation in broadleaf weeds. Allow three or more days before tillage or mowing.

For annual weeds over 6 inches tall, or when not using additional surfactant, 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.

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

**Spray Solution**

	Amount of MAD DOG®					
	0.5%	1%	1½%	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.

**SELECTIVE EQUIPMENT**

This product may be applied through a recirculating spray system, a shielded applicator, or a wiper applicator after dilution and thorough mixing with water to listed weeds growing in any noncrop site specified on this label and only when specifically stated 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 applicator directs the herbicide solution onto weeds, while shielding desirable vegetation from the herbicide.

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

**AVOID CONTACT WITH DESIRABLE VEGETATION**

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

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

**SHIELDED APPLICATORS**

When applied as directed under conditions described for shielded applicators, this product will control those weeds listed in the "WEEDS CONTROLLED" section of this label.

Use the following equation to convert from a broadcast rate per acre to a band rate per acre.

$$\frac{\text{Band width in inches}}{\text{Row width in inches}} \times \text{Herbicide Broadcast RATE per acre} = \text{Herbicide Band RATE per acre}$$

$$\frac{\text{Band width in inches}}{\text{Row width in inches}} \times \text{Broadcast VOLUME of Solution per acre} = \text{Band VOLUME of solution per acre}$$

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

For specific rates of application and instructions for control of various annual and perennial weeds, see the "WEEDS CONTROLLED" section of this label.

**WIPER APPLICATORS**

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 "WIPER APPLICATORS" 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 under the conditions described for "WIPER APPLICATORS", this product **CONTROLS** the following weeds:

**ANNUAL GRASSES**

**Corn**  
*Zea mays*  
**Panicum, Texas**  
*Panicum texanum*

**Rye, common**  
*Secale cereale*  
**Shattercane**  
*Sorghum bicolor*

**ANNUAL BROADLEAVES**

**Sicklepod**  
*Cassia obtusifolia*  
**Spanishneedles**  
*Bidens bipinnata*

**Starbur, bristly**  
*Acanthospermum hispidum*

When applied as directed under the conditions described for "WIPER APPLICATORS", this product **SUPPRESSES** the following weeds:

**ANNUAL BROADLEAVES**

**Beggarweed, Florida**  
*Desmodium tortuosum*  
**Dogfennel**  
*Eupatorium capilliflorum*  
**Pigweed, redroot**  
*Amaranthus retroflexus*  
**Ragweed, common**  
*Ambrosia artemisiifolia*

**Ragweed, giant**  
*Ambrosia trifida*  
**Sunflower**  
*Helianthus annuus*  
**Thistle, musk**  
*Carduus nutans*  
**Velvetleaf**  
*Abutilon theophrasti*

**PERENNIAL GRASSES**

**Bermudagrass**  
*Cynodon dactylon*  
**Guineagrass**  
*Panicum maximum*  
**Johnsongrass**  
*Sorghum halepense*

**Smutgrass**  
*Sporobolus poiretii*  
**Vaseygrass**  
*Paspalum urvillei*

**PERENNIAL BROADLEAVES**

**Dogbane, hemp**  
*Apocynum cannabinum*  
**Milkweed**  
*Asclepias syriaca*

**Nightshade, silverleaf**  
*Solanum elaeagnifolium*  
**Thistle, Canada**  
*Cirsium arvense*

**MAD DOG®**  
**EPA REG. NO. 34704-889**

**WEEDS CONTROLLED**

This herbicide controls many annual and perennial grasses and broadleaf weeds.

**ANNUAL WEEDS**

- Apply to actively growing grass and broadleaf weeds.
- Allow at least 3 days after treatment before tillage.
- For maximum agronomic benefit, apply when weeds are 6 inches or less in height.
- To prevent seed production, applications should be made prior to seedhead formation.
- This product does not provide residual control; therefore, delay application until maximum weed emergence. Repeat treatments may be necessary to control later germinating weeds.

**LOW-VOLUME BROADCAST APPLICATION (LOW-RATE TECHNOLOGY)**

When applied as directed under the conditions described, this product will control the weeds listed below when:

1. Water carrier volumes of 3 to 10 gallons per acre for ground applications and 3 to 5 gallons per acre for aerial applications are used. (See the "AERIAL APPLICATION" section of this label for approved sites.)
2. A nonionic surfactant is added at 0.5 to 1 percent by total spray volume. Use 0.5 percent surfactant concentration when using surfactants which contain at least 70 percent active ingredient or a 1 percent surfactant concentration for those surfactants containing less than 70 percent active ingredient.

**NOTE**

- The addition of 2 percent dry ammonium sulfate by weight or 17 pounds per 100 gallons of water may increase the performance of this product on annual weeds. The improvement in performance may be apparent where environmental stress is a concern. Refer to the "MIXING, ADDITIVES, and APPLICATION INSTRUCTIONS" section of this label.
- 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.
- Refer to the "TANK MIXTURES" portion of this section for control of additional broadleaf weeds.

Weed Species	Maximum Height/Length	Rate Per Acre* (fluid ounces)
<b>Foxtail</b> <i>Setaria</i> spp.	12"	8 oz
<b>Barnyardgrass</b> <i>Echinochloa crus-galli</i>	6" (0 to 4" 4 to 6")	12 oz 16 oz <sup>1)</sup> 24 oz <sup>1)</sup>
<b>Bluegrass, annual</b> <i>Poa annua</i>		
<b>Brome, downy**</b> <i>Bromus tectorum</i>		
<b>Mustard, blue</b> <i>Chorispora tenella</i>		
<b>Mustard, tansy</b> <i>Descurainia pinnata</i>		
<b>Mustard, tumble</b> <i>Sisymbrium altissimum</i>		
<b>Mustard, wild</b> <i>Sinapis arvensis</i>		
<b>Spurry, umbrella</b> <i>Holosteum umbellatum</i>		
<b>Barley</b> <i>Hordeum vulgare</i>	12"	
<b>Rye</b> <i>Secale cereale</i>		
<b>Sandbur, field</b> <i>Cenchrus</i> spp		
<b>Shattercane</b> <i>Sorghum bicolor</i>		
<b>Stinkgrass</b> <i>Eragrostis cilianensis</i>		
<b>Wheat</b> <i>Triticum aestivum</i>	18"	12 oz
<b>Morningglory</b> <i>Ipomoea</i> spp.	2"	16 oz
<b>Sicklepod</b> <i>Cassia obtusifolia</i>		
<b>Bluegrass, bulbous</b> <i>Poa bulbosa</i>	6"	
<b>Cheat</b> <i>Bromus secalinus</i>		
<b>Chickweed, common</b> <i>Stellaria media</i>		
<b>Chickweed, mouseear</b> <i>Cerastium vulgatum</i>		
<b>Corn</b> <i>Zea mays</i>		

Weed Species	Maximum Height/Length	Rate Per Acre* (fluid ounces)
<b>Goatgrass, jointed</b> <i>Aegilops cylindrical</i>	6"	16 oz
<b>Groundsel, common</b> <i>Senecio vulgaris</i>		
<b>Henbit</b> <i>Lamium amplexicaule</i>		
<b>Horseweed/Marestail</b> <i>Conyza canadensis</i>		
<b>Lambsquarters, common</b> <i>Chenopodium album</i>		
<b>Pennycress, field</b> <i>Fanweed</i> <i>Thlaspi arvense</i>		
<b>Rocket, London</b> <i>Sisymbrium irio</i>		
<b>Ryegrass, Italian</b> <i>Lolium multiflorum</i>		
<b>Shepherdspurse</b> <i>Capsella bursa-pastoris</i>		
<b>Spurge, annual</b> <i>Euphorbia</i> spp.		
<b>Buttercup</b> <i>Ranunculus</i> spp.	12"	
<b>Cocklebur</b> <i>Xanthium strumarium</i>		
<b>Crabgrass</b> <i>Digitaria</i> spp.		
<b>Dwarf dandelion</b> <i>Krigia cespitosa</i>		
<b>Falseflax, smallseed</b> <i>Camelina microcarpa</i>		
<b>Foxtail, Carolina</b> <i>Alopecurus carolinianus</i>		
<b>Johnsongrass, seedling</b> <i>Sorghum halepense</i>		
<b>Oats, wild</b> <i>Avena fatua</i>		
<b>Panicum, fall</b> <i>Panicum dichotomiflorum</i>		
<b>Panicum, Texas</b> <i>Panicum texanum</i>		
<b>Pigweed, redroot</b> <i>Amaranthus retroflexus</i>		
<b>Pigweed, smooth</b> <i>Amaranthus hybridus</i>		
<b>Witchgrass</b> <i>Panicum capillare</i>		
<b>Sicklepod</b> <i>Cassia obtusifolia</i>	3 to 4"	24 oz.
<b>Signalgrass, broadleaf</b> <i>Brachiaria platyphylla</i>	4"	
<b>Horseweed/Marestail</b> <i>Conyza Canadensis</i>	7 to 12"	
<b>Lambsquarters, common</b> <i>Chenopodium album</i>		
<b>Spurge, annual</b> <i>Euhporbia</i> spp.		
<b>Rice, red</b> <i>Oryza sativa</i>	4"	32 oz.
<b>Teaweed</b> <i>Sida spinosa</i>		
<b>Sprangletop</b> <i>Leptochloa</i> spp.	6"	
<b>Geranium, Carolina</b> <i>Geranium carolinianum</i>	12"	
<b>Goosegrass</b> <i>Eleusine indica</i>		
<b>Primrose, cutleaf evening</b> <i>Oenothera laciniata</i>		
<b>Pusley, Florida</b> <i>Richardia scabra</i>		
<b>Sicklepod</b> <i>Cassia obtusifolia</i>	5 to 12"	
<b>Spanishneedles</b> <i>Bidens bipinnata</i>		
<b>Filaree</b> <i>Erodium</i> spp.	12"	48 oz.
<b>Sprangletop</b> <i>Leptochloa</i> spp.		

<sup>1</sup>Use these rates to control barnyardgrass in Alabama, Arkansas, Mississippi, Missouri, Louisiana and Texas for preplant treatments.

\*For those rates less than 32 fluid ounces per acre, this product at rates up to 32 fluid ounces per acre may be used where heavy weed densities exist.

\*\*For control in no-till systems, use 16 ounces per acre.

**MAD DOG®**  
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**TANK MIXTURES**

**MAD DOG with BANVEL® plus NONIONIC SURFACTANT**  
**MAD DOG with 2,4-D plus NONIONIC SURFACTANT**

DO NOT APPLY BANVEL® OR 2,4-D TANK MIXTURES BY AIR IN CALIFORNIA

This product may be tank mixed with the products listed providing the product tank-mixed is registered for use on this site.

These tank mixtures are for use in fallow and reduced tillage area only. Follow use directions as given in the "LOW-VOLUME BROADCAST APPLICATION" section.

This product plus BANVEL® or 2,4-D will control the annual grasses and broadleaf weeds listed for this product alone at the indicated heights (except 8 fluid ounces per acre applications), plus the following broadleaf weeds. For those weeds previously listed at 8 fluid ounces of this product alone per acre, use 12 fluid ounces in these tank mixtures.

**NOTE:** Refer to the specific product labels for crop rotation restrictions and cautionary statements of all products used in tank mixtures. Some crop injury may occur if Banvel® is applied within 45 days of planting. The addition of Banvel® in a mixture with this product may provide short-term residual control of selected weed species.

Apply 12 to 16 fluid ounces of this product plus 0.25 pound a.i. of Banvel® or 0.5 pound a.i. of 2,4-D, plus 0.5 to 1 percent nonionic surfactant by total spray volume per acre to control dense populations of the following annual broadleaf weeds when less than the height indicated:

**Cocklebur (12")**  
*Xanthium strumarium*  
**Kochia\*(6")**  
*Kochia scoparia*  
**Lambsquarters(12")**  
*Chenopodium album*  
**Lettuce, prickly(6")**  
*Lactuca scariola*  
**Marestail/Horseweed(6")**  
*Conyza Canadensis*

**Morningglory(6")**  
*Ipomoea* spp.  
**Pigweed, redroot(12")**  
*Amaranthus retroflexus*  
**Pigweed, smooth(12")**  
*Amaranthus hybridus*  
**Thistle, Russian(12")**  
*Salsola kali*

\*Controlled with Banvel® tank mixture only.

Apply 16 fluid ounces of this product plus 0.5 pound of a.i. of 2, 4-D, plus 0.5 to 1 percent nonionic surfactant by total spray volume per acre to control the following annual broadleaf weeds when less than 6 inches in height.

**Ragweed, common**  
*Ambrosia artemisiifolia*  
**Ragweed, giant**  
*Ambrosia trifida*

**Smartweed, Pennsylvania**  
*Polygonum Pennsylvanicum*  
**Velvetleaf**  
*Abutilon theophrasti*

**HIGH-VOLUME BROADCAST APPLICATIONS**

When applied as directed under the conditions described, this product will control the weeds listed below when water carrier volumes are 10 to 40 gallons per acre for ground applications.

Apply 1 to 1.5 quarts of this product per acre plus 0.5 to 1 percent nonionic surfactant by total spray volume. Use 1 quart per acre if weeds are less than 6 inches tall and 1.5 quarts per acre if weeds are over 6 inches tall. If weeds have been mowed, grazed or cut, allow adequate time for new growth to reach specified stages prior to treatment. These rates will also provide control of weeds listed in the "LOW-VOLUME BROADCAST APPLICATION" section.

**WEED SPECIES**

**Balsamapple\***  
*Momordica charantia*  
**Bassia, fivehook**  
*Bassia hyssopifolia*  
**Brome**  
*Bromus* spp.  
**Fiddleneck**  
*Amsinckia* spp.  
**Flabane, hairy**  
*Conyza bonariensis*.  
**Flabane**  
*Erigeron* spp.  
**Kochia**  
*Kochia scoparia*  
**Lettuce, prickly**  
*Lactuca scariola*

**Panicum**  
*Panicum* spp.  
**Ragweed, common**  
*Ambrosia artemisiifolia*  
**Ragweed, giant**  
*Ambrosia trifida*  
**Smartweed, Pennsylvania**  
*Polygonum pennsylvanicum*  
**Sowthistle, annual**  
*Sonchus oleraceus*  
**Sunflower**  
*Helianthus annus*  
**Thistle, Russian**  
*Salsola kali*  
**Velvetleaf**  
*Abutilon theophrasti*

\*Apply with hand-held equipment only.

**Perennial Weeds**

Apply this product as follows to control or destroy most perennial weeds.

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

Repeat treatments may be necessary to control weeds regenerating from underground parts of seed. Repeat treatments must be made prior to crop emergence.

The addition of 1 to 2 percent dry ammonium sulfate by weight or 8.5 to 17 pounds per 100 gallons of water may increase the performance of this product on perennial weeds. The improvement in performance may be apparent where environmental stress is a concern. Refer to the "MIXING, ADDITIVES, and APPLICATION INSTRUCTIONS" section of this label.

When applied as directed under the conditions described, this product WILL CONTROL the following PERENNIAL WEEDS:

**Alfalfa**  
*Medicago sativa*  
**Alligatorweed\***  
*Alternanthera philoxeroides*  
**Anise (fennel)**  
*Foeniculum vulgare*  
**Artichoke, Jerusalem**  
*Helianthus tuberosus*  
**Bahiagrass**  
*Paspalum notatum*  
**Bentgrass**  
*Agrostis* spp.  
**Bermudagrass**  
*Cynodon dactylon*  
**Bermudagrass, water (knotgrass)**  
*Paspalum distichum*  
**Clover, red**  
*Trifolium pratense*

**Bindweed, field**  
*Convolvulus arvensis*  
**Brugrass, Kentucky**  
*Poa* spp.  
**Blueweed, Texas**  
*Helianthus ciliaris*  
**Brackenfern**  
*Pteridium aquilinum*  
**Bromegrass, smooth**  
*Bromus inermis*  
**Bursage, woollyleaf**  
*Franseria tomentosa*  
**Canarygrass, reed**  
*Phalaris arundinacea*  
**Cattail**  
*Typha* spp.  
**Nutsedge; purple, yellow**  
*Cyperus rotundus*,  
*Cyperus exculentus*

**Clover, white**  
*Trifolium repens*  
**Cogongrass**  
*Imperata cylindrical*  
**Dallisgrass**  
*Paspalum dilatatum*  
**Dandelion**  
*Taraxacum officinale*  
**Dock, curly**  
*Rumex crispus*  
**Dogbane, hemp**  
*Apocynum cannabinum*  
**Fescues**  
*Festuca* spp.  
**Fescue, tall**  
*Festuca arundinacea*  
**Guineagrass**  
*Panicum maximum*  
**Horsenettle**  
*Solanum carolinense*  
**Horseradish**  
*Armoracia rusticana*  
**Ice plant**  
*Mesembryanthemum crystallinum*  
**Johnsongrass**  
*Sorghum halepense*  
**Kikuyugrass**  
*Pennisetum clandestinum*  
**Knapweed**  
*Centaurea repens*  
**Lantana**  
*Lantana camara*  
**Lespedeza**  
*Lespedeza* spp.  
**Milkweed**  
*Asclepias* spp.  
**Muhly, wirestem**  
*Muhlenbergia frondosa*  
**Mullein, common**  
*Verbascum thapsus*  
**Napiergrass**  
*Pennisetum purpureum*  
**Nightshade, silverleaf**  
*Solanum elaeagnifolium*  
\*Partial control

**Orchardgrass**  
*Dactylis glomerata*  
**Pampasgrass**  
*Cortaderia* spp.  
**Paragrass**  
*Brachiaria mutica*  
**Phragmites\***  
*Phragmites* spp.  
**Poison hemlock**  
*Conium maculatum*  
**Quackgrass**  
*Agropyron repens*  
**Redvine\***  
*Brunnichia ovata*  
**Reed, giant**  
*Arundo donax*  
**Ryegrass, perennial**  
*Lolium perenne*  
**Smartweed, swamp**  
*Polygonum coccineum*  
**Spurge, leafy\***  
*Euphorbia esula*  
**Starthistle, yellow**  
*Centaurea solstitialis*  
**Sweet potato, wild\***  
*Ipomoea pandurata*  
**Thistle, Canada**  
*Cirsium arvense*  
**Thistle, artichoke**  
*Cynara cardunculus*  
**Timothy**  
*Phleum pratense*  
**Torpedograss\***  
*Panicum urvillei*  
**Trumpetcreeper\***  
*Campsis radicans*

**Vaseygrass**  
*Paspalum urvillei*  
**Velvetgrass**  
*Holcus* spp.  
**Wheatgrass, western**  
*Agropyron smithii*

This product is not registered in California for use on water bermudagrass.

See "DIRECTIONS FOR USE" and "MIXING, ADDITIVES, and APPLICATION INSTRUCTIONS" sections of this label for labeled uses and specific application instructions.

**Alfalfa** – Apply 1 quart of this product per acre plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Make applications after the last hay cutting in the fall. Allow alfalfa to regrow to a height of 6 to 8 inches or more prior to treatment. Applications should be followed with deep tillage at least 7 days after treatment, but before soil freeze-up.

**Alligatorweed** – Apply 4 quarts of this product per acre or apply a 1.5 percent solution with hand-held equipment to provide partial control. Apply when most of the plants are in bloom. Repeat applications will be required to maintain such control.

**Anise (fennel)/Poison hemlock** – Apply a 1 to 2 percent solution of this product as a spray-to-wet treatment. Optimum results are obtained when plants are treated at the bud to full-bloom stage of growth. Repeat applications may be needed in succeeding years to control plants arising from seeds.

**MAD DOG®**  
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**Bentgrass** – For suppression in grass seed production areas. For ground applications only, apply 1.5 quarts of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 10 to 20 gallons of water per acre. Ensure entire crown area has resumed growth prior to a fall application. Bentgrass should be actively growing and have at least 3 inches of growth. Tillage prior to treatment should be avoided. Tillage 7 to 10 days after application is recommended for best results. Failure to use tillage after treatment may result in unacceptable control.

**Bermudagrass** – 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. Allow 7 or more days after application before tillage.

**Bermudagrass, water (knotgrass)** – Apply 1.5 quarts of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 5 to 10 gallons of water per acre. Apply when water bermudagrass is actively growing and 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 plus 0.5 to 1 percent nonionic surfactant by total spray volume in 5 to 10 gallons of water per acre. Fallow fields should be tilled prior to application. Apply prior to frost on water bermudagrass that is actively growing and 12 to 18 inches in length. Allow 7 or more days before tillage.

**Bindweed, field** – 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 actively growing and are at or beyond full bloom. Do not treat when weed is under drought stress as good soil moisture is necessary for active growth. For best results, apply in the late summer or fall. Fall treatments must be applied before a killing frost. Allow 7 or more days after application before tillage.

Also for control, apply 2 quarts of this product plus 0.5 pound a.i. of Barvel® in 10 to 20 gallons of water per acre. At these rates, apply using ground application only.

The following tank mixtures with 2,4-D may be applied using aerial application equipment (except in California) in fallow and reduced tillage systems only.

For suppression on irrigated agricultural land, apply 1 to 2 quarts of this product plus 1 pound a.i. of 2,4-D in 10 to 20 gallons of water per acre with ground equipment only. Applications should be made following harvest or in fall fallow ground when the bindweed is actively growing and the majority of runners are 12 inches or more in length. The use of at least one irrigation will promote active bindweed growth.

For suppression, apply 16 fluid ounces of this product plus 0.5 pound a.i. 2,4-D plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre for ground applications and 3 to 5 gallons of water per acre for aerial applications. Applications should be delayed until a maximum emergence has occurred and when vines are between 6 to 18 inches in length.

For suppression on irrigated land where annual tillage is performed, apply 1 quart of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Apply to actively growing bindweed that has reached a length of 12 inches or greater. Allow maximum weed emergence and runner growth. Do not treat when weeds are under drought stress as good soil moisture is necessary for active growth. Allow 3 or more days after application before tillage.

**Bluegrass, Kentucky/Bromegrass, smooth/Orchardgrass** – Apply 2 quarts of this product in 10 to 40 gallons of water per acre when the grasses are actively growing and 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 plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height. Allow 7 or more days after application before tillage.

**Orchardgrass (sods going to no-till corn)** – Apply 1 to 1.5 quarts of this product per acre plus 0.5 to 1 percent nonionic surfactant by total spray volume 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 for at least 3 days following application before planting. A sequential application of atrazine will be necessary for optimum results.

**Blueweed, Texas** – 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 weed is actively growing and is at or beyond full bloom. Do not treat when weed is under drought stress as good soil moisture is necessary for active growth. New leaf development indicates active growth. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost. Allow 7 or more days after application before tillage.

**Brackenfern** – Apply 3 to 4 quarts of this product per acre as a broadcast spray or as a 1 to 1.5 percent solution with hand-held equipment. Apply to full expanded fronds which are at least 18 inches long.

**Bursage, woolyleaf** – For control, apply 2 quarts of this product plus 1 pint of Barvel® per acre. For partial control, apply 1 quart of this product plus 1 pint of Barvel® per acre. Add 0.5 to 1 percent nonionic surfactant by total spray volume and apply in 3 to 20 gallons of water 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/Timothy/Wheatgrass, western** – Apply 2 to 3 quarts of this product per acre. For best results, apply to actively growing plants when most plants have reached boot-to-head stage of growth. Allow 7 or more days after application before tillage.

**Cogongrass** – Apply 3 to 5 quarts of this product plus 0.5 to 1 percent nonionic surfactant in 10 to 40 gallons of water per acre. Apply when Cogongrass is at least 18 inches tall and actively growing in late summer or fall. Allow 7 or more days after application before tillage or mowing. Due to uneven stages of growth and the dense nature of vegetation preventing good spray coverage, repeat treatments may be necessary to maintain control.

**Dandelion / Dock, curly** – Apply 3 to 5 quarts of this product per acre when plants are actively growing and most have reached the early bud stage of growth. Allow 7 or more days after application before tillage.

Also for control, apply 16 fluid ounces of this product plus 0.5 pound a.i. 2,4-D plus 0.5 to 1 percent nonionic surfactant by total spray volume 3 to 10 gallons of water per acre.

**Dogbane, hemp** – Apply 4 quarts of this product per acre. Apply when actively growing and 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. Allow 7 or more days after application before tillage.

For suppression, apply 16 fluid ounces of this product plus 0.5 pound a.i. of 2,4-D plus 0.5 to 1 percent nonionic surfactant by total spray volume 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 application until maximum emergence of dogbane has occurred.

**Fescue, tall** – Apply 3 quarts of this product in 10 to 40 gallons of water per acre to actively growing plants when most have reached boot-to-early seedhead stage of development.

**Fall applications only:** Apply 1 quart of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Apply to fescue in the fall when actively growing and plants have 6 to 12 inches of new growth. Allow 7 or more days after application before tillage. A sequential application of 1 pint per acre of this product plus nonionic surfactant will improve long-term control and control seedlings germinating after fall treatments or the following spring.

**Guineagrass** – Apply 3 quarts of this product per acre or use a 1 percent solution with hand-held equipment. Apply to actively growing guineagrass when most plants have reached at least the 7-leaf stage of growth. Ensure thorough coverage when using hand-held equipment. Allow 7 or more days after application before tillage.

**Johnsongrass/Ryegrass, perennial** – Apply 1 to 3 quarts of this product per acre. In annual cropping systems apply 1 to 2 quarts of this product per acre. Apply 1 quart of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume 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 performed, apply 2 to 3 quarts of this product in 10 to 40 gallons of water per acre. For best results, apply to actively growing plants when most 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 per acre plus 0.5 to 1 percent nonionic surfactant 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 plus 0.5 to 1 percent nonionic surfactant by total spray volume when Johnsongrass is 12 to 18 inches in height. Coverage should be uniform and complete.

**Kikuyugrass** – Apply 2 to 3 quarts of this product per acre. Spray when most kikuyugrass is at least 8 inches in height (3 or 4-leaf stage of growth) and actively growing. Allow 3 or more days after application before tillage.

**Knapweed/Horseradish** – Apply 4 quarts of this product per acre. Apply when actively growing and 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. Allow 7 or more days after application before tillage.

**Lantana** – Apply this product as a 1 to 1.25 percent solution using hand-held equipment only. Apply to actively growing lantana at or beyond the bloom stage of growth. Use the higher application rate for plants that have reached the woody stage of growth. Allow 7 or more days after the application before tillage.

**Milkweed, common** – Apply 3 quarts of this product per acre. Apply when actively growing and most of the milkweed has reached the late bud to flower stage of growth. Following small grain harvest or mowing, allow milkweed to regrow to a mature stage prior to treatment. Allow 7 or more days after application before tillage.

**Muhly, wirestem** – Apply 1 to 2 quarts of this product per acre. Use 1 quart of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume 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 and actively growing. 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. This product will not provide residual control of wirestem muhly from seeds which germinate after application of this product. Do not tank mix with residual herbicides when using the 1 quart per acre rate.

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**Nightshade, silverleaf** – For control, apply 2 quarts of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Applications should be made when at least 60 percent of the plants have berries. Fall treatments must be applied before a killing frost. Allow 7 or more days after applications before tillage. Do not treat when weed is under drought stress as good soil moisture is necessary for active growth.

**Nutsedge; purple, yellow** – Apply 3 quarts of this product per acre as a broadcast spray or apply a 1 to 2 percent solution from hand-held equipment to control existing 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 of 1 to 2 quarts of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre will 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 suppression to partial control of existing plants, apply 1 pint to 2 quarts of this product per acre, plus 0.5 to 1 percent nonionic surfactant 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. Wait 7 days after treatment before tillage or mowing.

**Pampasgrass/ice plant** – Apply this product as a 1.5 to 2 percent solution using hand-held equipment. Apply to plants that are actively growing. Pampasgrass should be at or beyond the boot stage of growth. Thorough coverage is necessary for best control.

**Phragmites** – For partial control of phragmites in Florida and the counties of other states bordering the Gulf of Mexico, apply 5 quarts per acre as a broadcast spray or apply a 2 percent solution from hand-held equipment. In other areas of the U.S., apply 3 quarts per acre as a broadcast spray or apply a 1 percent solution from hand-held equipment 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.

**Quackgrass – In Annual Cropping Systems or in Pastures and Sodds Followed by Deep Tillage:** Apply 1 to 2 quarts of this product per acre. For the 1-quart rate, apply 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. For the 2-quart rate, apply in 10 to 40 gallons of water per acre. Do not tank mix with residual herbicides when using the 1-quart rate. Spray when quackgrass is 6 to 8 inches in height and actively growing. 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, for best results use a moldboard plow.

**Quackgrass – Pasture or Sod or Other Noncrop Areas Where Deep Tillage is Not Planned Following Application:** Apply 2 to 3 quarts in 10 to 40 gallons of water per acre. Spray when the quackgrass is greater than 8 inches tall and actively growing. Do not till between harvest and fall application or in fall or spring prior to spring application. Allow 3 or more days after application before tillage.

**Redvine** – 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 plus 0.5 to 1 percent nonionic surfactant by total spray volume. Apply in late September or early October to actively growing 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** – For control of giant reed, apply a 2 percent solution of this product when plants are actively growing. Best results obtained when applications are made in late summer or fall.

**Smartweed, swamp** – Apply 3 to 5 quarts of this product per acre when plants are actively growing and most have reached the early bud stage of growth. Allow 7 or more days after application before tillage.

Also for control, apply 16 fluid ounces of this product plus 0.5 pound a.i. of 2,4-D plus 0.5 to 1 percent nonionic surfactant by total volume in 3 to 10 gallons of water per acre in the late summer or fall. Apply when plants are actively growing and most have reached the early bud stage of growth. Allow 7 or more days after application before tillage.

**Spurge, leafy** – For suppression, apply 16 fluid ounces of this product plus 0.5 pound a.i. 2,4-D plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre in the late summer or fall. Apply when plants are actively growing. If mowing has occurred prior to treatment, apply when most of the plants are 12 inches tall. Allow 7 or more days after application before tillage.

**Starthistle, yellow** – Best results are obtained when applications are made during periods of active growth, including the rosette, bolting and early flower stages. For spray-to-wet applications, apply this product as a 2 percent solution. For broadcast applications, apply 2 quarts per acre in 10 to 40 gallons per acre of water carrier.

**Sweet Potato, wild/Thistle, artichoke** – Apply this product as a 2 percent solution using hand-held equipment. Apply to actively growing weeds that are at or beyond the bloom

stage of growth. Repeat applications may be required. Allow the plant to reach the specified stage of growth before retreatment. Allow 7 or more days after application before tillage.

**Thistle, Canada** – Apply 2 to 3 quarts of this product per acre. Apply to actively growing thistles 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 the application before tillage.

For suppression of Canada thistle, apply 1 quart per acre of this product, or 1 pint of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume 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.

**Ohio Only:**

*For control:*

Apply 1 quart per acre of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 5 to 10 gallons of water per acre.

The addition of ammonium sulfate at the rate of 17 pounds per 100 gallons of spray solution is recommended for enhanced performance under stress conditions.

In the spring, apply to actively growing thistles when most 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. Rosette size must be a minimum of 6 inches in diameter before treating. Applications can be made in the fall 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. For best results, till the area within 14 days after application.

*For suppression with spring applications:*

Apply 1 pint to 1 quart of this product per acre plus 0.5 to 1 percent nonionic surfactant by total spray volume in 5 to 10 gallons of water per acre. Apply to actively growing plants that are at least 8 inches tall.

The addition of ammonium sulfate at the rate of 17 pounds per 100 gallons of spray solution is recommended for enhanced performance under stress conditions.

For improved burndown and to control other broadleaf weeds, mix this product with 0.5 pound a.i. 2,4-D per acre. Applications of 2,4-D must be made at least 7 days prior to planting corn and at least 30 days prior to planting soybeans.

Allow 3 or more days after application before tillage. A subsequent cultivation may enhance control.

**Torpedograss** – Apply 4 to 5 quarts of this product per acre to provide partial control of torpedograss. Apply to actively growing torpedograss 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. Allow 7 or more days after application before tillage.

**Trumpet creeper** – For control, apply 2 quarts of this product per acre to 5 to 10 gallons of water per acre. Apply to actively growing plants in late September and early October, 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.

**Other perennials listed on this label** – Apply 3 to 5 quarts of this product per acre. Apply when actively growing and most have reached early head or early bud stage of growth. Allow 7 or more days after the application before tillage.

**WOODY BRUSH AND TREES**

When applied as directed under the conditions described, this product CONTROLS or PARTIALLY CONTROLS the following woody brush, plants and trees:

<b>Alder</b> <i>Alnus</i> spp.	<b>Maple:</b> <b>Red**</b> <i>Acer rubrum</i>
<b>Ash*</b> <i>Fraxinus</i> spp.	<b>Sugar</b> <i>Acer saccharum</i>
<b>Aspen, quaking</b> <i>Populus tremuloides</i>	<b>Vine*</b> <i>Acer circinatum</i>
<b>Bearmat (Bearclover)</b> <i>Chamaebatia foliolosa</i>	<b>Monkey Flower*</b> <i>Mimulus guttatus</i>
<b>Beech</b> <i>Fagus grandifolia</i>	<b>Oak:</b> <b>Black*</b> <i>Quercus velutina</i>
<b>Birch</b> <i>Betula</i> spp.	<b>Northern Pin</b> <i>Quercus palustris</i>
<b>Blackberry</b> <i>Rubus</i> spp.	<b>Post</b> <i>Quercus stellata</i>
<b>Blackgum</b> <i>Nyssa</i> spp.	<b>Red</b> <i>Quercus rubra</i>
<b>Bracken</b> <i>Peridium</i> spp.	<b>Southern Red</b> <i>Quercus falcata</i>
<b>Broom:</b> <b>French</b> <i>Cytisus monpeussulanus</i>	<b>White*</b> <i>Quercus alba</i>
<b>Scotch</b> <i>Cytisus scoparius</i>	<b>Persimmon*</b> <i>Diospyros</i> spp.



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**Buckwheat, California\***  
*Eriogonum fasciculatum*  
**Cascara\***  
*Rhamnus purshiana*  
**Catsclaw\***  
*Acacia greggii*  
**Ceanothus\***  
*Ceanothus* spp.  
**Chamise**  
*Adenostoma fasciculatum*  
**Cherry:**  
**Bitter**  
*Prunus emarginata*  
**Black**  
*Prunus serotina*  
**Pin**  
*Prunus pensylvanica*  
**Coyote brush**  
*Baccharis consanguinea*  
**Creepers, Virginia\***  
*Parthenocissus quinquefolia*  
**Dewberry**  
*Rubus trivialis*  
**Dogwood\***  
*Cornus* spp.  
**Elderberry**  
*Sambucus* spp.  
**Elm\***  
*Ulmus* spp.  
**Eucalyptus**  
*Eucalyptus* spp.  
**Gorse**  
*Ulex europaeus*  
**Hasardia\***  
*Haplopappus squamosus*  
**Hawthorn**  
*Crataegus* spp.  
**Hazel**  
*Corylus* spp.  
**Hickory\***  
*Carya* spp.  
**Holly, Florida/Brazilian Peppertree\***  
*Schinus terebinthifolius*  
**Honeysuckle**  
*Lonicera* spp.  
**Hornbeam, American\***  
*Carpinus caroliniana*  
**Kudzu**  
*Pueraria lobata*  
**Locust, black\***  
*Robinia pseudoacacia*  
**Madrone**  
*Arbutus menziesii*  
**Manzanita**  
*Arctostaphylos* spp.  
\*Partial control

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

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

**NOTE:** If brush has been mowed or tilled or trees have been cut; do not treat until regrowth has reached the specified stages of growth.

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

In arid areas, best results are obtained when application is made in the spring 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.

See "DIRECTIONS FOR USE" and "MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS" sections of this label for labeled uses and specific application instructions.

**Low-Volume Backpack Applications** – This application technique is recommended for spot treatment of trees and brush for control or partial control of labeled woody brush and trees in noncrop areas. It is most effective in areas where there is a low density of undesirable trees or brush.

Use a 5 to 10 percent solution of this product in water. Apply the spray solution with a nozzle which produces a straight stream. Begin at the top of the targeted tree and spray the leaves with a lateral zigzag motion. The spray pattern should go from the top to bottom and from side to side of the part of the tree that is covered with leaves. The spray should contact approximately 50 percent of the trees leaves.

In small, open branched trees, applications need only be made from one side. If the foliage is thick or there are multiple root sprouts, applications must be made from several sides to ensure adequate spray coverage. Use the higher rates for difficult-to-control species or under stressful environmental conditions.

Apply this product as follows to control or partially control the following woody brush and trees.

**Alder / Dewberry / Honeysuckle / Post Oak / Raspberry** – For control, apply 3 to 4 quarts per acre of this product as a broadcast spray or as a 1 to 1.5 percent solution with hand-held equipment.

**Aspen, quaking / Cherry: bitter, black, pin / Hawthorn / Oak, southern red / Sweetgum / Trumpet creeper** – For control, apply 2 to 3 quarts of this product per acre as a broadcast spray or as a 1 to 1.5 percent solution with hand-held equipment.

**Birch / Elderberry / Hazel / Salmonberry / Thimbleberry** – For control, apply 2 quarts per acre of this product as a broadcast spray or as a 1 to 1.5 percent solution with hand-held equipment.

**Blackberry** – For control, apply 3 to 4 quarts per acre of this product as a broadcast spray, or 1 to 1.5 percent solution with hand-held equipment. Make application after plants have reached full leaf maturity. Best results are obtained when applications are made in late summer or fall. After berries have set or dropped in late fall, blackberry can be controlled by applying a ¾ percent solution of this product plus 0.5 to 1 percent non-ionic surfactant by total spray volume with hand-held equipment. For control of blackberries after leaf drop and until 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.

**Broom: French, Scotch** – For control, apply a 1.5 to 2 percent solution with hand-held equipment.

**Buckwheat, California / Hasardia / Monkey Flower / Tobacco, tree** – For partial control of these species, apply a 1 to 2 percent solution of this product as a foliar spray with hand-held equipment. Thorough coverage of foliage is necessary for best results.

**Catsclaw** – For partial control, apply as a 1 to 1.5 percent solution with hand-held equipment.

**Coyote Brush** – For control, apply a 1.5 to 2 percent solution with hand-held equipment when at least 50 percent of the new leaves are fully developed.

**Eucalyptus** – For control of eucalyptus resprouts, apply a 2 percent solution of this product with hand-held equipment when resprouts are 6 to 12 feet tall. Ensure complete coverage. Apply when plants are growing actively. Avoid application to drought stressed plants.

**Kudzu** – For control, apply 4 quarts of this product per acre as a broadcast spray or as a 2 percent solution with hand-held equipment. Repeat applications will be required to maintain control.

**Madrone resprouts** – For suppression or partial control, apply a 2 percent solution of this product to resprouts less than 3 to 6 feet tall. Best results are obtained with spring/early summer treatments.

**Maple, red** – For control, apply as a 1 to 1.5 percent solution with hand-held equipment 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 as a broadcast spray.

**Maple, sugar / Oak, northern pin / Oak, red** – For control, apply as a 1 to 1.5 percent solution with hand-held equipment when at least 50 percent of the new leaves are fully developed.

**Poison Ivy / Poison Oak** – For control, apply 4 to 5 quarts of this product per acre as a broadcast spray or as a 2 percent solution with hand-held equipment. Repeat applications may be required to maintain control. Fall treatments must be applied before leaves lose green color.

**Rose, multiflora** – For control, apply 2 quarts of this product per acre as a broadcast spray or as a 1 percent solution with hand-held equipment. Treatments should be made prior to leaf deterioration by leaf-feeding insects.

**Sage, black / Sagebrush, California / Chamise / Tallowtree, Chinese** – For control of these species, apply a 1 percent solution of this product as a foliar spray with hand-held equipment. Thorough coverage of foliage is necessary for best results.

**Tan oak resprouts** – For suppression or partial control, apply a 2 percent solution of this product to resprouts less than 3 to 5 feet tall. Best results are obtained with fall applications.

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

**Other Woody Brush and Trees listed on this label** – For partial control, apply 2 to 5 quarts of this product per acre as a broadcast spray or as a 1 to 2 percent solution with hand-held equipment.

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**NONCROP USES**

See "GENERAL INFORMATION" and "MIXING, ADDITIVES, and APPLICATION INSTRUCTIONS" sections of this label for essential product performance information and the following "NONCROP" sections for specific uses.

**EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF SPRAY WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE TURFGRASSES, TREES, SHRUBS OR OTHER DESIRABLE VEGETATION SINCE SEVERE DAMAGE OR DESTRUCTION MAY RESULT.**

Repeat treatments may be necessary to control weeds regenerating from underground parts or seeds.

Where repeat applications are necessary, do not exceed 10.6 quarts of this product per acre per year.

This product does not provide residual weed control. For subsequent 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.

This product controls annual and perennial weeds listed on this label growing in areas such as ditch banks, dry ditches, fencerows, and noncrop areas.

For specific rates of application and instructions for control of various annual and perennial weeds and woody brush and trees, see the "WEEDS CONTROLLED" section of this label.

This product may be applied with recirculating sprayers, shielded applicators, or wiper applicators in any noncrop site specified on this label. See the Selective Equipment part of "APPLICATION EQUIPMENT and TECHNIQUES" section of this label for information on proper use and calibration of this equipment.

**CONTROL OF EMERGED WEEDS**

**NOTE:** For backpack sprayer and handgun applications, see the "HAND-HELD AND HIGH VOLUME EQUIPMENT" section for specified rates.

**Annual Weeds** – Apply 1 quart per acre of this product in these tank mixtures when weeds are less than 6 inches tall and 1.5 quarts per acre when weeds are more than 6 inches tall.

**Perennial Weeds** – For partial control of perennial weeds using these tank mixtures, apply 2 to 5 quarts per acre of this product. Follow the recommendations in the "WEEDS CONTROLLED" section of this label for stage of growth and rate of application for specific perennial weeds.

**PREEMERGENCE WEED CONTROL**

For preemergence weed control, refer to the individual product labels for specific non-crop sites, rates, carrier volumes and precautionary statements.

Mix only the quantity of spray solution which can be used during the same day. Do not allow these tank mixtures to stand overnight as this may result in reduced weed control.

**INDUSTRIAL, RECREATIONAL, AND PUBLIC AREAS**

When applied as directed for "NONCROP USES" under conditions described, this product controls annual and perennial weeds listed on this label growing in areas such as airports, ditch banks, dry ditches, dry canals, fencerows, golf courses, highways, industrial plant sites, lumber yards, parking areas, parks, petroleum tank farms and pumping installations, pipelines, power and telephone rights-of-way, railroads, roadsides, schools, storage areas, utility substations.

For specific rates of application and instructions for control of various annual and perennial weeds and woody brush and trees, see the "WEEDS CONTROLLED" section of this label.

This product may be applied with recirculating sprayers, shielded applicators, or wiper applicators in any noncrop site specified on this label. See the Selective Equipment part of "APPLICATION EQUIPMENT and TECHNIQUES" section of this label for information on proper use and calibration of this equipment.

**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. 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 Rye**

To treat medusahead rye, apply 16 fluid ounces of this product per acre as soon as plants are actively growing, and prior to seedhead emergence. Applications may be made in the fall or the 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.

Mix 0.5 to 1.0 percent nonionic surfactant (2 to 4 quarts per 100 gallons of spray solution) with the spray solution. The surfactant should contain at least 80 percent of the active ingredient.

**TANK MIXTURES FOR INDUSTRIAL SITES AND FORESTRY SITE PREPARATIONS  
MAD DOG with OUST®**

Use on industrial sites including airports, industrial plants, lumberyards, petroleum tank farms, pumping stations, railroads, roadsides, storage areas or other similar sites where bare ground is desired.

This tank mixture may also be used as a site preparation treatment for sites to be planted to jack pine, loblolly pine, red pine, slash pine and Virginia pine. When applied as directed for "NONCROP USES" under the conditions described, this product plus Oust® provides control of annual weeds listed in the "WEEDS CONTROLLED" section of this label for this product and Oust® and control or partial control of the perennial weeds listed below.

Apply 1 to 2 quarts of this product with 2 to 4 ounces of Oust® in 10 to 40 gallons of spray solution per acre as a broadcast spray to actively growing weeds.

The mixture may be applied by aerial equipment in site prep operations. When applied by air, use the specified rates in 5 to 15 gallons of spray solution per acre.

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

For control of annual weeds, use the lower rates of these products.

For control of the listed perennial weeds, use the higher rates of both products. For partial control, use the lower rates.

**Bahiagrass**

*Paspalum notatum*

**Bermudagrass\***

*Cynodon dactylon*

**Broomsedge**

*Andropogon virginicus*

**Dock, curly**

*Rumex crispus*

**Dogfennel**

*Eupatorium capilliflorum*

**Fescue, tall**

*Festuca arundinacea*

**Johnsongrass\*\***

*Sorghum halepense*

**Poorjoe\*\***

*Diodia teres*

**Quackgrass**

*Agropyron repens*

**Trumpet creeper\***

*Campsis radicans*

**Vaseygrass**

*Paspalum urvillei*

**Vervain, blue**

*Verbena hastata*

\*Suppression at the higher rates only.

\*\*Control at the lower rates.

**MAD DOG with GARLON® 4**

For burndown and partial control or suppression of woody brush and weeds in industrial sites:

This tank mixture may be used on rights-of-way (utility, railroad, highway, pipeline), fencerows, roadsides, nonirrigation ditchbanks.

**Hand-Held and High-Volume Applications:**

Use 2 to 4 quarts of MAD DOG herbicide with 1 to 2 quarts of Garlon® 4 per 100 gallons of spray solution and apply to foliage of actively growing woody brush and weeds. Applications should be made on a spray-to-wet basis. Spray coverage should be uniform and complete. Do not spray to point of runoff.

**Broadcast Application with Ground Equipment:**

Use 2 to 4 quarts of MAD DOG with ½ to 2 quarts of Garlon® 4 in sufficient water to make 20 to 100 gallons of total spray per acre.

**Aerial Application (Helicopter Only):**

Use 2 to 4 quarts of MAD DOG with 1 to 2 quarts of Garlon® 4 and apply in a total spray volume of 10 to 20 gallons per acre. Aerial sprays should be applied using suitable drift control.

Apply when plants are actively growing and after full leaf expansion of woody brush. Use the higher rates of these products where vegetation is heavy or dense, or where hard-to-control brush species are prevalent. Repeat applications may be necessary to maintain control or suppress areas where canopying of vegetation prevents good spray coverage and penetration.

Nonionic surfactants which are labeled for use with herbicides may be used. Use 0.5 percent surfactant concentration (2 quarts per 100 gallons of spray solution) when using surfactants which contain at least 50 percent active ingredient or a 1 percent surfactant concentration (4 quarts per 100 gallons of spray solution) for those surfactants containing less than 50 percent active ingredient. Read and carefully observe surfactant cautionary statements and other information appearing on the surfactant label.

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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.

Read and carefully observe the label claims, cautionary statements and all information on the labels of both products used in this tank mixture. Use according to the most restrictive label directions for each product in the mixture.

When used in combination as directed by Loveland Products, Inc., the liability of Loveland Products, Inc., shall in no manner extend to any damage, loss or injury not directly caused by the inclusion of the Loveland Products, Inc. product in such combination use.

Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used.

### FORESTRY SITE PREPARATION PRIOR TO PLANTING DOUGLAS FIR IN WASHINGTON AND OREGON

#### MAD DOG with ARSENAL® APPLICATORS CONCENTRATE

Apply 2 to 4 quarts of this product with 4 fluid ounces to 8 fluid ounces of Arsenal® Applicators Concentrate in 5 to 15 gallons of spray solution per acre as a broadcast spray to control big leaf maple resprouts. When big leaf maple resprouts are not a primary concern, addition of 1 fluid ounce to 4 fluid ounces per acre of Arsenal® Applicators Concentrate to the specified rate of this product will improve control of most other woody brush species, such as willow, pin cherry, dogwood, and vine maple.

Nonionic surfactants which are labeled for use with herbicides may be used. If used, add 2 quarts of nonionic surfactants per 100 gallons of spray solution. The tank mixtures may be applied by air (helicopter only).

#### Application Timing

Big leaf maple resprouts should have vigorous growth prior to the application of these tank mixtures. Fall applications will provide best results.

Read and carefully observe the label directions, cautionary statements and all information on the labels of both products used in this tank mixture. Additional precautionary statements are made in these labels. Use according to the most restrictive label directions for each product in the mixture.

When used in combination as directed by Loveland Products, Inc., the liability of Loveland Products, Inc., shall in no manner extend to any damage, loss or injury not directly caused by the inclusion of the Loveland Products, Inc. product in such combination use.

### RAILROAD RIGHTS-OF-WAY MAD DOG WITH DIURON PLUS ATRAZINE

Apply when plants are actively growing. Use the higher specified rates of these products where vegetation is heavy or dense, or where hard-to-control species are prevalent. Repeat applications may be necessary to maintain control where dense vegetation prevents good spray coverage. Applications should be made when weeds are less than 12 inches tall for best results.

Nonionic surfactants which are labeled for use with herbicides may be used. Use 0.5 percent surfactant concentration (2 quarts per 100 gallons of spray solution) when using surfactants which contain at least 50 percent active ingredient, or a 1 percent surfactant concentration (4 quarts per 100 gallons of spray solution) for those surfactants containing less than 50 percent active ingredient.

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.

Read and carefully observe the label claims, cautionary statements and all information on the labels of both products used in this tank mixture. Use according to the most restrictive label directions for each product in the mixture. When used in combination as directed by Loveland Products, Inc., the liability of Loveland Products, Inc., shall in no manner extend to any damage, loss or injury not directly caused by the inclusion of the Loveland Products, Inc. product in such combination use.

#### MAD DOG with 2,4-D AMINE plus OUST®

**For control of trumpetcreeper and johnsongrass:**  
EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF SPRAY WITH FOLIAGE OF DESIRABLE TURFGRASSES, TREES, SHRUBS, OR OTHER DESIRABLE VEGETATION SINCE SEVERE DAMAGE OR DESTRUCTION MAY RESULT.

**NOTE:** If spraying areas adjacent to desirable plants, use a shield made of cardboard, sheet metal or plywood while spraying to help prevent spray from contacting foliage of desirable plants. Repeat treatments may be necessary to control weeds regenerating from underground parts or seeds.

MAD DOG does not provide residual weed control. For subsequent weed control, follow a label-approved herbicide program.

This product may be applied in noncrop sites as indicated in the "TANK MIXING AND APPLICATION INSTRUCTIONS" section unless otherwise directed.

#### MAD DOG with 2,4-D Amine

When applied as directed for noncrop uses, MAD DOG when tank mixed with 2,4-D

amine will provide burndown and control of johnsongrass and trumpetcreeper in railroad right-of-way sites. Apply 2 to 3 quarts of MAD DOG with 1 to 2 pints of 2,4-D amine in 25 to 40 gallons of total spray solution per acre to actively growing trumpetcreeper. Application should be made any time from early postemergence to before a killing frost. Use the higher rates of these products when weed growth is heavy or dense.

#### MAD DOG with 2,4-D Amine plus Oust®

When applied as directed for noncrop uses, MAD DOG when tank mixed with 2,4-D amine and Oust® will provide burndown control of johnsongrass and trumpetcreeper. Apply 2 to 3 quarts of MAD DOG with 1 to 2 pints of 2,4-D amine plus 2 to 4 ounces of Oust® in 25 to 40 gallons of total spray solution per acre. Application should be made any time from early postemergence to before a killing frost. Use the higher rates of these products when weed growth is heavy or dense.

#### Tank Mixing and Application Instructions:

Before using, refer to the individual product labels for precautionary statements.

Do not apply this tank mixture, drain or flush equipment on or near desirable trees or other plants, on areas where their roots may extend, or in locations where Oust® or 2,4-D amine may be washed or moved into contact with their roots.

Fill the spray tank at least one-third full of clean water. Mix the specified amount of Oust® in a separate container with sufficient water to make a smooth slurry. Pour the slurry into the spray tank, fill spray tank with the required amount of 2,4-D amine and MAD DOG and mix well before using. Maintain agitation until spraying is completed.

Before using, refer to individual product labels for specific cleaning instructions.

#### TANK MIXTURES NONCROP SITES

This product may be tank mixed with the products listed providing the product tank-mixed is registered for use on this site.

When applied as a tank mixture, this product provides control of the emerged annual weeds and partial control of the emerged perennial weeds listed in this label. When applied as a tank mixture, the following residual herbicides will provide emergence control of the weeds listed in the individual product labels.

**MAD DOG with DIURON  
MAD DOG with KROVAR® I  
MAD DOG with RONSTAR® 50WP  
MAD DOG with SIMAZINE 90  
MAD DOG with SIMAZINE 4L  
MAD DOG with SURFLAN® AS**

When tank mixing with residual herbicides, add an agriculturally approved nonionic surfactant at 0.5 to 1 percent by volume of spray solution. See "MIXING, ADDITIVES and APPLICATION INSTRUCTIONS" section of this label before preparing these tank mixtures.

#### MAD DOG with OUST® and 2,4-D AMINE

When applied as directed, this tank mixture will control or partially control labeled annual and perennial weeds in noncrop areas.

Apply the specified rate of MAD DOG with 1 to 2 pints of 2,4-D amine and 2 to 4 ounces of Oust® in 25 to 40 gallons of total spray solution per acre. Use the higher rates of these mixtures when weed growth is heavy or dense.

Do not apply this tank mixture, drain or flush equipment on or near desirable trees or other plants, or areas where their roots may extend, or in location where Oust® or 2,4-D may be washed or moved into contact with their roots.

Read and carefully observe the label directions, cautionary statements and all information on the labels of each product used in this tank mixture. Additional precautionary statements are made on these labels, use according to the most restrictive label directions for each product in the mixture.

#### MAD DOG with ARSENAL® 2 WSL

When applied as directed, this tank mixture will control or partially control labeled woody brush, trees, and herbaceous weeds in noncrop areas. In addition to the weeds on this label, this tank mixture will control arrowweed, saltcedar and yaupon.

#### Hand-Held and High-Volume Applications

Use 4 to 8 quarts of MAD DOG with ½ to 4 pints of Arsenal® 2 WSL per 100 gallons of spray solution. Nonionic surfactants which are labeled for use with herbicides may be used. If used, add 2 quarts of nonionic surfactant per 100 gallons of spray solution. Apply to foliage of actively growing vegetation. Applications should be made on a spray-to-wet basis. Spray coverage should be uniform and complete. Do not spray to the point of runoff.

#### Broadcast Applications with Ground Equipment

Use 2 to 5 quarts of MAD DOG with ½ to 4 pints of Arsenal® in sufficient water to apply in a total spray volume of 10 to 40 gallons per acre. Apply to foliage of actively growing vegetation.

#### Aerial Applications

Use 2 to 5 quarts of MAD DOG with ½ to 4 pints of Arsenal® in sufficient water to apply in a total spray volume of 10 to 20 gallons per acre. Apply to foliage of actively growing vegetation.

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Apply to woody brush and trees after full leaf expansion until initiation of fall color.

Avoid direct applications to any body of water. Do not apply to ditches used to transport irrigation water.

Read and carefully observe the label directions, cautionary statements and all information on the labels of each product used in this tank mixture. Additional precautionary statements are made on these labels, use according to the most restrictive label directions for each product in the mixture.

When used in combination as directed by Loveland Products, Inc., the liability of Loveland Products, Inc., shall in no manner extend to any damage, loss or injury not solely and directly caused by the inclusion of the Loveland Products, Inc. product in such combination use.

### ADDITIONAL TANK MIXTURES FOR NONCROP SITES

This product may be tank mixed with the products listed providing the product tank-mixed is registered for use on this site.

When applied as a tank mixture, the following herbicides will provide preemergence and/or post emergence control of the weeds listed in the individual product labels.

The following list of products may be tank mixed with this product. Any specified rate of this product may be used in a tank mixture with these products.

Tank Mix Product	Rate per Acre
Arsenal®*	0.5 to 4 pints
Banvel®	1 to 4 pints
2,4-D	0.5 to 1 pound
Garlon® 3A	1 to 6 pints
Garlon® 4	1 to 6 pints
Diuron	4 to 8 pounds
Diuron + 2,4-D	4 to 8 pounds + 0.5 to 1 pound
Diuron + Garlon® 3A	4 to 10 pounds + 1 to 2 pints
Diuron + Garlon® 4	4 to 10 pounds + 1 to 2 pints
Hyvar® X	4 to 8 pounds
Hyvar® X + 2,4-D	4 to 8 pounds + 0.5 to 1 pound
Hyvar® X + Garlon® 3A	4 to 8 pounds + 1 to 2 pints
Hyvar® X + Garlon® 4	4 to 8 pounds + 1 to 2 pints
Krovar® I DF	4 to 6 pounds
Krovar® I DF + 2,4-D	4 to 6 pounds + 0.5 to 1 pound
Krovar® I DF + Garlon® 3A	4 to 6 pounds + 1 to 2 pints
Krovar® I DF + Garlon® 4	4 to 6 pounds + 1 to 2 pints
Oust®	2 to 6 ounces
Oust® + 2,4-D	2 to 6 ounces + 0.5 to 1 pound
Oust® + Garlon® 3A	2 to 6 ounces + 1 to 2 pints
Oust® + Garlon® 4	2 to 6 ounces + 1 to 2 pints
Spike® 80W	2 to 5 pounds
Spike® 80W + 2,4-D	2 to 5 pounds + 0.5 to 1 pound
Spike® 80W + Garlon® 3A	2 to 5 pounds + 1 to 2 pints
Spike® 80W + Garlon® 4	2 to 5 pounds + 1 to 2 pints
*Arsenal® is not approved for use in the state of California	

Refer to the individual product labels for specific noncrop sites, rates, carrier volumes and precautionary statements. Read and carefully observe the label claims, cautionary statements, specified use rates and all other information on the labels of all products used in these tank mixtures. Use according to the most restrictive label directions for each product in the mixture.

Maintain good agitation at all times during the mixing products. Ensure that the tank mix products are well mixed with the spray solution before adding this product. Mix only the quantity of spray solution which can be used during the same day. Tank mixtures allowed to stand overnight may result in reduced weed control. 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.

Nonionic surfactants which are labeled for use with herbicides may be used. Use a 0.5 percent surfactant concentration (2 quarts per 100 gallons of spray solution). Use surfactants that contain at least 50 percent active ingredient. Read and carefully observe surfactant cautionary statements and other information appearing on the surfactant label.

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

When used in combination as directed by Loveland Products, Inc., the liability of Loveland Products, Inc., shall in no manner extend to any damage, loss or injury not solely and directly caused by the inclusion of the Loveland Products, Inc. product in such combination use.

Read and carefully observe the label claims, cautionary statements, specified use rates and all other information on the labels of all products used in these tank mixtures. Use according to the most restrictive label directions for each product in the mixture.

### CONTROL OF EMERGED WEEDS

**NOTE:** For backpack sprayer and handgun applications, see the "HAND-HELD AND HIGH-VOLUME EQUIPMENT" section for specified rates.

**Annual Weeds** – Apply 1 quart per acre of this product in these tank mixtures when weeds are less than 6 inches and tall and 1.5 quarts per acre when weeds are more than 6 inches tall.

**Perennial Weeds** – For partial control of perennial weeds using these tank mixtures, apply 2 to 5 quarts per acre of this product. Follow the recommendations in the "WEEDS CONTROLLED" section of this label for stage of growth and rate of application for specific perennial weeds.

### Preemergence Weed Control

For preemergence weed control, refer to the individual product labels for specific non-crop sites, rates, carrier volumes and precautionary statements.

Mix only the quantity of spray solution which can be used during the same day. Do not allow these tank mixtures to stand overnight as this may result in reduced weed control.

## FARMSTEAD WEED CONTROL

When applied as directed for "NONCROP USES", under conditions described, this product controls undesirable vegetation listed on this label around farmstead building foundations, along and in fences, shelterbelts and for general nonselective farmstead weed control.

For specific rates of application and instructions for control of various annual and perennial weeds, see the "WEEDS CONTROLLED" section of this label.

### FARM DITCHES

This product will suppress perennial grasses along farm ditches. Apply this product at a rate of 6 to 8 fluid ounces per acre. Use 8 fluid ounces per acre when treating tall (coarse) fescue; fine fescue, orchardgrass, or quackgrass covers. For best suppression of these species, add ammonium sulfate at a rate of 1.7 pounds per 10 gallons of spray solutions. Use 6 fluid ounces per acre without ammonium sulfate when treating Kentucky bluegrass.

Apply treatments in 10 to 20 gallons of spray solution per acre to actively growing perennial grass covers. For best spray distribution and coverage, use flat fan nozzles.

Add a nonionic surfactant at a rate of 0.5 percent of the spray solution.

Where broadleaf weed control or suppression is desired, tank mix this product with an appropriate, labeled broadleaf weed and herbicide.

### 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. 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 Rye

To treat medusahead rye, apply 16 fluid ounces of this product per acre as soon as plants are actively growing, and prior to seedhead emergence. 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.

Mix 0.5 to 1.0 percent nonionic surfactant (2 to 4 quarts per 100 gallons of spray solution) with the spray solution. The surfactant should contain at least 80 percent active ingredient.

## CONSERVATION RESERVE PROGRAM (CRP ACRES)

This product can be used to control undesirable vegetation when rotating out of CRP acres or to suppress competitive growth and seed production of undesirable vegetation in CRP acres.

For specific rates of application for various annual and perennial weeds, see the "WEEDS CONTROLLED" section of this label.

CRP applications may be made with wiper applicators or conventional spray equipment.

For selective applications with broadcast spray equipment, apply 12 to 16 ounces per acre of this product 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. Some stunting of CRP perennial grasses will occur if applications are made when plants are not dormant.

## HABITAT MANAGEMENT

This product is for the restoration and/or maintenance of native habitats and in wildlife management areas. Apply as instructed in the "NONCROP USES" section of this label.

**Habitat Restoration and Maintenance** – When applied as directed, exotic and other undesirable vegetation may be controlled 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

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management areas. Spot treatments can be made to selectively remove unwanted plants for habitat maintenance and enhancement. For spot treatments, care should be exercised to keep spray off of desirable plants.

**Wildlife Food Plots** – This product may be used as a site preparation treatment prior to planting wildlife food plots. 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 applying this product before tilling.

**ORNAMENTALS, TREE NURSERIES, AND CHRISTMAS TREES**  
 THIS PRODUCT IS NOT FOR USE AS AN OVER-THE-TOP BROADCAST SPRAY IN ORNAMENTALS AND CHRISTMAS TREES.

**NOTE:** Desirable plants may be protected from the spray solution by using shields or coverings made of cardboard or other impermeable material.

When applied as instructed for the conditions described for “NONCROP USES”, This product controls undesirable vegetation listed on this label prior to planting, within and around greenhouses and shadehouses, and as a postdirected spray around established ornamentals and Christmas trees.

For specific rates of application and instructions for control of various annual and perennial weeds, see the “WEEDS CONTROLLED” section of this label.

Where repeat applications are necessary, do not exceed 10.6 quarts of this product per acre per year.

**Site Preparation** – Following preplant applications of this product, any ornamental, nursery species or Christmas tree species may be planted. Precautions should be taken to protect nontarget plants during site preparation applications.

**Greenhouse/Shadehouse Use** – This product may be used to control weeds listed on this label which are growing in greenhouses. Desirable vegetation must not be present during application and air circulation fans must be turned off.

**Postdirected Spray** – Use as a postdirected spray around established woody ornamental species, nursery species or Christmas trees such as those listed below. Care must be exercised to avoid contact of spray, drift or mist with foliage or green bark of established ornamental species.

<b>Arborvitae</b>	<b>Lilac</b>
<i>Thuja</i> spp.	<i>Syringa</i> spp.
<b>Azalea</b>	<b>Magnolia</b>
<i>Rhododendron</i> spp.	<i>Magnolia</i> spp.
<b>Boxwood</b>	<b>Maple</b>
<i>Buxus</i> spp.	<i>Acer</i> spp.
<b>Crabapple</b>	<b>Oak</b>
<i>Malus</i> spp.	<i>Quercus</i> spp.
<b>Euonymus</b>	<b>Privet</b>
<i>Euonymus</i> spp.	<i>Ligustrum</i> spp.
<b>Fir</b>	<b>Pine</b>
<i>Abies</i> spp.	<i>Pinus</i> spp.
<i>Pseudotsuga</i> spp.	
<b>Jojoba</b>	<b>Spruce</b>
<i>Simmondsia chinensis</i>	<i>Picea</i> spp.
<b>Hollies</b>	<b>Yew</b>
<i>Ilex</i> spp.	<i>Taxus</i> spp.

**Broadcast Applications for Weed Control in Christmas Tree Plantations (Washington and Oregon Only)**

**NOTE:** IF IMPROPERLY APPLIED, THIS PRODUCT HAS THE POTENTIAL TO CAUSE SEVERE CHRISTMAS TREE INJURY. FOLLOW ALL LABELED DIRECTIONS.

This product may be applied as a broadcast spray over established Christmas trees. Ensure that adequate buffers are maintained to prevent drift onto nearby desirable crops or vegetation. Read the entire “APPLICATION EQUIPMENT AND TECHNIQUES” section of this label for additional application precautions.

This application is approved for the following Christmas tree species:

Douglas fir	( <i>Pseudotsuga menziesii</i> )
Fir species	( <i>Abies</i> spp.)
Spruce species	( <i>Picea</i> spp.)

Applications may be made only after trees have completed at least a full growing season since planting or transplanting. Applications should not be made within 1 full year prior to tree harvest. Applications may only be made in the fall after the formation of final conifer resting buds. Final resting buds must be fully hardened and in the dormant stage. Applications made at any other time may result in unacceptable Christmas tree injury.

Avoid spray pattern overlap, as injury may occur. Apply 1 quart of this product per acre in 5 to 30 gallons of water per acre.

**NOTE:** DO NOT ADD SURFACTANTS, ADDITIVES CONTAINING SURFACTANTS, OR ANY OTHER ADDITIVES TO THIS PRODUCT OR SEVERE CHRISTMAS TREE INJURY MAY RESULT.

This product may be used at rates from 1 to 2 quarts per acre in some areas. Consult your local Loveland Products, Inc. representative for specific recommendations if you require rates greater than 1 quart per acre. Drift control additives may increase Christmas tree injury and their use is not recommended. The use of other herbicides tank mixed with MAD DOG is not recommended since severe Christmas tree injury may result.

**SILVICULTURAL SITES AND RIGHTS OF WAY**

**NOTE:** NOT FOR USE AS AN OVER-THE-TOP BROADCAST SPRAY IN SILVICULTURAL NURSERIES.

When applied as directed for “NONCROP USES” under conditions described, this product controls undesirable vegetation listed on this label. This product also suppresses or controls undesirable vegetation listed on this label when applied at specified rates for release of established coniferous species listed on this label.

For specific rates of application and instructions for control of various brush, annual, and perennial weeds, see the “WEEDS CONTROLLED” section of this label. For specific rates of application for release of listed coniferous species, see the “CONIFER RELEASE” part of this section of this label.

Where repeat applications are necessary, do not exceed 10.6 quarts of this product per acre per year.

**Aerial Application** – This product may be applied using aerial spray equipment for silvicultural site preparation, conifer release and rights-of-way treatments. See the “APPLICATION EQUIPMENT AND TECHNIQUES” part of the “MIXING, ADDITIVES and APPLICATION INSTRUCTIONS” section of this label for information on how to apply this product by air.

DO NOT APPLY THIS PRODUCT BY AIR TO RIGHTS-OF-WAY SITES IN THE STATE OF CALIFORNIA.

To reduce the aerial application drift hazard to aquatic sites\*, to nontarget sites or any site containing desirable vegetation, always maintain appropriate buffer zones. A buffer zone of the following minimum distances should be maintained.

- Helicopters using a Microfoil™ boom, a Thru-Valve® boom (TVB-45), or equivalent drift control systems, should maintain at least a 50-foot buffer zone.
- When using other aerial equipment:
  1. Maintain at least a 75-foot buffer zone for applications using 2 quarts or less per acre of this product.
  2. Maintain at least a 125-foot buffer zone for applications using more than 2 quarts per acre of this product.
  3. Maintain at least a 400-foot buffer zone for applications on rights-of-way when applied from 75 feet or more above ground level.

These distances should be increased if conditions favoring drift exist.

\*Aquatic sites include all lakes, ponds and streams used for significant domestic purposes or angling.

**SITE PREPARATION**

Following preplant applications of this product, any silvicultural species may be planted.

**POSTDIRECTED SPRAY**

In established silvicultural sites, use as a spray on the foliage of undesirable vegetation. Care must be exercised to avoid contact of spray, drift or mist with foliage or green bark of desirable species.

**CONIFER RELEASE**

For release, apply only where conifers have been established for more than one year. Vegetation should not be disturbed prior to treatment or until visual symptoms appear after treatment. Symptoms of treatment are slow to appear, especially in woody species treated in late fall. Injury may occur to conifers treated for release, especially where spray patterns overlap or the higher rates are applied or when applications are made during periods of active conifer growth. **Do not use additional surfactant with conifer release applications.**

Applications must be made after formation of final conifer resting buds in the fall or prior to initial bud swelling in late spring. Some autumn colors on undesirable deciduous species are acceptable provided no major leaf drop has occurred. Use the following rates for conifer release to control or partially control the weeds listed in the “WEEDS CONTROLLED” section of this label.

**For release of the following conifer species:**

<b>Douglas fir</b>	<b>Pines*</b>
<i>Pseudotsuga menziesii</i>	<i>Pinus</i> spp.
<b>Fir</b>	<b>Spruce</b>
<i>Abies</i> spp.	<i>Picea</i> spp.
<b>Hemlock</b>	
<i>Tsuga</i> spp.	

\*Includes all species except eastern white pine, loblolly pine or slash pine.

Apply 1.5 to 2 quarts of this product per acre except in Washington and Oregon, west of the crest of the Cascade Mountains. For spring treatments west of the crest of the Mountains, apply 1 quart of this product per acre before conifer bud swell for control of annual weeds. For fall treatments in Washington and Oregon, west of the crest of the Cascade Mountains, apply 1 to 1.5 quarts of this product per acre before any major leaf drop of deciduous species.

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For release of western hemlock, apply 1 quart of this product per acre.

**For release of the following conifer species:**

**Loblolly pine** *Pinus taeda*  
**Eastern White Pine** *Pinus strobes*  
**Slash pine** *Pinus elliottii*

**Late Season Application** – Apply 1.5 to 2 quarts of this product in a minimum of 5 gallons of spray solution per acre during early autumn. Applications made prior to September 1 or when conditions are conducive to rapid growth of conifers will create the potential for increased injury in the form of tip and/or needle burn. Injury may decrease with later applications. Some autumn colors are acceptable at time of application. Apply prior to frost or leaf drop of undesirable plants. Applications made according to label directions will release loblolly pine, eastern white pine and slash pine by reducing competition from the following species:

<b>Ash</b> <i>Fraxinus</i> spp.	<b>Persimmon</b> <i>Diospyros</i> spp.
<b>Cherry:</b>	<b>Poplar, yellow</b> <i>Liriodendron tulipifera</i>
<b>Black</b> <i>Prunus serotina</i>	<b>Sassafras</b> <i>Sassafras albidum</i>
<b>Pin</b> <i>Prunus pensylvanica</i>	<b>Sourwood</b> <i>Oxydendrum arboretum</i>
<b>Elm</b> <i>Ulmus</i> spp.	<b>Sumac:</b>
<b>Hawthorn</b> <i>Crataegus</i> spp.	<b>Poison</b> <i>Rhus vernix</i>
<b>Locust, black</b> <i>Robinia pseudoacacia</i>	<b>Smooth</b> <i>Rhus glabra</i>
<b>Maple, red</b> <i>Acer rubra</i>	<b>Winged</b> <i>Rhus copallina</i>
<b>Oak:</b>	<b>Sweetgum</b> <i>Liquidambar styraciflua</i>
<b>Black</b> <i>Quercus velutina</i>	
<b>Post</b> <i>Quercus stellata</i>	
<b>Southern Red</b> <i>Quercus falcate</i>	
<b>White</b> <i>Quercus alba</i>	

Apply only to those sites where woody brush and trees listed in this label constitute the majority of the undesirable species.

**MAD DOG WITH OUST® TANK MIXTURES  
FOR CONIFER RELEASE FROM HERBACIOUS WEEDS**

To release loblolly pines from herbaceous weeds, tank mixtures of this product with Oust® will provide control of annual weeds listed in the "WEEDS CONTROLLED" section of this and the Oust® label, and partial control of the perennial weeds listed below.

Apply 16 to 24 fluid ounces of this product with 2 to 4 ounces of Oust® in 10 to 30 gallons of spray solution per acre. Make application to actively growing weeds as a broadcast spray over the top of the young loblolly pines.

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

This tank mixture may be applied using aerial equipment. When applying by air, use the specified rate in 5 to 15 gallons of spray solution per acre.

For control of annual weeds below 12 inches in height (or runner length on annual vines), use the lower rates of both products. Use the higher rates of both products when annual weeds are in more advanced stages of growth and approaching flower or seed formation.

Use the higher rates of both products for partial control of the following perennial weeds. Use the lower rates for suppression of growth.

<b>Bahiagrass</b> <i>Paspalum notatum</i>	<b>Johnsongrass*</b> <i>Sorghum halepense</i>
<b>Broomsedge</b> <i>Andropogon virginicus</i>	<b>Poorjoe*</b> <i>Diocia teres</i>
<b>Dock, curly</b> <i>Rumex crispus</i>	<b>Trumpet creeper**</b> <i>Campsis radicans</i>
<b>Dogfennel</b> <i>Eupatorium capilliflorum</i>	<b>Vaseygrass</b> <i>Paspalum urvillei</i>
<b>Fescue, tall</b> <i>Festuca arundinacea</i>	<b>Vervain, blue</b> <i>Verbena hastata</i>

\*Control at the higher rates.

\*\*Suppression at the higher rates only.

Pine damage may occur or can be accentuated if treatment takes place when young trees are under stress from drought, floodwater, insects or disease.

Read and observe the cautionary statements and all other information appearing on the labels of all herbicides used.

**MAD DOG WITH ARSENAL APPLICATORS CONCENTRATE TANK MIXTURE  
FOR FORESTRY CONIFER RELEASE (Maine, New Hampshire and Vermont Only)**

Apply a mixture of 2 quarts of this product and 1 to 2.5 fluid ounces of Arsenal® Applicators Concentrate per acre as a release treatment for balsam fir and red spruce.

This mixture is for controlling woody brush, deciduous trees herbaceous weeds on sites regenerated with balsam fir and red spruce. Make applications only after formation of final resting buds on these conifers. Use the higher specified rate for sites with dense, tough-to-control woody brush and deciduous trees.

When using ground application equipment, use 10 to 60 gallons of spray solution per acre. For aerial application (helicopter only), use 5 to 15 gallons of spray solution per acre.

Injury may occur to conifers treated for release, especially where spray patterns overlap. Injury can be accentuated if applications are made when conifers are actively growing or are under stress. Read and carefully observe the label claims, cautionary statements, and all information on the label for all products used.

**NOTE TO USER**

This product must not be used in areas where adverse impact on federally designated endangered/threatened plant or aquatic species is likely.

Prior to making applications, the user of this product must determine that no such species are located in or immediately adjacent to the area to be treated.

**CUT STUMP TREATMENTS**

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

When used according to directions for cut stump application, this product will CONTROL, PARTIALLY CONTROL, or SUPPRESS many types of woody brush and tree species, some of which are listed below.

<b>Alder</b> <i>Alnus</i> spp.	<b>Saltcedar</b> <i>Tamarisk</i> spp.
<b>Eucalyptus</b> <i>Eucalyptus</i> spp.	<b>Sweetgum</b> <i>Liquidambar styraciflua</i>
<b>Madrone</b> <i>Arbutus menziesii</i>	<b>Tan Oak</b> <i>Lithocarpus densiflorus</i>
<b>Oak</b> <i>Quercus</i> spp.	<b>Willow</b> <i>Salix</i> spp.
<b>Reed, giant</b> <i>Arundo donax</i>	

**INJECTION AND FRILL APPLICATIONS**

Woody vegetation may be controlled by injection or frill application of this product. Apply this product using suitable equipment which must penetrate into the living tissue. Apply the equivalent of 1 mL of this product per each 2 to 3 inches of trunk diameter (DBH). This is best achieved by applying a 50 to 100 percent concentration of this material 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 frill or cut areas in species that exude sap freely after frills or cutting. In species such as this, make frill or cut at an oblique angle so as to produce a cupping effect and use undiluted material. For best results, application should be made during periods of active growth and after full leaf expansion.

This treatment WILL CONTROL the following woody species:

<b>Oak</b> <i>Quercus</i> spp.	<b>Sweetgum</b> <i>Liquidambar styraciflua</i>
<b>Poplar</b> <i>Populus</i> spp.	<b>Sycamore</b> <i>Platanus occidentalis</i>

This treatment WILL SUPPRESS the following woody species:

<b>Black gum</b> <i>Nyssa sylvatica</i>	<b>Hickory</b> <i>Carya</i> spp.
<b>Dogwood</b> <i>Cornus</i> spp.	<b>Maple, red</b> <i>Acer rubrum</i>

**Hybrid Poplar (*Populus* spp.) Production**

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

See the "WEEDS CONTROLLED" section of this label for specific rates for the weeds being controlled.

**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 *Populus* spp.

Mix 2 to 6 quarts of a nonionic surfactant per 100 gallons of spray solution (0.5 to 1.5 percent spray volume). Use a surfactant with greater than 70 percent active ingredient.

**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.

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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% MAD DOG 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.

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.

**TURFGRASSES AND GRASSES FOR SEED PRODUCTION  
 PREPLANT AND RENOVATION**

When applied as directed for "NONCROP USES", under conditions described, this product controls most existing vegetation prior to the planting or renovation of either turfgrasses or grass seed production areas.

For specific rates of application and instructions for control of various annual and perennial weeds, and woody brush and trees, see the "WEEDS CONTROLLED" section of this label.

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.

DO NOT DISTURB SOIL OR UNDERGROUND PLANT PARTS BEFORE TREATMENT. Tillage or renovation techniques such as vertical mowing, coring or slicing should be delayed for 7 days after application to allow proper translocation into underground plant parts.

**Turfgrasses**

Where existing vegetation is growing in a field or unmowed situation, apply this product to actively growing weeds at the stages of growth listed in the "WEEDS CONTROLLED" section of this label.

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.

Desirable turfgrass may be planted following the above procedures.

**Grasses for Seed Production**

Apply this product to actively growing weeds at the stages of growth specified in the "WEEDS CONTROLLED" section of this label prior to planting or renovation of turf or forage grass areas grown for seed production.

DO NOT feed or graze treated areas within 8 weeks after application.

**Shielded Sprayer (Idaho, Oregon and Washington Only)**

When applied using shielded applicator equipment designed to prevent direct contact, movement of spray droplets, or mist onto desirable grasses grown for seed production, this product may be used to control labeled weeds. Use of low spray pressure through low-pressure nozzles will minimize the potential of spray drift.

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

GROWER ASSUMES ALL RESPONSIBILITY FOR CROP LOSSES FROM MISAPPLICATION.

**ANNUAL WEED CONTROL IN DORMANT  
 BERMUDAGRASS AND BAHIAGRASS TURF**

When applied as directed for "NONCROP USES" under the conditions described, this product will provide control or suppression of many winter annual weeds and tall fescue for effective release of dormant bermudagrass and bahiagrass turf. Refer to the rate table for MAD DOG alone under the "RELEASE OF BERMUDAGRASS and BAHIAGRASS" section of this label for specified rates and volumes on the species to be suppressed or controlled. Treat only when turf is dormant and prior to spring greenup. Spot treatments or broadcast applications of this product in excess of 16 fluid ounces per acre may result in injury or delayed greenup in highly maintained turfgrass areas; i.e., golf courses, lawns, etc. DO NOT APPLY TANK MIXTURES of this product plus Oust® in highly maintained turfgrass areas.

**RELEASE OF BERMUDAGRASS OR BAHIAGRASS**

**NOTE:** Use only in areas where bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated. Use tank mixtures of this product plus Oust® only on railroads, highways, utility plant sites, or other right-of-way areas.

When applied as directed for "NONCROP USES" under the conditions described, this product will provide control or suppression of many winter annual weeds and tall fescue for effective release of dormant bermudagrass or bahiagrass. This product may be tank mixed with Oust® as directed for residual control. Make applications to dormant

bermudagrass or bahiagrass. Tank mixtures of this product plus Oust® may delay greenup. To avoid delays in greenup and minimize injury, do not add more than 1 ounce per acre of Oust® on bermudagrass or more than 0.5 ounce per acre on bahiagrass, or treat when these grasses are in a semi-dormant condition.

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 in or beyond the 4 to 6 leaf stage.

**WEEDS CONTROLLED**

Rate specifications for control or suppression of winter annuals and tall fescue are listed below:

Apply the specified rates of this product alone or as a tank mixture in 10 to 25 gallons of water, plus 0.5 to 1 percent nonionic surfactant by total spray volume per acre.

For the best recommendation for the mixture of weeds within your geographic area, contact your local Loveland Products, Inc. sales representative.

**WEEDS CONTROLLED OR SUPPRESSED WITH MAD DOG ALONE\***

**NOTE:** C=Control  
 S=Suppression

Weed Species	MAD DOG fluid oz/acre					
	8	12	16	24	32	64
<b>Barley, little</b> <i>Hordeum Pusillum</i>	S	C	C	C	C	C
<b>Bedstraw, catchweed</b> <i>Galium aparine</i>	S	C	C	C	C	C
<b>Bluegrass, annual</b> <i>Poa annua</i>	S	C	C	C	C	C
<b>Chervil</b> <i>Chaerophyllum tainturieri</i>	S	C	C	C	C	C
<b>Chickweed, common</b> <i>Stellaria media</i>	S	C	C	C	C	C
<b>Clover, crimson</b> <i>Trifolium incarnatum</i>	.	S	S	C	C	C
<b>Clover, large hop</b> <i>Trifolium campestre</i>	.	S	S	C	C	C
<b>Fescue, tall</b> <i>Festuca aruninacea</i>	.	.	.	.	S	S
<b>Geranium, Carolina</b> <i>Geranium carolinianum</i>	.	.	S	S	C	C
<b>Henbit</b> <i>Lamium amplexicaule</i>	.	S	C	C	C	C
<b>Ryegrass Italian</b> <i>Lolium multiflorum</i>	.	.	S	C	C	C
<b>Speedwell, corn</b> <i>Veronica arvensis</i>	S	C	C	C	C	C
<b>Vetch, common</b> <i>Vicia sativa</i>	.	.	S	C	C	C

\*These rates apply only to sites where an established competitive turf is present

**WEEDS CONTROLLED OR SUPPRESSED WITH MAD DOG PLUS OUST®**

**NOTE:** C=Control  
 S=Suppression

Weed Species	MAD DOG (fl. oz/A) + Oust® (oz/A)						
	8+1/4	12+1/4	12+1/2	16+1/4	16+1/2	12+1	16+1
<b>Barley, little</b> <i>Hordeum pusillum</i>	C	C	C	C	C	C	C
<b>Bedstraw, catchweed</b> <i>Galium aparine</i>	C	C	C	C	C	C	C
<b>Bluegrass, annual</b> <i>Pao annua</i>	S	C	C	C	C	C	C
<b>Chervil</b> <i>Chaerophyllum tainturieri</i>	C	C	C	C	C	C	C
<b>Chickweed, common</b> <i>Stellaria media</i>	S	C	C	C	C	C	C
<b>Clover, crimson</b> <i>Trifolium incarnatum</i>	S	S	S	S	C	C	C
<b>Clover, large hop</b> <i>Trifolium campestre</i>	.	.	S	S	S	C	C
<b>Fescue, tall</b> <i>Festuca arundinacea</i>	.	.	.	.	.	S	S
<b>Geranium, Carolina</b> <i>Geranium carolinianum</i>	.	S	S	C	C	C	C
<b>Henbit</b> <i>Lamium amplexicaule</i>	.	S	C	C	C	C	C
<b>Ryegrass Italian</b> <i>Lolium multiflorum</i>	.	S	S	C	C	C	C
<b>Speedwell, corn</b> <i>Veronica arvensis</i>	S	C	C	C	C	C	C
<b>Vetch, common</b> <i>Vicia sativa</i>	C	C	C	C	C	C	C

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\*These rates or mixtures of rates apply only to sites where an established competitive turf is present.

### RELEASE OF ACTIVELY GROWING BERMUDAGRASS

When applied as directed, this product will aid in the release of bermudagrass by providing control of annual species listed in the "WEEDS CONTROLLED" section of this and the Oust® label, and suppression or partial control of certain perennial weeds.

For control or suppression of those annual species listed on this label, use 1 to 3 pints of this product as a broadcast spray in 10 to 25 gallons of spray solution per acre. Use the lower rate when treating annual weeds below 6 inches in height (or length of runner in annual vines). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation.

Use the higher rate of this product for partial control of the following perennial species. Use the lower rates for suppression of growth. For best results, see the "WEEDS CONTROLLED" section of this label for proper stage of growth.

#### Bahiagrass

*Paspalum notatum*

#### Bluestem, silver

*Andropogon saccharoides*

#### Fescue, tall

*Festuca arundinacea*

\*Control at the higher rates

\*\*Suppression at higher rates only

This product may be tank-mixed with Oust®. If tank-mixed, use no more than 1 to 2 pints per acre of this product with 1 to 2 ounces of Oust® per acre.

Use the lower rates of both mixtures to control annual weeds below 6 inches in height (or runner length in annual vines) that are listed in the "WEEDS CONTROLLED" section of this booklet and the Oust® label. Use the higher rates as annual weeds increase in size and approach flower or seedhead stages.

Use the higher rates of this product to provide partial control of the following perennial weeds. Use the lower rates for suppression of growth.

#### Bahiagrass

*Paspalum notatum*

#### Bluestem, silver

*Andropogon saccharoides*

#### Broomsedge

*Andropogon virginicus*

#### Dock, curly

*Rumex crispus*

#### Dogfennel

*Eupatorium capilliflorum*

#### Fescue, tall

*Festuca arundinacea*

\*Suppression at higher rates only

\*\*Control at the higher rates

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

Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used.

### COOL SEASON TURF GROWTH REGULATION

When applied as directed, this product will suppress growth and seedhead development of listed turf species in industrial sites.

This product is for management of coarse turf on roadside rights-of-way or other industrial areas. Do not use on high-quality turf or other areas where some turf color changes cannot be tolerated. Slight turf discoloration may occur but turf will regreen and regrow under moist conditions as effects of this product wear off.

Apply 4 to 6 fluid ounces of this product per acre alone or in a specified tank mixture. Spray volumes of 10 to 40 gallons per acre are specified.

When using this product, mix 2 quarts of a nonionic surfactant per 100 gallons of spray solution.

This product can be used for growth and seedhead suppression of:

#### Tall Fescue

#### Smooth Brome

For best results, apply the product in a specified tank mixture to actively growing turfgrasses after greenup in the spring of the year. For suppression of seedheads, applications must be made before boot-to-seedhead stage of development. Applications made from seedhead emergence until maturity may result in turf discoloration or injury.

After mowing or removal of seedheads, this product in a specified tank mixture may also be used to suppress the growth of certain turfgrasses. Allow turf to recover from stress caused by heat, drought, or mowing before making applications. Applications made to turf under stress may increase the potential for discoloration or injury.

### ANNUAL GRASSES

For growth suppression of some annual grasses such as annual ryegrass, wild barley and wild oats, apply 3 to 4 fluid ounces of this product in 10 to 40 gallons of spray solution per acre. Applications should be made when annual grasses are actively growing and before the seedheads are in the boot stage of development. Treatments made after seedhead emergence may cause injury to the desired grasses.

### TANK MIXTURES

For the following tank mixtures, consult each product label for weeds controlled and the correct stage of application. Do not treat turf under stress.

#### Tank mixtures plus 2,4-D Amine

For additional weed control benefits, up to 1 pound a.i. per acre of 2,4-D Amine may be added to the following tank mixtures. Consult the label for 2,4-D Amine for weeds controlled.

### TALL FESCUE

#### MAD DOG with Telar®

For suppression of tall fescue growth and seedheads, and control or partial control of some annual weeds, apply this tank mixture after greenup and prior to boot-to-seedhead stage of development. Use up to 0.5 ounce of Telar® per acre.

This tank mixture can also be applied after mowing or removal of tall fescue seedheads for turf growth suppression. Make only one of the above applications per growing season.

#### MAD DOG with Oust®

For suppression of tall fescue growth and seedheads, and control or partial control of some annual weeds, apply this tank mixture after greenup and prior to boot-to-seedhead stage of development. Use up to 0.25 ounce of Oust® per acre.

#### MAD DOG with Escort®

This tank mixture can be applied after mowing or removal of tall fescue seedheads for turf growth suppression and control or partial control of some annual weeds. Use up to 1/3 ounce of Escort® per acre.

### SMOOTH BROME

#### MAD DOG with Oust®

For suppression of smooth brome growth and seedheads and control or partial control of some annual weeds, apply this tank mixture after greenup and prior to boot-to-seedhead stage of development. Use up to 0.25 ounce of Oust® per acre.

### BAHIAGRASS SEEDHEAD AND VEGETATIVE SUPPRESSION

When applied as directed in the indicated noncrop areas (roadsides, airports, golf course roughs, and plant sites), this product will provide significant inhibition of seedhead emergence and will suppress vegetative growth for a period of approximately 45 days with single applications and approximately 120 days with sequential applications.

Apply this product 1 to 2 weeks after full greenup of bahiagrass or after the bahiagrass has been mowed to a uniform height of 3 to 4 inches. Applications must be made prior to seedhead emergence. Apply 6 fluid ounces per acre of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 10 to 25 gallons of water per acre.

Sequential applications of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume may be made at approximately 5 day intervals to extend the period of seedhead and vegetative growth suppression. For confirmed seedhead suppression, sequential applications must be made prior to seedhead emergence. Apply no more than 2 sequential applications per year. As a first sequential application, apply 4 fluid ounces of this product per acre plus nonionic surfactant. A second sequential application of 2 to 4 fluid ounces per acre plus nonionic surfactant may be made approximately 45 days after the last application.

A tank mixture of this product plus Oust® may be applied only on roadsides for seed-head inhibition and vegetative suppression. Apply 6 fluid ounces per acre of this product plus 0.25 ounce per acre of Oust®, plus 0.5 to 1 percent nonionic surfactant by total spray volume 1 to 2 weeks following an initial spring mowing. When using this product plus Oust® for suppression of bahiagrass, make only 1 application per year.

### CROPPING SYSTEMS

When applied as directed for "CROPPING SYSTEMS", under the conditions described, this product controls annual and perennial weeds listed on this label, prior to the emergence of direct seeded crops or prior to transplanting of crops listed on this label.

See "GENERAL INFORMATION" and "MIXING, ADDITIVES and APPLICATION INSTRUCTIONS" sections of this label for essential product performance information.

See the following "CROPPING SYSTEMS" sections for specific uses.

EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF SPRAY WITH FOLIAGE, GREEN STEMS OR FRUIT OF DESIRABLE CROPS, PLANTS, TREES OR OTHER DESIRABLE VEGETATION SINCE SEVERE DAMAGE OR DESTRUCTION MAY RESULT.

Repeat treatments may be necessary to control weeds regenerating from underground parts of the weed. Except as otherwise specified on this label, repeat treatments must be made before the crop emerges in accordance with the instructions of this label.

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



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Except as otherwise specified in a crop section of this label, the combined total of all treatments must not exceed 8 quarts per acre of this product per year.

For any crop not listed below, applications must be made at least 30 days prior to planting.

Do not harvest or feed treated vegetation for 8 weeks following application. Following spot treatment or selective equipment use, allow 14 days before grazing domestic livestock or harvesting forage grasses and legumes.

**ROW CROPS**

CORN (ALL)\*  
COTTON\*  
PEANUTS  
SORGHUM (MILO)\*  
SOYBEANS\*  
SUGARCANE\*

**CEREAL GRAINS**

BARLEY\*  
BUCKWHEAT\*  
MILLET (PEARL, PROSO)\*  
OATS\*  
RICE\*\*

TRITICALE\*  
WHEAT (ALL)\*  
WILD RICE\*

**CITRUS**

CALAMONDIN  
CHIRONJIA  
CITRON  
GRAPEFRUIT  
KUMQUAT  
LEMON  
LIME  
MANDARIN ORANGE  
ORANGE (ALL)  
PUMMELO  
TANGELO  
TANGERINE  
TANGORS

**VEGETABLES**

ARTICHOKE, JERUSALEM  
ASPARAGUS\*  
BEANS (ALL)  
BEET GREENS  
BEETS (RED, SUGAR)  
BROCCOLI (ALL)  
BRUSSELS SPROUT  
CABBAGE, CHINESE  
CANTALOUPE\*\*  
CARROT  
CAULIFLOWER  
CASABA MELON\*\*\*  
CELERIAC  
CELERY  
CHARD, SWISS  
CHICORY  
COLLARDS  
CRENSHAW MELON\*\*\*  
CUCUMBER\*\*\*  
EGGPLANT\*\*\*  
ENDIVE  
GARLIC\*\*\*  
GOURDS\*\*\*  
GROUND CHERRY\*\*\*  
HONEYDEW MELON\*\*\*  
HONEY BALL MELON\*\*\*  
HORSERADISH  
KALE  
KOHLRABI  
LEEK  
LENTILS  
LETTUCE  
MANGO MELON\*\*\*  
MELONS (ALL)\*\*\*  
MUSKMELON\*\*\*  
MUSTARD GREENS  
OKRA  
ONION  
PARSLEY  
PARSNIPS  
PEAS (ALL)  
PEPPER (ALL)\*\*\*  
PERSIAN MELON\*\*\*

**TREE NUTS**

ALMOND  
BEECHNUT  
BRAZIL NUT  
BUTTERNUT  
CASHEW  
CHESTNUT  
CHINQUAPIN  
FILBERT (HAZELNUT)  
HICKORY NUT  
MACADAMIA  
PECAN  
PISTACHIO  
WALNUT (BLACK, ENGLISH)

**VINE CROPS**

GRAPES  
KIWI FRUIT

**TREE FRUITS**

APPLE  
APRICOTS  
CHERRY (SWEET, SOUR)  
LOQUAT  
MAYHAW  
NECTARINE  
OLIVE  
PEACH  
PEAR  
PLUM/PRUNE (ALL)  
QUINCE

**SMALL FRUITS AND BERRIES**

BLACKBERRY  
BLUEBERRY  
BOYSENBERRY  
CRANBERRY  
CURRANT  
DEWBERRY  
ELDERBERRY  
GOOSEBERRY  
HUCKLEBERRY  
LOGANBERRY  
OLALLIEBERRY  
RASPBERRY (BLACK, RED)

**FORAGE CROPS AND LEGUMES**

ALFALFA\*  
FORAGE GRASSES\*  
FORAGE LEGUMES\*

**TROPICAL CROPS**

ACEROLA  
ATEMOYA  
AVOCADO  
BANANA  
BREADFRUIT  
CANISTEL  
CARAMBOLA  
CHERIMOYA  
COCOA BEANS  
COFFEE  
DATES  
FIGS  
GENIP  
GUAVA  
JABOTICABA  
JACKFRUIT  
LONGAN  
LYCHEE  
MANGO  
PAPAYA  
PASSION FRUIT  
PERSIMMONS  
PINEAPPLE\*\*\*\*  
PLANTAINS  
POMEGRANATE

**VEGETABLES**

POTATO (IRISH, SWEET)  
PUMPKIN\*\*\*  
RADISH  
RAPE GREENS  
RHUBARB  
RUTABAGA  
SHALLOT  
SPINACH (ALL)  
TOMATILLO\*\*\*  
TOMATO\*\*\*†  
TURNIP  
WATERCRESS\*\*\*  
WATERMELON\*\*\*  
YAMS

**TROPICAL CROPS**

SAPODILLA  
SAPOTE (BLACK, MAMEY, WHITE)  
SOURSOP  
SUGAR APPLE  
TAMARIND

\*Spot treatments may be applied in these crops.

\*\*Do not treat rice fields or levees when the fields contain floodwater.

\*\*\*Apply only prior to planting. Allow at least 3 days between application and planting.

\*\*\*\*Do not feed or graze treated pineapple forage following application.

†Use is restricted to direct seeded crops only.

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

**Spot Treatment** (Only those crops with "\*" can be spot treated.) – Applications in growing crops must be made prior to heading of small grains and milo, initial pod set in soybeans, silking of corn, or boll opening in cotton.

For forage grasses and forage legumes see "SEE SPOT TREATMENT" in the "PASTURES" section of "CROPPING SYSTEMS" in this label.

For dilution and rates of application using boom or hand-held equipment, see "MIXING ADDITIVES and APPLICATION INSTRUCTIONS" and "WEEDS CONTROLLED" sections of this label.

**NOTE:** FOR FORAGE GRASSES AND FORAGE LEGUMES, NO MORE THAN ONE-TENTH OF ANY ACRE SHOULD BE TREATED AT ONE TIME. FOR ALL OTHER CROPS, DO NOT TREAT MORE THAN 10 PERCENT OF THE FIELD AREA TO BE HARVESTED.

THE CROP RECEIVING SPRAY IN TREATED AREA WILL BE KILLED. TAKE CARE TO AVOID DRIFT OR SPRAY OUTSIDE TARGET AREA FOR THE SAME REASON.

**Selective Equipment** – This product may be applied through recirculating sprayers, shielded applicators or wiper applicators in cotton and soybeans. Shielded and wiper applicators may also be used in tree crops and grapes. Wiper applicators may be used in wheat, rutabagas, forage grasses and forage legumes, including pasture sites and grain sorghum (milo).

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.

Allow at least the following time intervals between application and harvest:

Cotton, Soybeans	7 days
Apples, Citrus, Pear	1 day
Atemoya, Avocado, Breadfruit, Canistel, Carambola, Cherry, Grapes, Dates, Jaboticaba, Jackfruit, Longan, Lychee, Passion Fruit, Persimmons, Rutabagas, Sapodilla, Sapote, Soursop, Sugar Apple, Tamarind	14 days
Stone Fruit	17 days
Nut Crops, except pistachios	3 days
Pistachio nuts	21 days
Wheat <sup>1</sup>	35 days
Sorghum (milo) <sup>1,2</sup>	40 days

<sup>1</sup> Do not use roller applicators.

<sup>2</sup> Do not feed or graze treated milo fodder. Do not ensile treated vegetation.

**ASPARAGUS**

When applied as directed for "CROPPING SYSTEMS" under the conditions described, this product controls weeds listed on this label in asparagus.

For specific rates of applications and instructions for control of various annual and perennial weeds, see the "WEEDS CONTROLLED" section of this label.

**Prior to Crop Emergence** – Apply this product prior to crop emergence for the control of emerged labeled annual and perennial weeds. DO NOT APPLY WITHIN A WEEK BEFORE THE FIRST SPEARS EMERGE.

**Spot Treatment** – Apply this product immediately after cutting, but prior to the emergence of new spears. Do not treat more than 10 percent of the total field area to be harvested. Do not harvest within 5 days of treatment.

**Postharvest** – Apply this product after the last harvest and all spears have been removed. If spears are allowed to regrow, delay application until after ferns have developed. Delayed treatments should be applied as directed or shielded spray in order to avoid contact of the spray with ferns, stems or spears. Direct contact of the spray with the asparagus may result in serious crop injury.

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**NOTE:** Select and use recommended types of spray equipment for post emergence post harvest applications. A directed spray is any application where the spray pattern is aligned in such a way as to avoid direct contact of the spray with the crop. 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.

**BERRIES AND SMALL FRUITS**

Wiper applicators may be used in cranberries in accordance with instructions in this section.

For other berries, apply as a preplant broadcast application, or as a directed spray or wiper application post-planting.

See "GENERAL INFORMATION" and "MIXING, ADDITIVES and APPLICATION INSTRUCTIONS" sections of this label for information on specific use and calibration of this equipment.

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.

**For Wick or other Wiper Applicators** – Mix 1 gallon of this product in 4 gallons of water to prepare a 20 percent solution.

In severe infestations, reduce equipment ground speed to ensure that adequate amounts of this product are wiped on the weeds. A second treatment in the opposite direction may be beneficial.

Do not permit herbicide solution to contact desirable vegetation, including green shoots, canes or foliage.

**CORN**

**Hooded Sprayers** – 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.

A hooded sprayer is a type of shielded applicator. The spray pattern is completely enclosed on the top and all 4 sides by a hood, thereby shielding the crop from the spray solution. This equipment must be set up and operated in a manner that avoids bouncing or raising the hoods off the ground in any way. If the hoods are raised, spray particles may escape and come into contact with the crop, causing damage or destruction of the crop. The spray hoods must be operated on the ground or skimming across the ground. Tractor speed must be adjusted to avoid bouncing of the spray hoods. Avoid operation on rough or sloping ground where the spray hoods might be raised off the ground.

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 ground or skimming across the ground.
- Do not apply more than 1 quart of this product per acre per application.
- Corn must be at least 12 inches tall, measured without extending leaves.
- 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.

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

For specific rates of application and instructions for control of various annual and perennial weeds, see the "WEEDS CONTROLLED" section of this label.

Do not graze or feed corn forage or fodder following applications of this product through hooded sprayers.

Do not apply more than 3 quarts of this product per acre per year for hooded sprayer applications.

**SMALL GRAIN CROPPING SYSTEMS**

**South Dakota Only**

Annual weed control: Refer to the "SPECIFIED RATES AND WEEDS CONTROLLED" section of this label for rate specifications and the annual weeds controlled.

For ground applications, use 3 to 5 gallons of water per acre. For aerial applications, use 1 to 3 gallons of water per acre.

**AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.** Do not allow the herbicide solution to mist, drip, drift, or splash onto desirable vegetation since minute quantities of this herbicide can cause severe damage or destruction to the crop, plants, or

other areas on which treatment was not intended. The likelihood of injury occurring from the use of this product is greatest when winds are gusty or in excess of 5 miles per hour or when other conditions, including lesser wind velocities, will allow spray drift to occur. When spraying, avoid combinations of pressure and nozzle type that will result in splatter or fine particles (mist) which are likely to drift. **AVOID APPLYING AT EXCESSIVE SPEED OR PRESSURE.**

**NOTE:**

- To prevent injury to adjacent desirable vegetation, appropriate buffer zones must be maintained.
- Adjust boom height on ground equipment to prevent streaked, overlapped or uneven applications. Coarse sprays are less likely to drift; therefore, do not use nozzles or nozzle configurations which dispense spray as fine spray droplets.
- In aerial applications, do not angle nozzles forward into the airstream and do not increase spray volume by increasing nozzle pressure.
- Ensure uniform application. Use appropriate marking devices when applying herbicides by air.
- Avoid spraying when weeds are subject to moisture stress, when dust is on foliage, or when straw canopy covers the weeds.
- Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove residue of this product accumulated during spraying or from spills. **PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF PART. LANDING GEAR ARE MOST SUSCEPTIBLE.** The maintenance of an organic coating (paint) which meets aerospace specification MIL-C-38413 may prevent corrosion.

**FALLOW AND REDUCED TILLAGE SYSTEMS**

Use this product in fallow and reduced tillage systems for control of annual weeds prior to emergence of crops listed in this label. Refer to the "WEEDS CONTROLLED" section of this label for specific rates and instructions. This product may be applied using ground or aerial spray equipment. See the "APPLICATION EQUIPMENT and TECHNIQUES" section of this label for instructions.

**TANK MIXTURES**

This product may be tank mixed with the products listed providing the product tank-mixed is registered for use on this site.

**MAD DOG with BANVEL® plus NONIONIC SURFACTANT**  
**MAD DOG with 2,4-D plus NONIONIC SURFACTANT**  
**MAD DOG with GOAL® plus NONIONIC SURFACTANT**

DO NOT APPLY BANVEL® OR 2,4-D TANK MIXTURES BY AIR IN CALIFORNIA.

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

The addition of Banvel® in a mixture with this product may provide short-term residual control of selected weed species. Some crop injury may occur if Banvel® is applied within 45 days of planting. Refer to the Banvel® and 2,4-D labels for cropping restrictions and other use instructions.

**MAD DOG with GOAL® Tank Mixtures**

This product alone or in tank mixtures with Goal® plus 0.5 to 1 percent nonionic surfactant by total spray volume will provide control of those weeds listed below.

Make applications when weeds are actively growing and at the specified stages of growth. Avoid spraying when weeds are subject to moisture stress, when dust is on the foliage or when the straw canopy covers the weeds.

<b>MAD DOG 12 fluid oz/acre</b>		<b>MAD DOG 16 fluid oz/acre</b>	
Wheat	18**	Annual grasses at left plus:	
Barley	12"	Ryegrass, annual	6"
Bluegrass, annual	6"	Chickweed	6"
Barnyardgrass	6"	Groundsel	6"
Rye	6"	Marestail	6"
		Rocket, London	6"
		Sheperdspurse	6"
		Crabgrass	12"
		Johnsongrass, seedling	12"
		Lambsquarters	12"
		Oats, wild	12"
		Pigweed, redroot	12"
		Mustards	12"

**NOTE:** Use 32 fluid ounces of this product per acre where heavy weed densities exist.

<b>MAD DOG 12 fluid oz/acre</b>		<b>MAD DOG 16 fluid oz/acre</b>	
<b>+ GOAL®**</b>		<b>+ GOAL®**</b>	
<b>2 to 4 fluid oz/acre</b>		<b>2 to 4 fluid oz/acre</b>	
Annual grasses above plus:		Annual weeds above plus:	
Cheeseweed, common	3"	Cheeseweed, common	6"
Chickweed	3"	Groundsel	6"
Groundsel	3"	Chickweed	12"
Rocket, London	6"	Rocket, London	12"
Sheperdspurse	6"	Sheperdspurse	12"

**NOTE:** Use 32 fluid ounces of this product per acre in mixtures with 2 to 4 fluid ounces of Goal® per acre where heavy weed densities exist.

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\*Maximum height or length in inches.

\*\*Use the higher rate of Goal® when weeds approach maximum specified height or stands are dense.

These tank mixtures may be applied using ground or aerial spray equipment. Refer to the "WEEDS CONTROLLED" section of this label for specific rates and instructions.

### ECOFARMING SYSTEMS

The instructions made in this section are not registered for use in California.

The Ecofarming System consists of the following rotation: winter wheat, corn/sorghum, and ecofallow.

Use the following tank mixtures for control of emerged annual weeds before planting corn or sorghum in the Ecofarming System.

**MAD DOG at 16 to 20 fluid ounces per acre  
plus  
2,4-D at 0.375 to 0.5 pound a.i. per acre  
plus  
Atrazine at 0.75 to 1 pound a.i. per acre  
plus  
Intro® at 2.5 to 3 quarts per acre**

The above tank mixture should be applied in 28-0-0 or 32-0-0 liquid fertilizer carrier at 20 to 30 gallons per acre. The liquid fertilizer may be diluted with water to achieve the desired carrier volume.

WEEDS CONTROLLED – The following weeds, up to a maximum height of 4 inches, will be controlled.

**Brome, downy**  
*Bromus tectorum*  
**Cheat**  
*Bromus secalinus*  
**Foxtail, green**  
*Setaria viridis*  
**Foxtail, yellow**  
*Setaria lutescens*  
**Kochia\***  
*Kochia scoparia*

**Lettuce, prickly**  
*Lactuca serriola*  
**Pigweed, redroot**  
*Amaranthus retroflexus*  
**Thisle, Russian**  
*Salsola kali*  
**Wheat, volunteer**  
*Triticum aestivum*

\*For improved control of kochia, add 4 fluid ounces per acre (0.126 pound a.i. per acre) of Banvel® to the above tank mixture.

Risk of crop injury from 2,4-D or Banvel® can be reduced by applying this treatment 7 to 14 days before planting.

Refer to the label booklet for Intro® herbicide for preemergence weed control achieved by this tank mixture.

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

### AID TO TILLAGE

This product, when used in conjunction with preplant tillage practices, will provide control of downy brome, cheat, volunteer wheat, tansy mustard and foxtail. Apply 8 fluid ounces of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of spray solution per acre. Make applications when weeds are actively growing and before they are 6 inches in height. Applications must be followed by conventional tillage practices no later than 15 days after treatment and before regrowth occurs. Allow at least 1 day after application before tillage. Tank mixtures with residual herbicides may result in reduced performance.

### POSTHARVEST GRAIN SORGHUM, SORGHUM REGROWTH CONTROL

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. Use 0.5 percent nonionic surfactant in 3 to 10 gallons of spray solution per acre.

### SORGHUM

**Hooded Sprayers** – This product may be used through hooded sprayers for weed control between the rows of grain sorghum (milo). Only hooded sprayers that completely enclose the spray pattern may be used.

A hooded sprayer is a type of shielded applicator. The spray pattern is completely enclosed on the top and all 4 sides by a hood, thereby shielding the crop from the spray solution. This equipment must be set up and operated in a manner that avoids bouncing or raising the hoods off the ground in any way.

If the hoods are raised, spray particles may escape and come into contact with the crop, causing damage or destruction of the crop. The spray hoods must be operated on the ground or skimming across the ground. Tractor speed must be adjusted to avoid bouncing of the spray hoods. Avoid operation on rough or sloping ground where the spray hoods might be raised off the ground.

When applying to milo 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 ground or skimming across the ground.
- Do not apply more than 1 quart of this product per acre per application.
- Milo must be at least 12 inches tall, measured without extending leaves. Treat before milo sends tillers between the drill rows. If such tillers are contacted with the spray solution, the main plant may be killed.
- 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.

Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage. Such damage shall be the sole responsibility of the applicator. For specific rates of application and instructions for control of various annual and perennial weeds, see the Weed Control tables in this label.

Do not graze or feed milo forage or fodder following applications of this product through hooded sprayers. Do not apply more than 3 quarts of this product per acre per year for hooded sprayer applications.

### For Control of Volunteer Grain Sorghum (Milo)

Apply the following rates in 3 to 10 gallons of water per acre with ground equipment and 3 to 5 gallons of water per acre with aerial equipment:

<u>Rates</u>	<u>Heights</u>
12 fl oz/A	Up to 6 inches
16 fl oz/A	Up to 12 inches
24 fl oz/A	Up to 18 inches

Allow at least 3 days after applications before tillage.

### PASTURES

Apply this product prior to planting forage grasses and legumes.

**Pasture or Hay Crop Renovation** – When applied as a broadcast spray, this product controls the annual and perennial weeds listed in this label prior to planting forage grasses or legumes. Remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

**Spot Treatment** – When applied as a spot treatment as specified, this product controls annual and perennial weeds listed in this label which are growing in pastures, forage grasses and forage legumes composed of bahiagrass, bermudagrass, bluegrass, brome, fescue, orchardgrass, ryegrass, timothy, wheatgrass, alfalfa or clover.

**Wiper Application** – When applied as directed, this product controls or suppresses the weeds listed under "WIPER APPLICATORS" in the "SELECTIVE EQUIPMENT" section of this label.

For spot treatment and wiper application, apply in areas where the movement of domestic livestock can be controlled. No more than one-tenth of any acre should be treated at one time. Further applications may be made in the same area at 30-day intervals. Remove domestic livestock before application and wait 14 days after application before grazing livestock or harvesting.

### RICE

#### Red Rice Control in Texas Only – Recommendations:

This product may be used to control red rice, prior to planting rice. Apply 1½ quarts of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 5 to 10 gallons of water per acre. Use surfactants with a minimum of 70 percent active ingredient. Add 17 pounds of ammonium sulfate per 100 gallons of water.

Flush fields prior to applications to obtain uniform germination and stand of red rice. Make applications 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. Do not treat rice fields or levees when the fields contain floodwater.

For aerial applications, drift control additives may be used. Avoid spraying during low humidity conditions, as reduced control may result. Do not re-flood treated fields for 8 days following application.

### SUGARCANE

When applied as directed for "CROPPING SYSTEMS", under the conditions described, this product controls those emerged annual and perennial weeds listed on this label growing in or around sugarcane or in fields prior to the emergence of plant cane. This product will control undesirable sugarcane.

**NOTE:** Where repeat treatments are necessary, do not exceed a total of 10.6 quarts of this product per acre per year. Do not apply to vegetation in or around ditches, canals or ponds containing water to be used for irrigation.

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**Broadcast Treatment** – Apply this product in 10 to 40 gallons of water per acre on emerged weeds prior to the emergence of plant cane.

For specific rates of application and instructions for control of various annual and perennial weeds, see the “WEEDS CONTROLLED” section of this label.

For removal of last stubble or ratoon cane, apply 4 of 5 quarts of this product in 10 to 40 gallons of water per acre to new growth having at least 7 or more new leaves. Allow 7 or more days after application before tillage.

**Hooded Sprayers** – This product may be used through hooded sprayers for weed control between the rows of sugarcane.

For specific rates of application and instructions for control of various annual and perennial weeds, see the “WEEDS CONTROLLED” section of this label.

A hooded sprayer is a type of shielded applicator. The spray pattern is completely enclosed on the top and all 4 sides by a hood, thereby shielding desirable vegetation from the spray solution. 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 deep furrows.

Hooded sprayers that apply the herbicide solution as a spray band should be calibrated on a broadcast equivalent and volume basis. Use the following equation to convert from a broadcast rate per acre to a band rate per acre.

$$\frac{\text{Band width in inches}}{\text{Row width in inches}} \times \text{Herbicide Broadcast RATE per acre} = \text{Herbicide Band RATE per acre}$$

$$\frac{\text{Band width in inches}}{\text{Row width in inches}} \times \text{Broadcast VOLUME of Solution per acre} = \text{Band VOLUME of solution per acre}$$

Use nozzles that provide uniform coverage within the treated area. The herbicide solution should contact the entire weed. Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting desirable vegetation. Do not allow treated weeds to come into contact with desirable vegetation. Droplets, mist, foam, or splatter of the herbicide solution settling on desirable vegetation may result in discoloration, stunting or destruction.

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

**Spot Treatment in or Around Sugarcane Fields** – For dilution and rates of application using hand-held equipment, see “MIXING, ADDITIVES and APPLICATION INSTRUCTIONS” and “WEEDS CONTROLLED” sections of this label.

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.

**NOTE:** When spraying volunteer or diseased sugarcane, the plants should have at least 7 new leaves.

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

Do not feed or graze treated sugarcane forage following application.

**CONSERVATION TILLAGE, MINIMUM TILLAGE, AND NO-TILL SYSTEMS**  
**CORN AND SOYBEANS Tank Mixtures**

The instructions made in this section are not registered for use in California.

This product may be tank mixed with the products listed providing the product tank-mixed is registered for use on this site.

When applied as directed under the conditions described, the tank mixtures listed in this section control many emerged weeds, and give preemergence control of many annual weeds where corn or soybeans will be planted directly into a cover crop, established sod or in previous crop residues.

Refer to specific product labels for crop rotation restrictions and cautionary statements of all products used in these tank mixtures. For mixing instructions, see the “MIXING ADDITIVES and APPLICATION INSTRUCTIONS” section of this label.

Apply these tank mixtures in 10 to 20 gallons of water or 10 to 60 gallons of nitrogen solution per acre before, during or after planting. Do not apply these mixtures after crop emergence.

When tank mixing with residual herbicides, add an agriculturally approved nonionic surfactant at 0.5 to 1 percent by volume of spray solution. The addition of 1 to 2 percent dry ammonium sulfate by weight may increase the performance of this product.

**NOTE:** When using these tank mixtures, do not exceed 4 quarts of this product per acre.

**CORN**

For residual control, this product may be tank-mixed with the following herbicides or combination of herbicides:

- |                  |             |
|------------------|-------------|
| INTRRO®/ALACHLOR | ATRAZINE    |
| LARIAT®          | CYANAZINE   |
| BULLET®          | SIMAZINE    |
| DUAL II MAGNUM®  | PROWL®      |
| BICEP II MAGNUM® | MICRO-TECH® |

For improved burndown, this product may be tank-mixed with 2,4-D or dicamba. Applications of 2,4-D or dicamba must be made at least 7 days prior to planting corn. See the “WEEDS CONTROLLED” section for specific rate information.

**SOYBEANS**

For residual control, this product may be tank-mixed with the following herbicides or combination of herbicides:

- |                  |               |
|------------------|---------------|
| CANOPY®          | LOROX® PLUS   |
| COMMAND®         | PROWL®        |
| DUAL MAGNUM®     | SCEPTER®      |
| INTRRO®/ALACHLOR | SENCOR®       |
| LINURON          | SQUADRON®     |
| PURSUIT®         | PURSUIT® PLUS |
|                  | MICRO-TECH®   |

For improved burndown, this product may be tank-mixed with the following herbicides:

- 2,4-DB
- 2,4-D\*

\*See the label for 2,4-D for intervals between application and planting.

**CORN AND SOYBEANS**

**Annual Weeds** – For difficult-to-control weeds such as fall panicum, barnyardgrass, crabgrass, shattercane and broadleaf signal grass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 2 pints per acre in these tank mixtures. For other labeled annual weeds, apply 1 to 1.5 pints of this product per acre when weeds are less than 6 inches tall and 2 to 3 pints when weeds are over 6 inches tall. For a complete list of annual weeds controlled, see the “WEEDS CONTROLLED” section of this label.

**Perennial Weeds** – At normal application times in minimum tillage systems, perennial weeds may not be at the proper stage of growth for control. See the “WEEDS CONTROLLED” section of this label for the proper stage of growth for perennial weeds.

Use 2 to 4 quarts of this product per acre in the tank-mixtures mentioned above. Under these conditions provides top kill and reduces competition from many emerged perennial grass and broadleaf weeds. For emerged perennial weeds controlled, see the “WEEDS CONTROLLED” section of this label.

To obtain the desired stage of growth, it may be necessary to apply this product alone in the late summer or fall and then follow with a label-approved, seeding weed-control program at planting.

USE OF THESE TANK MIXTURES FOR BERMUDAGRASS OR JOHNSONGRASS CONTROL IN MINIMUM TILLAGE SYSTEMS IS NOT for bermudagrass control, follow the instructions under “CONTROL OF PERENNIAL WEEDS” section of this label and then use a label-approved, seeding weed-control program in a minimum tillage or conventional tillage system. For johnsongrass control, follow instructions under “CONTROL OF PERENNIAL WEEDS” section of this label, and then use a label-approved, seeding weed-control program with conventional tillage.

**PREHARVEST APPLICATIONS**

When applied as directed under the conditions described, this product controls annual and perennial weeds listed on this label prior to the harvest of cotton, grain sorghum (milo), soybeans and wheat.

For specific rates and application instructions for control of various annual and perennial weeds, see the “WEEDS CONTROLLED” section of this label.

This product may be applied by both ground and aerial application equipment. DO NOT APPLY MORE THAN 1 QUART PER ACRE OF THIS PRODUCT BY AIR. See the “APPLICATION EQUIPMENT AND TECHNIQUES” section of this label for instructions for ground and aerial applications.

**NOTE:** Do not apply to crops grown for seed. Reduction in germination or vigor may occur.

**SOYBEANS**

Apply after pods have set and lost all green color. Allow a minimum of 7 days between application and harvest of soybeans. Care should be taken to avoid excessive seed shatter loss due to ground application equipment.

Do not graze or harvest treated crop for livestock feed within 25 days of last preharvest application.

DO NOT APPLY MORE THAN 6 QUARTS PER ACRE OF THIS PRODUCT FOR PRE-HARVEST APPLICATIONS.

**MAD DOG®**

**COTTON**

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

This product provides weed control and cotton regrowth inhibition when applied prior to the harvest of cotton. Apply 1 to 2 quarts of this product in 3 to 10 gallons of water per acre for cotton regrowth inhibition. Do not apply more than 2 quarts of this product per acre for preharvest applications. THE USE OF ADDITIVES FOR PREHARVEST APPLICATION TO COTTON IS PROHIBITED.

This product may be tank mixed with DEF® 6, Folex®, or Prep™ to provide additional enhancement of cotton leaf drop.

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

Apply after sufficient bolls have developed to produce the desired yield of cotton. Applications made prior to this time could affect maximum yield potential.

Do not feed or graze treated cotton forage or hay following preharvest applications.

**Texas\* and New Mexico Counties of Chaves, Dona Ana, Eddy and Luna Only**

When applied as directed under the conditions described, this product controls annual and perennial weeds listed on this label prior to the harvest of cotton.

This product may be applied using either aerial or ground spray equipment. For aerial applications, refer to the “APPLICATION EQUIPMENT AND TECHNIQUES” and “AERIAL EQUIPMENT” sections of this label.

DO NOT EXCEED A MAXIMUM RATE OF 1 QUART PER ACRE OF THIS PRODUCT IN EAST AND CENTRAL TEXAS AND IN NEW MEXICO WHEN MAKING APPLICATIONS BY AIR.

**NOTE:** DO NOT APPLY TO CROPS GROWN FOR SEED.

Allow a minimum of 7 days between application and harvest. Do not feed or graze treated cotton forage or hay following preharvest applications.

**Weed Control**

For specified rates of application and instructions for control of various annual and perennial weeds, see the “Weeds Controlled” section of this label.

**Tank Mixtures**

This product may be tank-mixed with the following harvest-aid products or combination of harvest-aid products:

DEF® 6 Dropp® Folex® Prep™

For application guidelines, precautions and use rates refer to the DEF® 6, Folex®, Prep™, and Dropp® labels.

This product may be tank mixed with the products listed providing the product tank-mixed is registered for use on this site.

**Harvest Aid**

At rates of 24 fluid ounces to 2 quarts per acre and when tank mixed with Def® 6, Folex®, or Dropp®, this product may provide enhancement of cotton leaf drop and regrowth inhibition. The degree of leaf drop or regrowth inhibition achieved is strongly affected by plant and weather factors.

**Timing of Applications**

Apply this product after 60 percent of the cotton bolls have opened, or when there are sufficient mature bolls to produce the desired yields. Care must be taken not to apply this product before a sufficient number of bolls have matured since further boll maturation and development will most likely NOT occur after application.

A boll is matured when it is too hard to be dented when squeezed between thumb and finger, too hard to be sliced with a sharp knife, and when the seed coat becomes light brown in color.

In the Texas counties listed below, apply this product at any time after October 1 since the boll maturation process has essentially stopped. Prior to October 1, follow the application instructions listed above. For optimum control of whiteweed, make applications two weeks prior to frost.

Armstrong, Bailey, Borden, Briscoe, Castro, Childress, Cochran, Collingsworth, Crosby, Dawson, Deaf Smith, Dickens, Donley, Floyd, Gaines, Garza, Hale, Hall, Hockley, Kent, Lamb, Lubbock, Lynn, Motley, Parmer, Randall, Scurry, Swisher, Terry and Yoakum.

**\*West Texas Only**

West Texas is defined as the area bordered by Hwy 86 on the north, Hwy 287 on the northeast, Hwy 283 on the east, Hwy 190 on the south, Hwy 285 on the southwest, and the Texas-New Mexico border on the west.

**Broadcast Applications** – This product may be applied using either aerial or ground spray equipment. For ground applications with broadcast equipment, apply this product in 10 to 20 gallons of water per acre. For aerial applications, apply this product in 3 to 15 gallons of water per acre.

FOR AERIAL APPLICATIONS, REFER TO THE “APPLICATION EQUIPMENT AND

TECHNIQUES” AND “AERIAL EQUIPMENT” SECTIONS OF THIS LABEL.

DO NOT EXCEED A MAXIMUM RATE OF 2 QUARTS PER ACRE OF THIS PRODUCT WHEN MAKING APPLICATIONS BY AIR.

**Weed Control** – For specific rates of application and instructions for control of various annual and perennial weeds for this product used alone or in the following tank mixtures, see the “Weeds Controlled” section of this label.

To control johnsongrass using multiple-directed or broadcast over-the-top spray equipment, apply 1 quart of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 10 to 20 gallons of water per acre. Ensure complete coverage.

For partial control of field bindweed, apply 1 quart of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 20 gallons of water per acre. Apply when bindweed is actively growing and 12 inches or greater in length. Reduced performance may result if bindweed is under drought stress.

To control silverleaf nightshade (whiteweed), apply 2 quarts of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 15 gallons of water per acre. Applications should be made when at least 60 percent of the plants have berries. Treatments must be applied before a killing frost. Do not treat when the plants are under drought stress since good soil moisture is needed for active growth.

**Tank Mixtures**

MAD DOG with Def® 6  
MAD DOG with Folex®  
MAD DOG with Prep™  
MAD DOG with Prep™ plus Def® 6 or Folex®

This product may be tank mixed with the products listed providing the product tank-mixed is registered for use on this site.

When applied as directed under the conditions described, these tank mixtures control annual and perennial weeds listed in this label prior to the harvest of cotton. For application guidelines, precautions and use-rates, refer to the Def® 6, Folex® and Prep™ labels.

This product when tank-mixed with Def® 6 or Folex® defoliant may provide enhancement of cotton leaf drop and regrowth inhibition.

**Timing of Application** – Apply this product or these tank mixtures for preharvest weed control after 60 percent of the cotton bolls have opened.

**NOTE:** DO NOT APPLY TO CROPS GROWN FOR SEED. Allow a minimum of 7 days between application and harvest. Do not feed or graze treated cotton forage or hay following preharvest applications.

**GRAIN SORGHUM (MILO)**

Make applications at 30% grain moisture or less and at least 7 days prior to harvest.

Apply up to 2 quarts of this product per acre.

This product may be applied using either aerial or ground spray equipment. See the “APPLICATION EQUIPMENT AND TECHNIQUES” section of this label.

Note: It is not recommended that grain sorghum grown for seed be treated because a reduction in germination or vigor may occur.

**WHEAT**

Apply after the hard-dough stage of grain (30% or less grain moisture) and at least 7 days prior to harvest.

DO NOT APPLY MORE THAN 1 QUART PER ACRE OF THIS PRODUCT FOR PREHARVEST APPLICATIONS TO WHEAT.

**PREPLANT, PREEMERGENCE, PREHARVEST AND POSTHARVEST APPLICATIONS IN VARIOUS CROPS****Arkansas, Louisiana, Mississippi, Missouri and Tennessee Only**

This product controls annual and perennial weeds listed in this label prior to the 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. See the “WEEDS CONTROLLED” and the “PREHARVEST APPLICATIONS” sections of this label for specific application rates and timing instructions.

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

Aerial applications of this product may be made in fallow systems and in 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.**

**AVOID DRIFT** – DO NOT APPLY DURING 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.

**MAD DOG®**  
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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.

Read the "AERIAL EQUIPMENT" section of this label for additional precautions and instructions.

**APPLICATION OF MAD DOG WITH FERTILIZERS**

**Delaware, Maryland, New Jersey, Pennsylvania and Virginia Only**  
 THIS PRODUCT MAY BE APPLIED IN WATER, CLEAR LIQUID NITROGEN FERTILIZER AND CLEAR LIQUID COMPLETE-ANALYSIS FERTILIZER CARRIERS.

**Use with Liquid Fertilizers**

MAD DOG may be applied in clear liquid nitrogen fertilizers and clear liquid complete-analysis fertilizers. The MAD DOG tank mixtures listed in the "CONSERVATION TILLAGE, MINIMUM TILLAGE AND NO-TILL-SYSTEMS" of this label may also be applied in these fertilizer carriers. Do not use MAD DOG with suspension-type liquid fertilizers.

When used with clear liquid fertilizers, this product will provide control of annual weeds and suppression of perennial weeds listed on this label. Depending on the weed species, fertilizer composition, application method and climatic conditions, rates of MAD DOG at the higher end of the rate range may result in faster burndown and control of perennial weeds.

Add a nonionic surfactant at 0.5 to 1 percent by volume of spray solution. The addition of 2 percent ammonium sulfate by weight or 17 pounds per 100 gallons of spray solution may increase the performance of this product.

The maximum rate for perennial weeds is 5 quarts of 160 fluid ounces per acre. The maximum rate for annual weeds is 1.5 quarts or 48 fluid ounces per acre. The combined total of all treatments must not exceed 8 quarts of this product per acre per year. Minimum rates of MAD DOG to use when liquid fertilizer carriers for all labeled weeds are shown in the tables below.

For control of spurred anoda, Virginia copperleaf, cotton, eveningprimrose, Carolina geranium, morningglory, hemp sesbania, sicklepod, teaweed or velvetleaf, make applications when the weeds are less than 6 inches tall.

**Use Rates with Clear Liquid Nitrogen Fertilizers**

Fertilizer Volume (Gallons per acre)	Maximum Weed Height/Length (Inches)		
	0 to 5" (MAD DOG Quarts per Acre)	6 to 10"	11 to 15"
25	0.5 to 0.75	0.75 to 1	1 to 1.5
50	1 to 1.5	1.5 to 2	2 to 3
75	1.5 to 2.25	2.25 to 3	3 to 4.5
100	2 to 3	3 to 4	*

\*Not recommended

**Use Rates with Clear Liquid Complete -Analysis Fertilizers**

Fertilizer Volume (Gallons per acre)	Fertilizer Type	Maximum Weed Height/Length (Inches)		
		0 to 5" (MAD DOG Quarts per Acre)	6 to 10"	11 to 15"
25	N-0-0	0.5 to 0.75	0.75 to 1	1 to 1.5
	N-5-5	0.75 to 1	1 to 1.25	1.25 to 2
	N-10-10	0.75 to 1.25	1.25 to 1.5	1.5 to 2.5
	N-15-15	1 to 1.5	1.5 to 1.75	1.75 to 2.75
50	N-0-0	1 to 1.5	1.5 to 2	2 to 3
	N-5-5	1.25 to 2	2 to 2.5	2.5 to 3.75
	N-10-10	1.5 to 2.25	2.25 to 3	3 to 4.5
	N-15-15	2.25 to 4	4 to 4.75	3.5 to 4.75
75	N-0-0	1.5 to 2.25	2.25 to 3	3 to 4.5
	N-5-5	2 to 3	3 to 3.75	*
	N-10-10	2.25 to 3.5	3.5 to 4.5	*
	N-15-15	2.75 to 4	4 to 4.75	*
100	N-0-0	2 to 3	3 to 4	*
	N-5-5	2.5 to 3.75	*	*
	N-10-10	3 to 4.5	*	*
	N-15-15	*	*	*

\*Not recommended

**TREE AND VINE CROPS**

This product is for weed control in established groves, vineyards, and orchards, or for site preparation prior to transplanting crops listed in this section. 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 in this section. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for specific information on use of equipment.

When applying this product, refer to the "WEEDS CONTROLLED" section of this label and to specific instructions in this section for rates to be used.

**NOTE**

Repeat treatments may be necessary to control weeds originating from underground parts of untreated weeds or from seeds. This product does not provide residual weed control. For subsequent weed control, use repeated applications of this product. Do not apply more than 10.6 quarts of this product per acre per year.

EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF HERBICIDE SOLUTION, SPRAY, DRIFT OR MIST WITH FOLIAGE OR GREEN BARK OF TRUNK, BRANCHES, SUCKERS, FRUIT OR OTHER PARTS OF TREES OR VINES. CONTACT OF THIS PRODUCT WITH OTHER THAN MATURED BROWN BARK CAN RESULT IN SERIOUS CROP DAMAGE.

AVOID PAINTING OUT STUMPS WITH THIS PRODUCT AS INJURY RESULTING FROM ROOT GRAFTING MAY OCCUR IN ADJACENT TREES.

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 specified stage for treatment.

For specific rates of applications and instructions, see the "WEEDS CONTROLLED" section of this label, and to specific instructions which follow.

**MIDDLES MANAGEMENT**

FOR ANNUAL WEEDS IN MIDDLES BETWEEN ROWS OF TREE AND VINE CROPS

For citrus crops, treat uniformly between trees.

**MAD DOG  
 MAD DOG with GOAL®**

This product alone or in mixtures with Goal® will control or suppress the annual weeds listed below.

Apply the specified rates of this product, either alone and in mixtures with Goal®, plus 0.5 to 1 percent nonionic surfactant by spray volume in 3 to 10 gallons of water per acre. Apply when weeds are actively growing and less than 6 inches in height or diameter. If weeds are under drought stress, irrigate prior to application. Reduced control may occur if weeds have been mowed prior to application. Up to 48 fluid ounces per acre of this product may be used to control weeds, which have been mowed, are stressed or are growing in dense populations.

Weed Species	Maximum Height/Diameter (Inches)	Rate Per Acre	
		MAD DOG (fluid ounces)	GOAL® (fluid ounces)
<b>Barley</b> <i>Hordeum vulgare</i>	6	8	—
<b>Bluegrass, annual</b> <i>Poa annua</i>			
<b>Barleygrass</b> <i>Echinochloa crus-galli</i>	6	12	—
<b>Chickweed, common</b> <i>Stellaria media</i>			
<b>Red Maids</b> <i>Calandrinia ciliata</i>			
<b>Crabgrass</b> <i>Digitaria spp.</i>	6	16 OR 16 to 32	—  + *4 to 16**
<b>Feabane, hairy</b> <i>Coryza bonariensis</i>			
<b>Groundsel, common</b> <i>Senecio vulgaris</i>			
<b>Junglerice</b> <i>Echinochloa colonum</i>			
<b>Lambsquarters, common</b> <i>Chenopodium album</i>			
<b>Pigweed, redroot</b> <i>Amaranthus retroflexus</i>			
<b>Rocket, London</b> <i>Sisymbrium irio</i>			
<b>Ryegrass, common</b> <i>Lolium multiflorum</i>			
<b>Shepherdspurse</b> <i>Capsella bursapastoris</i>			
<b>Sowthistle, annual</b> <i>Sanctus oleraceus</i>			
<b>Cheeseweed, common</b> <i>Malva spp.</i>	3	12 to 32	+ 4 to 16
<b>Cheeseweed, common</b> <i>Malva spp.</i>	6	16 to 32	+ 4 to 16
<b>Filaree*</b> <i>Erodium spp.</i>			
<b>Horseweed/Marestail</b> <i>Coryza Canadensis</i>			
<b>Nettle, stinging</b> <i>Urtica dioica</i>			
<b>Purselane, common*</b> <i>Purtulaca oleracea</i>			

\*Suppression only

\*\*The mixture of this product plus Goal® is specified when weeds are stressed or growing in dense populations.

**MAD DOG®**  
**EPA REG. NO. 34704-889**

**STRIPS**

FOR ANNUAL AND PERENNIAL WEEDS IN STRIPS OF TREE AND VINE CROPS

**TANK MIXTURES WITH RESIDUAL HERBICIDES**

When applied as a tank mixture, this product provides control of the emerged annual weeds and control or suppression of emerged perennial weeds listed in this label. The following residual herbicides will provide preemergence control of those weeds listed in the individual product labels.

- MAD DOG with GOAL® 2XL
- MAD DOG with KARMEX® DF
- MAD DOG with KROVAR® I
- MAD DOG with SIMAZINE 90
- MAD DOG with SIMAZINE 4L
- MAD DOG with SOLICAM® 80DF
- MAD DOG with SURFLAN® AS
- MAD DOG with SIMAZINE (4L or 90) plus SURFLAN® AS
- MAD DOG with GOAL® (2XL) plus SURFLAN® AS
- MAD DOG with GOAL® (2XL) plus SIMAZINE (4L or 90)
- MAD DOG with GOAL® (2XL) plus SURFLAN® AS plus SIMAZINE (4L or 90)

Do not apply these tank mixtures in Puerto Rico.

When tank-mixing with residual herbicides, add an agriculturally approved nonionic surfactant at 0.5 to 1 percent by volume of spray solution.

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

Read and carefully observe the label claims, cautionary statements, rates and all other information on the labels of all products.

This product may be tank mixed with the products listed providing the product tank-mixed is registered for use on this site.

**SPECIFIED RATES**

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

**Perennial Weeds** – Apply 1 pint to 5 quarts per acre of this product in these tank mixtures to control or suppress perennial weeds. Follow the recommendations in the “WEEDS CONTROLLED” section of this label for stage of growth and application rates for specific perennial weeds.

**MAD DOG with GOAL® plus SIMAZINE/SURFLAN®**

This product plus low rates of Goal® in 3-way or 4-way mixtures with Simazine and/or Surflan® will provide postemergence control of weeds listed below.

Refer to the individual Simazine and Surflan® labels for preemergence rates, weeds controlled, precautionary statements and other important information.

Apply these tank mixtures in 3 to 40 gallons of water. Add 0.5 to 1 percent nonionic surfactant by total spray volume to the spray solution.

Apply 1 to 5 quarts per acre of this product 4 to 48 fluid ounces per acre of Goal® plus labeled rates of Simazine and/or Surflan® to control the following weeds:

- |   |   |
|---|---|
| <b>Barley, wild</b><br><i>Hordeum leporinum</i>     | <b>Horseweed/Marestail</b><br><i>Coryza Canadensis</i>  |
| <b>Bluegrass, annual</b><br><i>Poa annua</i>        | <b>Nettle, stinging</b><br><i>Urtica dioica</i>         |
| <b>Cheeseweed, common</b><br><i>Malva</i> spp.      | <b>Pineappleweed</b><br><i>Matricaria matricariodes</i> |
| <b>Chickweed, common</b><br><i>Stellaria media</i>  | <b>Rocket, London</b><br><i>Sisymbrium irio</i>         |
| <b>Filaree*</b><br><i>Erodium</i> spp.              | <b>Shepherdspurse</b><br><i>Capsella bursa-pastoris</i> |
| <b>Fleabane, hairy</b><br><i>Coryza bonariensis</i> | <b>Sowthistle, annual</b><br><i>Sonchus oleraceus</i>   |
| <b>Groundsel, common</b><br><i>Senecio vulgaris</i> |   |

\*Use a minimum of 1.5 quarts of this product in these mixtures.

**NOTE:** This recommendation does not preclude the use of Goal® in these mixtures at higher, labeled rates for preemergence weed control.

**PERENNIAL GRASS SUPPRESSION  
 ORCHARD FLOORS**

When applied as directed, this product will suppress vegetative growth as indicated below.

**Bahiagrass**

This product will provide significant inhibition of seedhead emergence and will suppress vegetative growth for a period of approximately 45 days with a single application and approximately 120 days with sequential applications. Apply this product 1 to 2 weeks after full green-up or after mowing to a uniform height of 3 to 4 inches. Applications must be made prior to seedhead emergence. Apply 6 fluid ounces of this product plus 0.5 to

1 percent nonionic surfactant by total spray volume in 10 to 25 gallons of water per acre.

Sequential applications of this product plus nonionic surfactant may be made at approximately 45-day intervals to extend the period of seedhead and vegetative growth suppression. For continued seedhead suppression, sequential applications must be made prior to seedhead emergence. Apply no more than 2 sequential applications per year. As a first sequential application, apply 4 fluid ounces of this product plus nonionic surfactant. A second sequential application of 2 to 4 fluid ounces may be made approximately 45 days after the last application.

**Bermudagrass**

For burndown, apply 1 to 2 quarts of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 20 gallons of water per acre. Use 1 quart of this product in 3 to 20 gallons of water per acre east of the Rocky Mountains. Use 1 to 2 quarts of this product in 3 to 10 gallons of water per acre west of the Rocky Mountains. 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.

**Suppression only (east of the Rocky Mountains)** – Apply 6 to 16 fluid ounces of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 20 gallons of water per acre no sooner than 1 to 2 weeks after full green-up. Mowing prior to application may occur provided a minimum height of 3 inches is maintained. Rates of 6 to 10 fluid ounces of this product plus nonionic surfactant should be used in shaded conditions or where a lesser degree of suppression is desired. Sequential applications may be made when regrowth occurs and bermudagrass injury and stand reduction can be tolerated.

**Suppression only (west of the Rocky Mountains)** – Apply 16 fluid ounces of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 20 gallons of water per acre to bermudagrass up to 6 inches in height and no sooner than 1 to 2 weeks after full green-up. Mowing prior to application may occur provided a minimum height of 3 inches is maintained. Sequential applications may be made when regrowth occurs and bermudagrass injury and stand reduction can be tolerated.

**Cool Season Grass Covers**

For suppression of tall fescue, fine fescue, orchardgrass and quackgrass, apply 8 fluid ounces of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 10 to 20 gallons of water per acre. For best suppression, add ammonium sulfate to the spray solution at a rate of 2 percent by weight or 17 pounds per 100 gallons of spray solution.

For suppression of Kentucky bluegrass covers, apply 6 fluid ounces of this product plus 0.5 to 1 percent nonionic surfactant. Do not add ammonium sulfate.

For best results, mow cool-season grass covers in the spring to even their height and apply the specified rate of this product 3 to 4 days after mowing. Avoid treating cool season grass covers under poor growing conditions, such as drought stress (drip irrigation), disease or insect damage.

**LOW VOLUME APPLICATION (FLORIDA AND TEXAS)**

For burndown or control of the weeds listed, apply the specified rates of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 30 gallons of water per acre. Where weed foliage is dense, use 10 to 30 gallons of water per acre.

**ANNUAL WEEDS**

**Goatweed** – Apply 2 to 3 quarts per acre of this product plus 17 pounds of ammonium sulfate per 100 gallons of water plus 0.5 to 1 percent nonionic surfactant by total spray volume. 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. If goatweed is greater than 8 inches tall, the addition of Krovar® I or Karmex® may improve control. Use labeled rates for these residual products.

Read and carefully observe the label claims, cautionary statements, rates, and all other information on the Krovar® I and Karmex® labels.

**PERENNIAL WEEDS**

Apply when weeds are actively growing and at the growth stages listed in the “PERENNIAL WEEDS CONTROLLED” section of this label. If perennial weeds are mowed, allow weeds to regrow to the specified stage of growth.

Weed Species	MAD DOG RATE PER ACRE			
	1 qt	2 qts	3 qts	5 qts
Bermudagrass	B	-	PC	C
Guineagrass				
Texas and Florida Ridge	B	C	C	C
Florida Flatwoods	-	B	C	C
Paragrass	B	C	C	C
Torpedograss	S	-	PC	C

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

### TREE CROPS

**Citrus\*\*\*\*:** calamondin, chironja, citron, grapefruit, kumquat, lemon, lime, mandarin orange, orange, pummelo, tangelo, tangerine, and tangors

**Nuts\*\*:** almond, beechnut, Brazil nut, butternut, cashew, chestnuts, chinquapin, filbert, hazel nut, hickory nut, macadamia, pecan, pistachio, walnut.

**Pome Fruit \*\*\*\*\*:** apple, loquat, mayhaw, pear, and quince

**Stone Fruit\*\*\*:** apricots, cherries, nectarines, olives, peaches, plums/prunes.

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

For citron and olives, apply as directed spray only.

Any application equipment listed in this section may be used in apricots, nectarines, peaches and plums/prunes growing in Arizona, 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 the 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.

**Tropical Fruit:** acerola\*, atemoya\*, avocado\*, banana\*\*\*\*, breadfruit\*, canistel\*, carambola\*, cherimoya\*, cocoa beans\*, coffee\*\*\*\*, dates\*, figs\*, genip\*, guava\*\*\*\*, jaboticaba\*, jackfruit\*, longan\*, lychee\*, mango\*, mayhaw\*, papaya\*\*\*\*, passion fruit\*, persimmons\*, plantains\*\*\*\*, pomegranate\*, sapodilla\*, sapote\*, soursop\*, sugar apple\*, tamarind\*, tea\*. In coffee and banana, delay applications 3 months after transplanting to allow the new coffee or banana plant to become established.

#### Note:

\*Allow a minimum of 14 days between last application and harvest.

\*\*Allow a minimum of 3 days between last application and harvest of these crops, except pistachio nuts. For pistachio nuts allow a minimum of 21 days between last application and harvest.

\*\*\*Allow a minimum of 17 days between last application and harvest.

\*\*\*\*Allow a minimum of 28 days between last application and harvest.

\*\*\*\*\*Allow a minimum of 1 day between last application and harvest.

### PASSION FRUIT – HAWAII ONLY

This product is for weed control in and around established passion fruit, or for site preparation prior to planting or 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.

When applying this product refer to the "Weeds Controlled" section of this label for weeds controlled and specific rates to be used.

Allow a minimum of 14 days between last application and harvest.

**Annual weed control** – Apply 8 to 48 fluid ounces of this product per acre plus 0.5 to 1 percent nonionic surfactant in 3 to 10 gallons of water per acre as directed in the "Low-Volume Broadcast Application" section of this label.

When using water volumes of 10 to 40 gallons of water per acre, apply 1 quart per acre if annual weeds are less than 6 inches tall. If weeds are greater than 6 inches tall, use 1.5 quarts of this product per acre.

**Perennial Weed Control** – Apply 3 to 5 quarts of this product per acre. Apply when weeds are actively growing and most have reached the early head or early bud stage of growth. Allow 7 or more days after application before mowing or tillage operations.

### COCONUT

This product may be applied to control annual and perennial weeds listed on this label in established plantings of coconut and for site preparation prior to transplanting coconut trees.

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

EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF HERBICIDE SOLUTION, SPRAY, DRIFT OR MIST WITH FOLIAGE OR GREEN BARK OF TRUNK, BRANCHES, SUCKERS, FRUIT OR OTHER PARTS OF TREES. CONTACT OF THIS PRODUCT WITH OTHER THAN MATURED BROWN BARK CAN RESULT IN SERIOUS CROP DAMAGE.

AVOID PAINTING OUT STUMPS WITH THIS PRODUCT AS INJURY RESULTING FROM ROOT GRAFTING MAY OCCUR IN ADJACENT TREES.

### VINE CROPS

#### Kiwi Fruit

**Grapes:** Any variety of table, wine or raisin grapes may be treated with any equipment listed in this section.

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

Allow a minimum of 14 days between last application and harvest.

In the northeast and Great Lakes regions, applications must be made prior to the end of bloom stage of grapes to avoid injury.

### ROUNDUP READY® CROPS

**NOTE:** USE OF THIS PRODUCT OVER "ROUNDUP READY®" OR OTHER GLYPHOSATE TOLERANT CROPS MAY SUBJECT YOU TO THE RISK OF LOSS OF LICENSE RIGHTS TO PATENTED GLYPHOSATE TOLERANCE TECHNOLOGIES AND/OR LEGAL ACTION FOR INFRINGEMENT OF PATENTS TO THOSE GLYPHOSATE-TOLERANT TECHNOLOGIES. IF YOU ARE A LICENSED GROWER UNDER AN AGREEMENT WITH A GLYPHOSATE-TOLERANT SEED MANUFACTURER, PLEASE REFER TO YOUR LICENSE AGREEMENT TO DETERMINE WHETHER YOU MAY USE THIS PRODUCT WITHOUT RISK OF LOSING YOUR LICENSE OR OF LEGAL ACTION AGAINST YOU.

**ALFALFA WITH THE ROUNDUP READY® GENE**  
**LOVELAND PRODUCTS, INC. RECOMMENDS USE OF THIS PRODUCT FOR POSTEMERGENCE APPLICATION ONLY ON ALFALFA VARIETIES DESIGNATED AS CONTAINING A ROUNDUP READY GENE.**

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

See the "ROUNDUP READY® CROPS" section of this label booklet for general precautionary instructions for use in Roundup Ready crops. Do NOT combine the instructions in this section of the label with other instructions made for alfalfa varieties that do not contain a Roundup Ready gene listed in the "ALFALFA, CLOVER, AND OTHER FORAGE LEGUMES" and "PASTURES" sections of this label booklet.

#### FOR WEED CONTROL APPLICATIONS IN SEED PRODUCTION OF ROUNDUP READY® ALFALFA

##### Application Instructions

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

For ground applications with broadcast equipment, apply this product in 3 to 40 gallons of spray solution per acre. Carefully select proper nozzle and spray pressure to avoid spraying a fine mist. For best results with ground application equipment, use flat fan nozzles. Check for even distribution of spray droplets.

##### For aerial application:

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

DO NOT EXCEED 64 FLUID OUNCES OR 2 QUARTS OF THIS PRODUCT PER ACRE WHEN MAKING APPLICATIONS BY AIR. AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS WHICH DO NOT CONTAIN A ROUNDUP READY GENE. Do not apply during low-level inversion conditions, when winds are gusty or under any other conditions that favor drift. Drift may cause damage to any vegetation contacted to which treatment is not intended. To prevent injury to adjacent desirable vegetation, appropriate buffer zones must be maintained.

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

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

#### Types Of Applications: Preplant, At-planting, Preemergence, Postemergence and Post-harvest of seed

##### Maximum Allowable Combined Application Rates

Combined total per year for all applications: 8.0 quarts per acre.

Preplant, At-planting and Preemergence applications: 64 fl oz or 2 quarts per acre.

Total in-crop application rate from emergence through the late vegetative stage: 6.0 quarts per acre.



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Spot-treatment during early bud stage through seed harvest (See the "Spot Treatment and Wiper Application" section and the "PRECAUTIONS, RESTRICTIONS" under the "ALFALFA, CLOVER, AND OTHER FORAGE LEGUMES" and "PASTURES" sections of this label for complete instructions) : Apply spray-to- wet; do not apply to the point of runoff.

There are no rotational crop restrictions following applications of this product. For any crop NOT listed in the label booklet, applications must be at least 30 days prior to planting.

**Over-the-top applications:** Broadcast applications of this product may be made using ground or aerial equipment in-crop to Roundup Ready alfalfa from emergence through the late vegetative stage. Do not make broadcast applications of this product between the initiation of alfalfa budding and the harvest of seed. Any single over-the-top broadcast application of this product should not exceed 64 fluid ounces or 2 quarts per acre. Sequential applications of this product should be at least 7 days apart.

Due to the biology and breeding constraints of alfalfa, up to 10% of the seedlings may not contain a Roundup Ready gene and will not survive or thrive after the first application of this product. To limit undesirable effects of stand gaps created by the loss of plants not containing a Roundup Ready gene, a single application of at least 32 fluid ounces or 1 quart per acre of this product should be applied at or before the 3 to 4 trifoliolate growth stage.

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

**Post-harvest applications:** Following harvest of Roundup Ready alfalfa seed, the stand may be managed for forage and hay production.

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

In addition to those weeds listed in the label booklet, this product will suppress or control the parasitic weed, Dodder (*Cuscuta* spp.) in Roundup Ready alfalfa seed production. Repeat applications may be necessary for complete control.

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

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

### FOR WEED CONTROL APPLICATIONS IN FORAGE AND HAY PRODUCTION OF ROUNDUP READY ALFALFA

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

For ground applications with broadcast equipment, apply this product in 3 to 40 gallons of spray solution per acre. Carefully select proper nozzle and spray pressure to avoid spraying a fine mist. For best results with ground application equipment, use flat fan nozzles. Check for even distribution of spray droplets.

**For aerial application:** Use the specified rates of this product in 3 to 15 gallons of spray solution per acre.

DO NOT EXCEED 64 FLUID OUNCES OR 2 QUARTS OF THIS PRODUCT PER ACRE WHEN MAKING APPLICATIONS BY AIR. FOR AERIAL APPLICATION IN CALIFORNIA, REFER TO THE FEDERAL SUPPLEMENTAL LABEL FOR AERIAL APPLICATION IN THAT STATE. AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS WHICH DO NOT CONTAIN A ROUNDUP READY GENE. Do not apply during low-level inversion conditions, when winds are gusty or under any other conditions that favor drift. Drift may cause damage to any vegetation contacted to which treatment is not intended. To prevent injury to adjacent desirable vegetation, appropriate buffer zones must be maintained.

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

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

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

### MAXIMUM ALLOWABLE APPLICATION RATES

Combined total per year for all applications, including preplant during year of establishment: 8.0 quarts per acre (256 fl oz per acre)

Combined total per year for in-crop applications for newly established and established stands: 6.0 quarts per acre (192 fl oz per acre)

Preplant, At-planting and Preemergence single applications: 2 quarts per acre (64 fl oz per acre)

### New Stand Establishment (seeding year)

Prior to First Cutting During New Stand Establishment:

From emergence up to 4 trifoliolate leaves: 64 fl oz or 2 quarts per acre

From 5 trifoliolate leaves up to 5 days before first cutting: 64 fl oz or 2 quarts per acre

After First Cutting in Newly Established Stands:

In-crop application, per cutting, up to 5 days before cutting: 64 fl oz or 2 quarts per acre

### Established Stands (non-seeding year)

In-crop applications, per cutting up to 5 days before cutting: 64 fl oz or 2 quarts per acre

There are no rotational crop restrictions following applications of this product. For any crop NOT listed in the label booklet, applications must be made at least 30 days prior to planting.

**Over-the-top applications:** This product may be applied postemergence to Roundup Ready alfalfa from emergence until 5 days prior to cutting. Any single over-the-top application of this product should not exceed 64 fluid ounces per acre. Sequential applications of this production should be at least 7 days apart.

**Attention:** Where Roundup Ready alfalfa is grown with a companion or cover crop, or is over seeded with a second species, over-the-top applications of this product will eliminate the non-Roundup Ready species.

During stand establishment, due to the biology and breeding constraints of alfalfa, up to 10% of the seedlings may not contain the Roundup Ready gene and will not survive after the first application of this product. To eliminate the undesirable effects of stand gaps created by the loss of plants not containing a Roundup Ready gene, a single application of at least 32 fluid ounces or 1 quart per acre of this product should be applied at or before the 3 to 4 trifoliolate growth stage.

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

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

In addition to those weeds listed in this label booklet, this product will suppress or control the parasitic weed, Dodder (*Cuscuta* spp.) in Roundup Ready alfalfa. Repeat applications may be necessary for complete control.

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

**PRECAUTIONS AND RESTRICTIONS:** Any single over-the-top application of this product should not exceed 64 fluid ounces or 2 quarts per acre. Sequential applications of this production should be at least 7 days apart. The combined total per year for all in-crop applications in newly established and established stands must not exceed 6.0 quarts (192 fluid ounces) per acre. Remove domestic livestock before application and wait a minimum of 5 days after last application before grazing, or cutting and feeding of Roundup Ready alfalfa forage and hay.

### POSTEMERGENCE APPLICATIONS TO SOYBEANS WITH THE ROUNDUP READY® GENE

#### General Information

FOR POSTEMERGENCE APPLICATION ONLY ON SOYBEAN VARIETIES WHICH HAVE THE ROUNDUP READY® GENE.

- Applying this product to soybean varieties which are not designated as Roundup Ready® will result in severe crop injury and yield loss. Avoid contact with foliage, green stems, or fruit of crops, or any desirable plants which do not contain the Roundup Ready® gene, since severe injury or destruction will result.
- Roundup Ready® varieties must be purchased from an authorized seed supplier. Crop safety and weed control performance are not warranted by Loveland Products, Inc. when this product is used in conjunction with "brown bag" or "bin run" soybean seed saved from previous year's production and replanted.

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• The Roundup Ready® designation indicates that the soybean contains a patented gene which provides tolerance to Loveland Products, Inc.'s Glyphosate brand herbicides. Information on Roundup Ready® soybeans may be obtained from your seed supplier.

**Application Instructions**

This product may be applied postemergence to Roundup Ready® soybeans from the craking stage through the full flowering stage. Allow a minimum of 14 days between application and harvest of soybeans.

**Maximum Allowable Yearly Rates**

**Preplant:** Maximum amount of this product which can be applied prior to crop emergence is 5 quarts/per acre.

**In-crop:** Maximum combined total of single or multiple in-crop applications from craking to flowering is 2 quarts/per acre.

**Preharvest:** Maximum amount of this product that can be applied after loss of green color in soybean pods until 14 days before harvest is 1 quart/per acre.

**Cropping Season:** Combined total per year for all applications may not exceed 8 quarts/per acre.

When applied as directed, this product will control labeled annual grasses and broadleaf weeds in Roundup Ready® soybeans. Many perennial grasses and broadleaf weeds will be controlled or suppressed with one or more applications of this product.

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

**For ground applications:** Use the specified rates of this product in 5 to 20 gallons of spray solution per acre as a broadcast spray. Carefully select proper nozzle and spray pressure to avoid spraying a fine mist. For best results with ground application equipment, use nozzles which provide a flat fan pattern. Check for even distribution of spray droplets.

**For aerial applications:** Use the specified rates of this product in 3 to 15 gallons of spray solution per acre. DO NOT APPLY DURING LOW LEVEL INVERSION CONDITIONS, WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITIONS WHICH FAVOR DRIFT. DRIFT MAY CAUSE DAMAGE TO ANY VEGETATION CONTACTED TO WHICH TREATMENT IS NOT INTENDED. TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.

AERIAL APPLICATIONS ON ROUNDUP READY® SOYBEANS MAY BE MADE ONLY IN THE FOLLOWING STATES: ALABAMA, ARKANSAS, FLORIDA, GEORGIA, KANSAS, LOUISIANA, MISSISSIPPI, MISSOURI (BOOT-HEEL ONLY), NORTH CAROLINA, OKLAHOMA, SOUTH CAROLINA, TENNESSEE AND TEXAS.

**Annual Weed Rate Tables**

The following rate specifications will provide control of labeled grasses and broadleaf weeds in conventional and no-till soybean production systems. Refer to the "ANNUAL WEEDS" Rate Table of this label for rate recommendations for specific annual weeds. Tank mixtures with other herbicides are not recommended due to potential for crop injury and/or weed antagonism and to rotational crop restrictions of the tank mix partner. This product may be used up to 64 fluid ounces per acre in any single application for control of annual weeds, where heavy weed densities exist.

**NOTE:** In no-till and stale seedbed systems, always burn down existing weeds before soybeans emerge. Apply a preplant burn-down treatment of 16 to 64 fluid ounces per acre of this product.

**Midwest Directions**

**Narrow row or drilled soybeans:** A single in-crop application of this product will provide effective control of labeled weeds.

Weed Height (inches)	Rate (fluid oz/per acre)
3 - 6	24
6 - 12	32
12 - 18	48

Under adverse growing conditions such as drought, hail, wind damage or a poor soybean stand that slows or delays canopy closure, a sequential application of this product at 16-32 fluid ounces per acre may be necessary to control late flushes of weeds.

**Wide row soybeans:** A single in-crop application of this product will provide effective control of initial stand of labeled weeds. If new flushes of weeds occur, they can be controlled by sequential applications of this product.

**Initial Treatment**

Weed Height (inches)	Rate (fluid oz/per acre)
3 - 6	24
6 - 12	32
12 - 18	48

**Sequential Application\***

Weed Height (inches)	Rate (fluid oz/per acre)
1 - 3	16
3 - 6	24
6 - 12	32

\*Combined total application in-crop not to exceed 64 fluid ounces per acre.

**For morningglory, black nightshade, groundcherry, and Pennsylvania smartweed apply:**

Weed Height (inches)	Rate (fluid oz/per acre)
1 - 3	24
3 - 6	32
6 - 12	48

**Giant ragweed:** Apply 32 fluid oz/A when the weed is 8-12" tall to avoid the need for sequential application.

Some weeds, such as black nightshade, woody cupgrass, shattercane, wild proso millet, burcucumber, and giant ragweed, with multiple germination times may require a sequential application of this product. Suppressed or stunted weeds may also require sequential applications. Sequential applications should be made after some regrowth has occurred. Use a minimum of 16 fluid ounces of this product per acre for sequential applications. The combined total of all in-crop postemergence treatments must not exceed 64 fluid ounces per acre.

**Mid-Atlantic/Southeast Directions**

**Narrow row or drilled soybeans:** A single in-crop application of this product will provide effective control of labeled weeds.

Weed Height (inches)	Rate (fluid oz/per acre)
3 - 6	24
6 - 12	32
12 - 18	48

Under adverse growing conditions such as drought, hail, wind damage or a poor soybean stand that slows or delays canopy closure, a sequential application of this product at 16-32 fluid ounces per acre may be necessary to control late flushes of weeds.

**Wide row soybeans:** A single in-crop application of this product will provide effective control of initial stand of labeled weeds. If new flushes of weeds occur, they can be controlled by sequential applications of this product.

**Initial Treatment**

Weed Height (inches)	Rate (fluid oz/per acre)
3 - 6	24
6 - 12	32
12 - 18	48

**Sequential Applications\***

Weed Height (inches)	Rate (fluid oz/per acre)
1 - 3	16
3 - 6	24
6 - 12	32

\*Combined total application not to exceed 64 fluid ounces per acre.

**Hemp sesbania:** Apply 24 fl oz/A at 0-2" tall; 32 fl oz/A at 2-4"; 40 fl oz/A at 4-6" tall; 48 fl oz/A at 6-8" tall.

**For morningglory, black nightshade, groundcherry, and Pennsylvania smartweed apply:**

Weed Height (inches)	Rate (fluid oz/per acre)
1 - 3	24
3 - 6	32
6 - 12	48

Some weeds, such as black nightshade, broadleaf signalgrass, Texas panicum, burcucumber, and sicklepod, with multiple germination times may require a sequential application of this product. Suppressed or stunted weeds may also require sequential applications. Sequential applications should be made after some regrowth has occurred. Use a minimum of 16 fluid ounces of this product per acre for sequential applications. The combined total of all in-crop postemergence treatments must not exceed 64 fluid ounces per acre.

**Delta/Mid-South Directions**

**Narrow row or drilled soybeans:** An in-crop application of this product will provide effective control of initial stand of labeled weeds. A sequential application will be required to control new flushes of weeds.

**Wide row soybeans:** An in-crop application of this product will provide effective control of initial stand of labeled weeds. A sequential application will be required to control new flushes of weeds.

**Initial Treatment**

Weed Height (inches)	Rate (fluid oz/per acre)
1 - 3	24
3 - 6	32
6 - 12	48

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**Sequential Application\***

Weed Height (inches)	Rate (fluid oz/ per acre)
1 - 3	16
3 - 6	24
6 - 12	32

\*Combined total application in-crop not to exceed 64 fluid ounces per acre.

**Hemp sesbania:** Apply 24 fl oz/A at 0-2" tall; 32 fl oz/A at 2-4" tall; 40 fl oz/A at 4-6" tall; 48 fl oz/A at 6-8" tall.

**Perennial Weed Rate Directions**

A 32 to 64 fluid ounce per acre rate (single or sequential applications) of this product will control or suppress perennial weeds such as: bermudagrass, Canada thistle, common milkweed, field bindweed, hemp dogbane, horsenettle, nutsedge, quackgrass, rhizome, johnsongrass, redvine, trumpetcreeper, swamp smartweed, and wirestem muhly. For additional information on perennial weeds, see the "PERENNIAL WEED" Rate Table of this label. For some perennial species repeat application may be required to eliminate crop competition throughout the growing season.

**NOTE: Non-ionic Surfactant:** Use 0.5 percent surfactant concentration (2 quarts per 100 gallons of spray solution) when using surfactants which contain at least 70 percent active ingredient or a 1 percent surfactant concentration (4 quarts per 100 gallons of spray solution) for those surfactants containing less than 70 percent active ingredient. Ammonium Sulfate: Ammonium sulfate may be mixed with this product for applications to Roundup Ready® soybeans. Refer to the "ADDITIVES" section of the label for use instructions for ammonium sulfate.

**OVER-THE-TOP APPLICATIONS TO SOYBEANS WITH THE ROUNDUP READY® GENE**

**GENERAL INFORMATION**

**NOTE:** THIS PRODUCT MAY BE USED ONLY OVER THE TOP OF THE IMPROVED SOYBEAN VARIETIES THAT ARE DESIGNATED AS SOYBEANS WITH THE ROUNDUP READY® GENE. SEVERE INJURY OR DEATH OF SOYBEANS WILL RESULT IF ANY SOYBEAN VARIETIES NOT DESIGNATED AS HAVING THE ROUNDUP READY® GENE ARE SPRAYED WITH THIS PRODUCT. AVOID CONTACT WITH FOLIAGE, GREEN STEMS, OR FRUIT OF CROPS, OR ANY DESIRABLE PLANTS AND TREES, OTHER THAN SOYBEANS WITH THE ROUNDUP READY® GENE, SINCE SEVERE INJURY OR DESTRUCTION WILL RESULT.

ROUNDUP READY® SOYBEAN VARIETIES MUST BE PURCHASED FROM AN AUTHORIZED LICENSED SEED SUPPLIER. THE DESIGNATION, "ROUNDUP READY", INDICATES THAT SOYBEAN VARIETY CONTAINS A PATENTED PROPRIETARY TRAIT. IT IS UNLAWFUL TO SELL OR PLANT SAVED SEED.

SOYBEANS WITH THE ROUNDUP READY® GENE MAY ONLY BE USED FOR PLANTING A COMMERCIAL CROP IN A SINGLE SEASON. SEED MAY NOT BE SAVED FOR REPLANTING AND SAVED SEED MAY NOT BE SUPPLIED TO OTHERS FOR REPLANTING. LOVELAND PRODUCTS, INC. DOES NOT WARRANT THE SAFETY OR PERFORMANCE OF THIS PRODUCT WHEN USED ON "BROWN BAG" OR FARMER-MADE SEED.

**APPLICATION INSTRUCTIONS**

This product may be applied postemergence to soybeans with the Roundup Ready® Gene from the cracking stage through the flowering stage. Single and repeat in-crop applications of this product are not to exceed 2 quarts per acre per growing season. Preharvest applications are not to exceed 1 quart per acre. For preharvest applications in soybeans, refer to the "PREHARVEST APPLICATIONS" section of this label. Total MAD DOG use should not exceed 8 quarts per acre per year. Applications may be made following pre-plant, stale seedbed, or post-plant burndown applications of products containing MAD DOG, or on conventionally tilled seedbeds.

When applied as directed under the conditions described, this product will control labeled annual grasses and broadleaf weeds in soybeans with the Roundup Ready® gene. Many perennial grass and broadleaf weeds will be controlled or suppressed with one or more applications of this product.

Applications should be made to actively growing weeds before they reach the maximum size listed for each specified in the "WEEDS CONTROLLED" section of this label. Refer to the "MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS" of this label for proper use instructions.

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

**ATTENTION:** AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS OTHER THAN SOYBEANS WITH THE ROUNDUP READY® GENE. Do not allow the herbicide solution to mist, drip, drift or splash onto other 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 plant injury occurring from drift of this product is greatest when winds are gusty or in excess of 5 miles per hour. Even under lesser wind velocities, avoid conditions which allow spray drift to occur such as combinations of pressure and nozzle type that will result in fine particles (mist) which are likely to drift. AVOID APPLYING AT EXCESSIVE SPEED OR SPRAY PRESSURE.

**For ground applications:** Use the specified rates of this product in 5 to 20 gallons of

spray solution per acre as a broadcast spray. See the "WEEDS CONTROLLED" section of this label for specific rates. Carefully select proper nozzle to avoid spraying a fine mist. For best results with ground application equipment, use flat fan nozzles. Check for even distribution of spray droplets.

**For aerial applications:** Use the specified rates of this product in 3 to 15 gallons of spray solution per acre. Do not exceed 1 quart per acre. See the "WEEDS CONTROLLED" section on this label. AVOID DRIFT – DO NOT APPLY DURING INVERSION CONDITIONS, WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITIONS WHICH FAVOR DRIFT. DRIFT MAY CAUSE DAMAGE TO ANY VEGETATION CONTACTED TO WHICH TREATMENT IS NOT INTENDED. TO PREVENT INJURY TO ADJACENT 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.

**Weeds Controlled**

**Application Rates – Annual Weeds:**

**Rate per acre: 12 fluid ounces**

WEED	WEED HEIGHT (INCHES)
Foxtail	Up to 18

**Rate per acre: 16 fluid ounces**

WEED	WEED HEIGHT (INCHES)
Barley	Up to 18
Rye	Up to 18
Wheat	Up to 18
Chickweed	Up to 12
Cocklebur	Up to 12
Corn, volunteer	Up to 12
Crabgrass	Up to 12
Mustard*	Up to 12
Pigweed sp.	Up to 12
Seedling Johnsongrass	Up to 12
Shattercane	Up to 12
Sunflower	Up to 12
Witchgrass	Up to 8
Field Pennycress	Up to 6
Groundcherry	Up to 6
Lambsquarters	Up to 6
Panicum, fall	Up to 6
Panicum, Texas	Up to 6
Shepherdspurse	Up to 6
Sprangletop	Up to 6
Woolly cupgrass	Up to 6
Kochia**	3 to 6
Barnyardgrass	Up to 3
Broadleaf signalgrass	Up to 3
Fleabane, Rough	Up to 3
Goosegrass	Up to 3
Horseweed/marestail	Up to 3
Smartweed, Pennsylvania	Up to 3
Velvetleaf	Up to 3
Junglerice	Up to 3
Sicklepod	Up to 2

\*Do not treat mustard after flowering.

\*\*Do not treat Kochia in button stage (1-2" tall)

**Rate per acre: 24 fluid ounces**

WEED	WEED HEIGHT (INCHES)
Chickweed	12 to 18
Cocklebur	12 to 18
Mustard	12 to 18
Pigweed	12 to 18
Shattercane	12 to 18
Sunflower	12 to 18
Crabgrass	12 to 18
Witchgrass	9 to 12
Field Pennycress	6 to 12
Groundcherry	6 to 12
Kochia	6 to 12
Lambsquarters	6 to 12
Panicum, fall	6 to 12
Shepherdspurse	6 to 12
Sprangletop	6 to 12
Woolly cupgrass	6 to 12
Goosegrass	3 to 6
Barnyardgrass	3 to 6
Broadleaf signalgrass	3 to 6
Fleabane, Rough	3 to 6
Horseweed/marestail	3 to 6
Junglerice	3 to 6
Pennsylvania Smartweed	3 to 6
Velvetleaf	3 to 6
Sicklepod	3 to 4
Black Nightshade	Up to 6

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**Rate per acre: 24 fluid ounces cont'd.:**

<b>WEED</b>	<b>WEED HEIGHT (INCHES)</b>
Ragweed, common	Up to 6
Ragweed, giant	Up to 6
Red rice	Up to 3
Hemp sesbania	Up to 2
Morningglory sp.	Up to 2
Prickly sida, Teaweed	Up to 2

**Rate per acre: 32 fluid ounces**

<b>WEED</b>	<b>WEED HEIGHT (INCHES)</b>
Groundcherry	12 to 18
Horseweed/marestail	12 to 18
Lambsquarters	12 to 18
Panicum, fall	12 to 18
Sprangletop	12 to 18
Goosegrass	8 to 12
Black nightshade	6 to 12
Fleabane, Rough	6 to 12
Ragweed, common	6 to 12
Ragweed, giant	6 to 12
Velvetleaf	6 to 12
Pennsylvania smartweed	6 to 9
Broadleaf signalgrass	6 to 8
Junglerice	6 to 8
Henbit	Up to 6
Sicklepod	4 to 6
Red rice	4 to 5
Hemp sesbania	3 to 4
Morningglory sp.	3 to 4
Prickly sida, Teaweed	3 to 4

**Rate per acre: 48 fluid ounces**

<b>WEED</b>	<b>WEED HEIGHT (INCHES)</b>
Hemp sesbania	5 to 9
Morningglory sp.	5 to 9
Prickly sida, Teaweed	4 to 6

**NOTE:**

**Non-ionic Surfactant:** Use 0.5 percent surfactant concentration (2 quarts per 100 gallons of spray solution) when using surfactants which contain less than 70 percent active ingredient or a 1 percent surfactant concentration (4 quarts per 100 gallons of spray solution) for those surfactants containing less than 70 percent active ingredient.

**Ammonium Sulfate:** This additive may improve performance of MAD DOG under environmental stress conditions. Ammonium sulfate is most effective under cool conditions or under mild moisture stress conditions when weeds are not growing as rapidly. Refer to the "ADDITIVES" section of this label for use instructions for ammonium sulfate.

**Sequential Applications:** Some weeds with multiple germination times or suppressed (stunted) weeds may require a second application of this product. The second application should be made after some regrowth has occurred.

**Application Rates – Perennial Weeds:**

MAD DOG at 16 to 64 fl oz per acre (single or sequential applications) will control or burn-down the following perennial weeds: Canada thistle, common milkweed, field bindweed, hemp dogbane, nutsedge, quackgrass, rhizome johnsongrass, tall fescue, trumpetcreeper, swamp smartweed, and wirestem muhly. For some perennial species, repeat applications may be required to eliminate crop competition throughout the growing season.

**SEED PRODUCTION OF SOYBEANS WITH THE ROUNDUP READY® GENE**

**NOTE:** THIS PRODUCT MAY BE USED FOR CONTROL OF NON-GLYPHOSATE TOLERANT SOYBEANS IN PRODUCTION FIELDS OF SOYBEANS CONTAINING THE ROUNDUP READY® GENE. SEVERE INJURY OR DEATH WILL RESULT IF SOYBEAN VARIETIES WHICH DO NOT CONTAIN THE ROUNDUP READY® GENE ARE SPRAYED WITH THIS PRODUCT. AVOID CONTACT OF THE SPRAY, GREEN STEMS OR FRUIT OF CROPS, OR ANY DESIRABLE PLANTS AND TREES, OTHER THAN SOYBEANS WITH THE ROUNDUP READY® GENE, SINCE SEVERE INJURY OR DESTRUCTION MAY RESULT.

ROUNDUP READY® SOYBEAN VARIETIES MUST BE PURCHASED FROM AN AUTHORIZED LICENSED SEED SUPPLIER. THE DESIGNATION, "ROUNDUP READY", INDICATES THE SOYBEAN VARIETY CONTAINS A PATENTED PROPRIETARY TRAIT. IT IS UNLAWFUL TO SELL OR PLANT SAVED SEED.

SOYBEANS WITH THE ROUNDUP READY® GENE MAY ONLY BE USED FOR PLANTING A COMMERCIAL CROP IN A SINGLE SEASON. SEED MAY NOT BE SAVED FOR REPLANTING AND SAVED SEED MAY NOT BE SUPPLIED TO OTHERS FOR REPLANTING. LOVELAND PRODUCTS, INC. DOES NOT WARRANT THE SAFETY OR PERFORMANCE OF THIS PRODUCT WHEN USED ON "BROWN BAG" OR FARMER-MADE SEED.

**Use Directions:**

When applied as directed under the conditions described, this product will control non-glyphosate tolerant soybeans in seed production fields of soybeans containing the Roundup Ready® gene. This product may be applied using ground spray equipment

only. Apply 1 quart of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 5 to 20 gallons of spray solution per acre as a broadcast spray.

DO NOT EXCEED A MAXIMUM RATE OF 1 QUART PER ACRE OF THIS PRODUCT.

**Application Timing** – This product can be applied to Roundup Ready® soybeans from the cracking stage through the flowering stage.

**POSTEMERGENCE APPLICATIONS TO CORN WITH THE ROUNDUP READY® GENE**

**GENERAL INFORMATION**

ROUNDUP READY® CORN VARIETIES MUST BE PURCHASED FROM AN AUTHORIZED LICENSED SEED SUPPLIER. THE DESIGNATION "ROUNDUP READY®", INDICATES THE CORN VARIETY CONTAINS A PATENTED PROPRIETARY TRAIT. IT IS UNLAWFUL TO SELL OR PLANT SAVED SEED.

CORN WITH THE ROUNDUP READY® GENE MAY ONLY BE USED FOR PLANTING A COMMERCIAL CROP IN A SINGLE SEASON. SEED MAY NOT BE SAVED FOR REPLANTING AND SAVED SEED MAY NOT BE SUPPLIED TO OTHERS FOR REPLANTING. LOVELAND PRODUCTS, INC. DOES NOT WARRANT THE SAFETY OR PERFORMANCE OF THIS PRODUCT WHEN USED ON "BROWN BAG" OR FARMER-MADE SEED.

LOVELAND PRODUCTS, INC. RECOMMENDS USE OF THIS PRODUCT ONLY ON CORN HYBRIDS DESIGNATED AS CONTAINING THE ROUNDUP READY® GENE.

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

**DIRECTIONS FOR USE**

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, OTHER THAN CORN WITH THE ROUNDUP READY® GENE, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See the "GENERAL INFORMATION" and "MIXING" sections of this label for essential product performance information.

**APPLICATION INSTRUCTIONS**

This product may be applied postemergence to Roundup Ready® corn from emergence through the V8 (8 leaves with collars) or until corn height reaches 30 inches, whichever comes first. Single in-crop applications of this product are not to exceed 1 quart per acre.

Sequential in-crop applications of this product from emergence through the V8 stage or 30 inches must not exceed 2 quarts per acre per growing season.

**MAXIMUM YEARLY RATES ALLOWED**

**Preplant:** Maximum amount of this product which can be applied prior to crop emergence is 5 quarts per acre.

**In-crop:** Maximum combined total of multiple in-crop applications from emergence through the V8 stage or 30 inches is 2 quarts per acre.

**Preharvest:** Maximum amount of this product that can be applied after maximum kernel fill is complete and the crop is physiologically mature (black layer formation) until 7 days before harvest is 1 quart per acre.

**Cropping Season:** Combined total per year for all applications may not exceed 8 quarts per acre.

When applied as directed, this product controls labeled annual grass and broadleaf weeds in Roundup Ready® corn. Many perennial grasses and broadleaf weeds will be controlled or suppressed with one or more applications of this product. Applications should be made to actively growing weeds before they reach the maximum size listed in the "WEEDS CONTROLLED" section of this label. Refer to the "MIXING" section of this label for proper use instructions.

The addition of 1 to 2 percent dry ammonium sulfate by weight or 8.5 to 17 pounds per 100 gallons of water may increase the performance of this product under hard water conditions, drought conditions or when tank mixed with Bullet® or Micro-Tech® herbicides. Ensure that ammonium sulfate is completely dissolved in the spray tank before adding herbicides. Thoroughly rinse the spray system with clean water after use to reduce corrosion. The addition of other additives, including fertilizers and micronutrients are not recommended with this product since this may result in increased potential for crop injury.

Allow a minimum of 50 days between application of this product and harvest of corn forage and 7 days between application and harvest of corn grain. Allow a minimum of 10 days between in-crop applications of this product. **Do not graze, harvest or feed corn forage or silage following sequential in-crop applications of this product on Roundup Ready® corn.** There are no rotational crop restrictions following applications of this product.

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

# MAD DOG®

## EPA REG. NO. 34704-889

THOROUGHLY CLEAN THE SPRAY TANK AND ALL LINES AND FILTERS TO ELIMINATE POTENTIAL CONTAMINATION FROM OTHER HERBICIDES PRIOR TO MIXING AND APPLYING THIS PRODUCT.

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

**For aerial applications:** Use the specified rates of this product in 3 to 15 gallons of spray solution per acre. Do not exceed 1 quart per acre. See the "WEEDS CONTROLLED" section on this label. AVOID DRIFT – DO NOT APPLY DURING INVERSION CONDITIONS, WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITIONS WHICH FAVOR DRIFT. DRIFT MAY CAUSE DAMAGE TO ANY VEGETATION CONTACTED TO WHICH TREATMENT IS NOT INTENDED. TO PREVENT INJURY TO ADJACENT VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.

### WEED CONTROL DIRECTIONS

Apply 24 to 32 fluid ounces of MAD DOG per acre for control of labeled grasses and broadleaf weeds in conventional and no-till corn production systems. Refer to this label for rate recommendations for specific annual weeds. MAD DOG applied at up to 1 quart per acre will control or suppress the growth or perennial weeds such as: bermudagrass, Canada thistle, common milkweed, field bindweed, hemp dogbane, horsenettle, nutsedge, quackgrass, rhizome johnsongrass, redvine, trumpetcreeper, swamp smartweed, and wirestem muhly. For additional information on perennial weeds, see the "PERENNIAL WEED RATE TABLE" of this label.

### PREEMERGENCE FOLLOWED BY POSTEMERGENCE WEED CONTROL PROGRAM

This product may be applied postemergence in-crop following any labeled preemergence herbicide applications. The post application of this product should be made before the weeds reach a height and/or density that the weeds become competitive with the crop. A single in-crop application of this product at the specified rate will provide control of emerged weeds listed on the label. This product may be applied postemergence to Roundup Ready® corn from emergence to V8 stage (8 leaves with collars) or until corn height reaches 30 inches (free standing), whichever comes first.

### POSTEMERGENCE ONLY WEED CONTROL PROGRAM

This product may be applied alone or as a postemergence in-crop application to provide control of emerged weeds listed on this label. The postemergence application of this product should be made before the weeds reach a height and/or density that the weeds become competitive with the crop. If new flushes of weeds occur, a sequential application of this product at 24 to 32 fluid ounces per acre will control the labeled grasses and broadleaf weeds. This product may be applied postemergence to Roundup Ready® corn from emergence through the V8 stage or until corn height reaches 30 inches (free standing), whichever comes first.

This product may be applied in tank mixtures with labeled rate of Harness®, Harness® Xtra, Harness® Xtra 5.6L, Micro-Tech®, Bullet®, Permit® or Atrazine. Refer to the specific product label and observe all precautions and limitations on the label for all products used in tank mixtures, including application timing restrictions, soil restrictions, minimum recropping interval and rotational guidelines – the more restrictive requirements apply. Tank mixtures with other products may result in increased potential for crop injury and/or weed antagonism. Refer to the table below for height limitation for tank mix partner.

Tank Mix Partner	Maximum Height Of Corn For Application
Harness®	11 inches
Harness® Xtra	
Harness® Xtra 5.6	
Bullet®*	5 inches
Micro-Tech®*	
Permit®*	24 inches
Atrazine	12 inches

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

**NOTE: Non-ionic Surfactant:** Non-ionic surfactants which are labeled for use with postemergence herbicides may be used. When using additional surfactant, use 0.5 percent surfactant concentration (2 quarts per 100 gallons of spray solution) when using surfactants which contain at least 70 percent active ingredient or a 1 percent surfactant concentration (4 quarts per 100 gallons of spray solution) for those surfactants containing less than 70 percent active ingredient.

The addition of certain surfactants to this product may result in some crop response including leaf necrosis, leaf chlorosis or leaf speckling due to the surfactant added to the spray mixture. Read and carefully observe cautionary statements and other information appearing on the surfactant label.

### COTTON WITH THE ROUNDUP READY® GENE – IN CROP APPLICATIONS

**NOTE:** LOVELAND PRODUCTS, INC. RECOMMENDS THIS PRODUCT FOR USE ONLY OVER-THE-TOP OF OR DIRECTED ONTO IMPROVED COTTON VARIETIES THAT ARE DESIGNATED AS COTTON WITH THE ROUNDUP READY® GENE. SEVERE INJURY OR DEATH OF COTTON WILL RESULT IF ANY COTTON VARIETIES NOT PROPERLY DESIGNATED AS HAVING THE ROUNDUP READY® GENE ARE SPRAYED WITH THIS PRODUCT. AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, OR FRUIT OR CROPS, OR ANY DESIRABLE PLANTS

AND TREES, OTHER THAN CROPS WITH THE ROUNDUP READY® GENE, SINCE SEVERE INJURY OR DESTRUCTION WILL RESULT.

ROUNDUP READY® COTTON VARIETIES MUST BE PURCHASED FROM AN AUTHORIZED LICENSED SEED SUPPLIER. THE DESIGNATION "ROUNDUP READY®", INDICATES THE COTTON VARIETY CONTAINS A PATENTED PROPRIETARY TRAIT. IT IS UNLAWFUL TO SELL OR PLANT SAVED SEED.

COTTON WITH THE ROUNDUP READY® GENE MAY ONLY BE USED FOR PLANTING A COMMERCIAL CROP IN A SINGLE SEASON. SEED MAY NOT BE SAVED FOR REPLANTING AND SAVED SEED MAY NOT BE SUPPLIED TO OTHERS FOR REPLANTING. LOVELAND PRODUCTS, INC. DOES NOT WARRANT THE SAFETY OR PERFORMANCE OF THIS PRODUCT WHEN USED ON "BROWN BAG" OR FARMER-MADE SEED.

### APPLICATION INSTRUCTIONS

This product will control many troublesome weeds with over-the-top directed, hooded sprayer, or preharvest applications in Roundup Ready® cotton.

### MAXIMUM ALLOWABLE YEARLY RATES

1. Combined total per year for all applications	8 quarts/A
2. Preplant, Preemergence applications	5 quarts/A
3. Total in-crop applications from cracking to layby	4 quarts/A
4. Maximum preharvest application rate	2 quarts/A

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

**For aerial applications** apply this product in 3 to 15 gallons of water per acre.

DO NOT EXCEED A MAXIMUM RATE OF 1 QUART PER ACRE OF THIS PRODUCT WHEN MAKING APPLICATIONS BY AIR. AVOID DRIFT. EXTREME CARE MUST BE TAKEN WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS WHICH DO NOT CONTAIN THE ROUNDUP READY® GENE. Do not apply during low-level inversion conditions, when winds are gusty or under any other conditions which favor drift. Drift may cause damage to any vegetation contacted to which treatment is not intended. To prevent injury to adjacent desirable vegetation, appropriate buffer zones must be maintained.

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

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

In addition to uses listed on this label, the following applications can be made:

**Over-the-top applications:** This product may be applied by aerial or ground application equipment postemergence to Roundup Ready® cotton from the ground cracking stage until the four leaf (node) stage of development (until the fifth true leaf reaches the size of a quarter). Over-the-top applications made after the four-leaf (node) stage of development may result in boll loss, delayed maturity and/or yield loss. Any single over-the-top broadcast application should not exceed 1 quart per acre. No more than two over-the-top broadcast applications may be made from crop emergence through the four-leaf (node) stage of development. Sequential over-the-top applications of this product must be at least 10 days apart and cotton must have at least two nodes of incremental growth between applications.

**NOTE:** Always plant into a weed free seedbed. In no-till and stale seedbed systems, always burn down existing weeds before cotton emerges. Apply a preplant burndown treatment of 16-48 fluid ounces per acre of this product.

**Post-directed or hooded applications:** This product may be applied using precision post-directed or hooded sprayers to Roundup Ready® cotton through layby. Be especially careful to minimize contact of the spray with cotton leaves. At this stage, post-directed equipment should be used which directs the spray to the base of cotton plants. Place nozzles in a low position directing a horizontal spray pattern under the cotton leaves to contact weeds in the row. For best results, make applications while weeds are small (less than 3 inches). Minimize spray drift onto the leaves of the cotton plants by maintaining low spray pressure (less than 30 PSI). Applications that contact the cotton leaves may result in boll loss, delayed maturity and/or yield loss. Any single post-directed application should not exceed 1 quart per acre of this product. No more than two applications should be made from the fifth leaf through layby. Sequential in-crop applications of this product must be at least 10 days apart and cotton must have at least two nodes of incremental growth between applications.

**Salvage Treatment:** This treatment may be used after the four-leaf stage of development and should only be used where weeds threaten to cause 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 SHOULD BE USED PER GROWING SEASON.**

**Weeds controlled:** For specific rates of application and instructions for control of various annual and perennial weeds, refer to the "ANNUAL" Weed Rate Table of this label, MAD DOG applied at 1 quart per acre will burndown or suppress the growth of the following perennial weeds and reduce crop competition: yellow and purple nutsedge,

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rhizome johnsongrass, common bermudagrass, silverleaf nightshade, trumpetcreeper, and redvine. Fall preharvest applications may be required for control of these perennial weeds.

Tank mixtures with other herbicides may result in reduced weed control or crop injury and are not for over-the-top applications of this product.

Some weeds with multiple germination times or suppressed (stunted) weeds may require sequential applications of this product for control.

**Preharvest applications:** This product may be applied for preharvest annual and perennial weed control as a broadcast treatment to Roundup Ready® cotton after 20% boll crack. Do not apply more than 2 quarts of this product per acre for preharvest applications. Allow a minimum of 7 days between application and harvest. THE USE OF ADDITIVES FOR PREHARVEST APPLICATION OF MAD DOG TO ROUNDUP READY® COTTON IS PROHIBITED. For specific recommendations refer to the "COTTON" section of this label. NOTE: MAD DOG will not enhance the performance of harvest aids when applied to Roundup Ready® cotton. DO NOT APPLY MAD DOG PREHARVEST TO CROPS GROWN FOR SEED.

**NOTE:** Non-ionic surfactants that are labeled for use with postemergence herbicides may be used. When using additional surfactant, use 0.5 percent surfactant concentration (2 quarts per 100 gallons of spray solution) when using surfactants that contain at least 70 percent active ingredient or a 1 percent surfactant concentration (4 quarts per 100 gallons of spray solution) for those surfactants containing less than 70 percent active ingredient.

**APPLICATION TO ROUNDUP READY® FLEX COTTON  
 PRE-PLANT, AT-PLANTING, PRE-EMERGENCE,  
 POST-EMERGENCE, PRE-HARVEST**

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for MAD DOG herbicide for essential product performance information.

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

**NOTE:** The instructions provided in this label are specific to, and should only be used with, varieties designated as Roundup Ready Flex cotton. DO NOT combine the instructions in this label with those in the "Roundup Ready Cotton" section of the MAD DOG herbicide label booklet, or with any other Roundup Ready cotton or Roundup Ready Flex cotton instructions on labeling for this or other glyphosate-containing product. See "Annual Maximum Use Rate" in the "GENERAL INFORMATION" section of the MAD DOG herbicide label booklet, for additional information.

**TYPES OF APPLICATIONS:** Pre-plant, At-Planting, Pre-emergence, Post-emergence, Pre-harvest.

**Maximum Allowable Combined Application Quantities Per Season**

Combined total per year for all applications	8.0 quarts per acre
Calculate the combined rate to be used for all preplant, in-crop and preharvest applications, to ensure that the total does not exceed the maximum allowed rate per acre per year shown above.	
Preplant, At-planting, Preemergence applications	5.0 quarts per acre
Total in-crop applications from ground cracking to 60 percent open bolls	6.0 quarts per acre
Maximum allowed from 60 percent bolls open to 7 days prior to harvest	2.0 quarts per acre

**PRECAUTIONS and RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of the label booklet provided with the product container for general precautionary instructions for use in Roundup Ready crops.

**Pre-plant, Pre-emergence, At-Planting**

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

**Post-emergence**

**USE INSTRUCTIONS:** When applied in accordance with this label, MAD DOG herbicide will control labeled annual grasses and broadleaf weeds in Roundup Ready Flex cotton. To maximize yield potential, spray cotton early to eliminate competing weeds. Many perennial weeds will be controlled or suppressed with one or more applications of this product. In general apply, an initial application of 1.0 quart per acre on 1 to 3 inch tall annual grass and broadleaf weeds. This product may be applied by ground application equipment at rates up to 1.5 quarts per acre per application postemergence to Roundup Ready Flex cotton. In addition to broadcast applications, post-directed equipment may be used to achieve weed coverage.

**NOTE:** For specific rates of application and instructions, refer to the "ANNUAL WEEDS" and "PERENNIAL WEEDS RATE SECTION" in the label booklet for MAD DOG herbicide.

**PRECAUTIONS, RESTRICTIONS:** The maximum rate for any single in-crop application of this product is 1.5 quart per acre made using ground application equipment. In-crop application rates above 1.0 quart per acre made alone or with the addition of other crop

chemical products containing surfactant may cause a crop response including leaf speckling or leaf necrosis. Except for pre-harvest use, do not exceed a maximum rate of 1.0 quart per acre of this product when making applications by air. Between layby and 60 percent open bolls, the maximum combined total rate of this product that may be applied is 2.0 quarts per acre. The maximum combined total of all applications made from crop emergence through 60 percent open bolls must not exceed 6.0 quarts per acre.

**Pre-harvest**

**USE INSTRUCTIONS:** This product may be applied for pre-harvest annual and perennial weed control as a broadcast treatment to Roundup Ready Flex cotton after 60 percent boll crack. Up to 2.0 quarts of this product may be applied using either aerial or ground spray equipment.

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

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

**Ground Broadcast Equipment**

Use the specified rates of MAD DOG herbicide in 5 to 20 gallons of spray solution per acre. As density of weeds increases, spray volume should be increased within the recommended range to ensure complete and uniform coverage of the target. Carefully select proper nozzle and spray pressure to avoid spraying a fine mist. Check for even distribution of spray droplets.

**Aerial Equipment**

Apply this product in 3 to 15 gallons of water per acre. Except for pre-harvest use do not exceed a maximum rate of 1.0 quart per acre of this product when making applications by air. Extreme care must be used when applying this product to prevent injury to desirable plants and crops which do not contain a Roundup Ready gene. Drift may cause damage to any vegetation contacted to which treatment is not intended including boll loss, delayed maturity and/or yield loss on Roundup Ready cotton exceeding the 4 leaf (node) stage of development.

**PRECAUTIONS, RESTRICTIONS:** See the "Aerial Equipment" part of the "APPLICATION EQUIPMENT AND TECHNIQUES" section of the MAD DOG herbicide label booklet for information on proper use and calibration of this equipment.

**Sprayer Preparation**

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

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

Read the "CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY" in the label booklet for MAD DOG herbicide before using. For over-the-top uses on Roundup Ready crop varieties, crop safety and weed control performance are not warranted by Loveland Products, Inc. when this product is used in conjunction with "brown bag" or "bin run" seed saved from previous year's production and replanted. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

**PREPLANT, POSTEMERGENT AND/OR OVER-THE-TOP  
 APPLICATIONS TO SUGAR BEETS WITH THE  
 ROUNDUP READY® GENE**

LOVELAND PRODUCTS, INC., RECOMMENDS USE OF THIS PRODUCT FOR POSTEMERGENCE APPLICATION ONLY ON SUGAR BEET VARIETIES DESIGNATED AS CONTAINING A ROUNDUP READY GENE.

The 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 Loveland Products representative. Roundup Ready crop varieties must be purchased from an authorized licensed seed supplier.

See the "ROUNDUP READY CROPS" section of the MAD DOG label booklet for general precautionary instructions for use in Roundup Ready crops. Do NOT combine these instructions with other recommendations made for crop varieties that do not contain a Roundup Ready gene listed in the "ANNUAL AND PERENNIAL CROPS (Alphabetical)" sections of the MAD DOG label booklet.

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

**MAXIMUM ALLOWABLE APPLICATION RATES**

Combined total per year for all application 8.0 quarts per acre  
 Preplant, Preemergence applications 5.0 quarts per acre  
 Emergence to 8 leaf stage 2.5 quarts per acre  
 Between 8 leaf stage and canopy closure 2.0 quarts per acre

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**GENERAL PRECAUTIONS, RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of this label for general precautionary instructions for use in Roundup Ready crops. Tank mixtures of this product with herbicides, insecticides or fungicides may result in crop injury or reduced weed control.

**Preplant, At-Planting, Preemergence**

**USE INSTRUCTIONS:** This product may be applied before, during or after planting of Roundup Ready sugar beets.

**PRECAUTIONS, RESTRICTIONS:** Maximum quantity of this product that may be applied for all preplant, at-planting and preemergence applications combined is 5.0 quarts per acre per season.

**Postemergence (In-crop)**

**USE INSTRUCTIONS:** This product may be applied over the top of 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:** Follow all general precautionary instructions for use in Roundup Ready crops.

- 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 emergence to the 8 leaf stage is 1.5 quarts per acre.
- The maximum rate for any single application between the 8 leaf stage and canopy closure is 1.0 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.

**STORAGE AND DISPOSAL**

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

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

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

**CONTAINER DISPOSAL: Nonrefillable container.** Do not reuse this container to hold materials other than pesticides or dilute pesticides (rinsate). After emptying and cleaning, it may be allowable to temporarily hold rinsate or other pesticide-related materials in the container. Contact your state regulatory agency to determine allowable practices in your state. Once cleaned, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling. To find the nearest site, contact your chemical dealer or manufacturer, or contact The Agricultural Container Recycling Council (ACRC) at [www.acrecycle.org](http://www.acrecycle.org). Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

**For packages up to 5 gallons: Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

**For packages greater than 5 gallons and less than 56 gallons: Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

**For packages greater than 56 gallons:** 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.

**For refillable containers:** 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

**Storage & Disposal cont'd.:**

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.

**For help with any spill, leak, fire or exposure involving this material, call day or night CHEMTREC - 1-800-424-9300.**

**CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY**

**BEFORE BUYING OR USING THIS PRODUCT,** read the entire Directions for Use and the following Conditions of Sale and Limitation of Warranty and Liability. By buying or using this product, the buyer or user accepts the following Conditions of Sale and Limitation of Warranty and Liability, which no employee or agent of LOVELAND PRODUCTS, INC. or the seller is authorized to vary in any way.

Follow the Directions for Use of this product carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop or other plant injury, ineffectiveness, or other unintended consequences may result from such risks as weather or crop conditions, mixture with other chemicals not specifically identified in this product's label, or use of this product contrary to the label instructions, all of which are beyond the control of LOVELAND PRODUCTS, INC. and the seller. The buyer or user of this product assumes all such inherent risks.

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