



GROUP 9 HERBICIDE

MAD DOG[®]

5.4#



For control of annual and perennial weeds and woody plants in various cropping systems, fallow cropland CRP acres, and farmsteads.

Avoid contact of herbicide with foliage, green stems, exposed non-woody roots or fruit of crops, desirable plants and trees because severe injury or destruction may result.

ACTIVE INGREDIENT

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

OTHER INGREDIENTS: 46.2%

TOTAL 100.0%

*Contains 648 grams per litre or 5.4 pounds per U.S. gallon of the active ingredient glyphosate, in the form of its isopropylamine salt. Equivalent to 480 grams per litre or 4 pounds per U.S. gallon of the acid, glyphosate.

KEEP OUT OF REACH OF CHILDREN

CAUTION

For Additional Precautionary Statements, Complete First Aid, Directions for Use, Storage and Disposal and Other Use Information, See Inside This Label Booklet.

EPA REG. NO. 34704-929

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FORMULATED FOR
LOVELAND PRODUCTS, INC.®, P.O. BOX 1286, GREELEY, COLORADO 80632-1286

FIRST AID

If Inhaled:	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. • Call a poison control center or doctor for treatment advice.
If Swallowed:	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Have a person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person. • Call a poison control center or doctor for treatment advice.
If on Skin or Clothing:	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 to 20 minutes. • Call a poison control center or doctor for treatment advice.
If in Eyes:	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.

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.**

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ANNUAL WEEDS RATE TABLE (Alphabetically by Species)

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PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION

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

PERSONAL PROTECTIVE EQUIPMENT: (PPE)

Applicators and other handlers must wear:

- long-sleeved shirt and long pants,
- shoes plus socks.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

ENGINEERING CONTROLS

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

ENVIRONMENTAL HAZARDS

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

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.

Read the entire label before using this product. Use only according to label instructions.

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, are:

- coveralls,
- waterproof gloves,
- shoes plus socks.

NON-AGRICULTURAL USE REQUIREMENTS

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

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

PRODUCT INFORMATION

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

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

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

Stage of Weeds: Annual weeds are easiest to control when they are small. Best control of most perennial weeds is obtained when treatment is made at late growth stages approaching maturity. Refer to the "ANNUAL WEEDS," "PERENNIAL WEEDS" and "WOODY BRUSH AND TREES RATE TABLES" for instructions for specific weeds.

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

Do not treat weeds under poor growing conditions such as drought stress, disease or insect damage, as reduced weed control may result. Reduced results may also occur when treating weeds heavily covered with dust.

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

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

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

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

No Soil Activity: Weeds must be emerged at the time of application to be controlled by this product.

Weeds germinating from seed after application will not be controlled. Unemerged plants arising from unattached underground rhizomes or rootstocks of perennials will not be affected by the herbicide and will continue to grow.

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

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

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

Annual Maximum Use Rate: Except as otherwise specified in a crop section of this label, the combined total of all treatments must not exceed 6.0 quarts of this product per acre per year. For applications in non-agricultural crop sites or in tree, vine, or shrub crops, the combined total of all treatments must not exceed 8.0 quarts of this product per acre per year. The maximum use rates stated throughout this product's labeling apply to this product combined with the use of all other herbicides containing glyphosate or sulfosate as the active ingredient, whether applied as mixtures or separately. Calculate the application rates and ensure that the total use of this and other glyphosate or sulfosate containing products does not exceed stated maximum use rate.

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.

WEED RESISTANCE MANAGEMENT

Glyphosate, the active ingredient in this product, is a Group 9 herbicide. Target site resistance to Group 9 herbicides is rare. Any weed population may contain plants naturally resistant to Group 9 herbicides. Weed species resistant to Group 9 herbicides may be effectively managed utilizing another herbicide from a different Group or using other cultural practices or mechanical practices.

Weed Management Directions

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

- Scout your fields before and after herbicide applications.
- Start with a clean field, use either a burndown herbicide application or tillage.
- Control weeds early when they are relatively small.
- Add other herbicides (e.g. a selective and/or a residual herbicide) and cultural practices (e.g. tillage or crop rotation) where appropriate.
- One method of adding other herbicides into a continuous Roundup Ready® system is to rotate to other Roundup Ready crops.

- Utilize the labeled rate for the most difficult-to-control weed in your field. Avoid tank mixtures with other herbicides that reduce this product's efficacy (through antagonism), or tank mixture recommendations that encourage application rates of this product below the labeled rate.
- Control weed escapes and prevent weeds from setting seeds.
- Clean equipment before moving from field to field to minimize the spread of weed seed or plant parts.
- Use new commercial seed that is as free of weed seed as possible.
- Report any incidence of repeated non performance of this product on a particular weed to your Loveland Products, Inc. representative, local retailer, or county extension agent.

Management Directions for Glyphosate Resistance Biotypes

Note: Appropriate testing is critical in order to determine if a weed is resistant to glyphosate. Contact your Loveland Products, Inc. representative to determine if resistance has been confirmed to any particular weed biotype in your area, or visit on the internet www.weedresistancemanagement.com or www.weedscience.org. For more information see the ANNUAL WEEDS AND PERENNIAL WEEDS TABLES.

Control directions for biotypes confirmed as resistant to glyphosate are made available on separately published supplemental labeling or fact sheets for this product and can be obtained from your local retailer or Loveland Products, Inc. representative.

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

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

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

MIXING

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

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

Mixing with Water

This product mixes readily with water. Mix spray solutions of this product as follows: Fill the mixing or spray tank with the required amount of water. Add the

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

Keep by-pass line on or near bottom of tank to minimize foaming. Screen size in nozzle or line strainers should be no finer than 50 mesh. Carefully select correct nozzle to avoid spraying a fine mist. For best results with conventional ground application equipment, use flat fan nozzles. Check for even distribution of spray droplets.

Tank Mixing Procedure

For best results, apply tank mixes with this product in a minimum spray volume of 10.0 gallons per acre.

It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions and precautionary language of the products in the mixture (for example, first aid from one product, spray drift management from another).

For tank mixes of this product:

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

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

Mixing for Hand-held Sprayers

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

Spray Solution

Desired Volume	Amount of MAD DOG 5.4					
	0.75%	1.0%	1.5%	2.0%	5.0%	10.0%
1.0 Gal	1.0 fl oz	1.33 fl oz	2.0 fl oz	2.66 fl oz	6.5 fl oz	13.0 fl oz
25.0 Gal	1.5 pt	1.0 qt	1.5 qt	2.0 qt	5.0 qt	10.0 qt
100 Gal	3.0 qt	1.0 gal	1.5 gal	2.0 gal	5.0 gal	10.0 gal

2.0 tablespoons = 1.0 fluid ounce

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

Surfactant

This product requires the use of a nonionic surfactant. Except when prohibited by this label, mix 2.0 or more quarts of a nonionic surfactant per 100 gallons of spray solution. Examples of when to use the higher surfactant rate include, but are not limited to: high water volumes, adverse environmental conditions, tough to control weeds, weeds under stress, surfactants with less than 70 percent active ingredient, tank mixes, etc.

When applied as directed under the conditions described, this product controls annual and perennial weeds listed in the label booklet. Do not reduce rates of this product when adding surfactant. DO NOT add buffering agents or pH adjusting agents to the spray solution when Mad Dog 5.4 is the only pesticide used.

When applying this product in crop in Roundup Ready crops or preharvest to Roundup Ready cotton, limit nonionic surfactant use to 2.0 quarts per 100 gallons of spray solution. Use rates of nonionic surfactant exceeding 2.0 quarts per 100 gallons of spray solution can result in crop injury and reduced yield and is not recommended.

Ammonium Sulfate

The addition of 1 to 2 percent dry ammonium sulfate by weight or 8.5 to 17.0 pounds per 100 gallons of water may increase the performance of this product when tank mixed with certain residual herbicides on annual and perennial weeds. The equivalent rate of ammonium sulfate in a liquid formulation may also be used. Ensure that ammonium sulfate is completely dissolved in the spray tank before adding herbicides. Thoroughly rinse the spray system with clean water after use to reduce corrosion.

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

Colorants or Dyes

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

Drift Control Additives

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

APPLICATION EQUIPMENT AND TECHNIQUES

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

This product may be applied with the following application equipment. Apply spray solutions in properly maintained and calibrated equipment capable of delivering desired volumes.

- **Aerial** – Fixed Wing and Helicopter
- **Ground Broadcast Spray** – Boom or boomless systems, pull-type sprayer, floaters, pick-up sprayers, spray coupes and other ground broadcast equipment.
- **Hand-held and High-Volume Spray Equipment** – Knapsack and backpack sprayers, pump-up pressure sprayers, handguns, handwands, mistblowers*, lances and other hand-held and motorized spray equipment used to direct the spray onto weed foliage.
- **Selective Equipment** – Recirculating sprayers, shielded and hooded sprayers, wiper applicators and sponge bars.
- **Injection Systems** – Aerial or ground injection sprayers.
- **Controlled Droplet Applicator (CDA)** – Hand-held or boom-mounted applicators which produce a spray consisting of a narrow range of droplet sizes.

*This product is not registered in California or Arizona for use in mistblowers.
APPLY THESE SPRAY SOLUTIONS IN PROPERLY MAINTAINED AND CALIBRATED EQUIPMENT CAPABLE OF DELIVERING DESIRED VOLUMES.

Drift Precaution

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

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

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

Aerial Equipment

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

Use the labeled rates of this herbicide in 3.0 to 15.0 gallons of water per acre unless otherwise specified on this label. Unless otherwise specified, do not exceed 1.5 pints per acre. Refer to the individual use area sections of this label for specified volumes, application rates, and further instructions.

FOR AERIAL APPLICATION IN CALIFORNIA, OR SPECIFIC COUNTIES THEREIN, OR IN ARKANSAS, REFER TO THE FEDERAL SUPPLEMENTAL LABEL FOR AERIAL APPLICATIONS IN THAT STATE OR COUNTY FOR SPECIFIC INSTRUCTIONS, RESTRICTIONS AND REQUIREMENTS.

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

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

Aerial Spray Drift Management

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

1. The distance of the outer most nozzles on the boom must not exceed 0.75 the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

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

The applicator must be familiar with and take into account the information covered in the Drift Reduction Advisory.

Drift Reduction Advisory

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

Information on Droplet Size

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

Controlling Droplet Size

- **Volume:** Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure:** Do not exceed the nozzle manufacturer's specified pressures. For many nozzle types low 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:** Orient nozzles so that the spray is released parallel to the airstream which produces larger droplets than other orientations. Significant deflection from horizontal will reduce droplet size and increase drift potential.
- **Nozzle Type:** Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.
- **Boom Length:** For some use patterns, reducing the effective boom length to less than $\frac{3}{4}$ of the wingspan or rotor length may further reduce drift without reducing swath width.

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

Swath Adjustment

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

Wind

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

Temperature and Humidity

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

Temperature Inversions

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

Sensitive Areas

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

Do not directly apply to any body of water.

Aircraft Maintenance

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

For Aerial Application in California Only

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

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

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

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

DO NOT EXCEED A MAXIMUM RATE OF 2.0 QUARTS PER ACRE OF THIS PRODUCT WHEN MAKING APPLICATIONS BY AIR IN FALLOW AND REDUCED TILLAGE SYSTEMS AND ALFALFA AND PASTURE RENOVATION APPLICATIONS.

DO NOT EXCEED A MAXIMUM RATE OF 1.0 QUART PER ACRE OF THIS PRODUCT WHEN MAKING APPLICATIONS BY AIR IN ALFALFA, CORN, COTTON, WHEAT, ROUNDUP READY CORN AND ROUNDUP READY COTTON PRIOR TO HARVEST. THIS RESTRICTION ALSO APPLIES TO OVER-THE-TOP APPLICATIONS IN ROUNDUP READY CORN AND COTTON.

Aerial Equipment

Use the specified rates of this product in 3.0 to 15.0 gallons of water per acre.

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

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

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

Applicable Area:

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

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

Product Information:

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

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

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

Written Directions:

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

Aerial Applicator Training and Equipment:

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

Applications at Night:

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

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

Ground Broadcast Equipment

Use the labeled rates of this product in 3.0 to 40.0 gallons of water per acre as a broadcast spray unless otherwise specified. As density of weeds increases, spray volume should be increased within the labeled range to ensure complete coverage. Carefully select proper nozzles to avoid spraying a fine mist. For best results with ground application equipment, use flat fan nozzles. Check for even distribution of spray droplets.

Hand-Held and High-Volume Equipment

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

Selective Equipment

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

In cropping systems, hooded sprayers, shielded sprayers, and wipers can be used in row middles (in between rows of crop plants) where any dripping or leaking

will not contact crop foliage. Such equipment must be capable of preventing all crop contact with herbicide solutions and operated without leakage of spray mists or dripping onto the crop. Wipers over-the-top of crops can be used only when specified in this product's labeling.

AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION.

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

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

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

Recirculating Spray System

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

Shielded and hooded applicators

When applied under the conditions described in the following paragraphs for shielded and hooded applications, this product at labeled rates will control those weeds listed in the "ANNUAL WEEDS RATE TABLE" and "PERENNIAL WEEDS RATE TABLE" sections of this label. A hooded sprayer is a type of shielded applicator where the spray pattern is fully enclosed including top, sides, front and back, thereby shielding the crop from the spray solution. Keep shields on these sprayers adjusted to protect desirable vegetation. When applying to crops grown on raised beds, ensure that the hood is designed to completely enclose the spray solution. If necessary, extend the front and rear flaps of the hoods to reach the ground in deep furrows.

EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION.

This equipment must be set up and operated in a manner that avoids bouncing or raising the hoods off the ground in any way. If the hoods are raised, spray particles can escape and come into contact with the crop, causing damage or destruction of the crop. Avoid operation on rough or sloping ground where the spray hoods might be raised off the ground.

Use hoods designed to minimize excessive dripping or run-off down the insides of the hoods. A single, low pressure/low drift flat-fan nozzle with an 80- to 95- degree spray angle positioned at the top center of the hood is recommended. Apply using a spray volume of 20.0 to 30.0 gallons per acre.

These procedures will reduce the potential for crop injury:

- The spray hoods must be operated on the ground or skimming across the ground.

- Leave at least an 8-inch untreated strip over the drill row. For example, if the crop row width is 38 inches, the maximum width of the spray hood will be 30 inches.
- Maximum tractor speed: 5 miles per hour to avoid bouncing of the spray hoods.
- Maximum wind speed: 10 miles per hour.
- Use low-drift nozzles that provide uniform coverage within the treated area.

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

Wiper Applicators

When applied under the conditions described in the following paragraphs, this product CONTROLS many weeds, including Volunteer corn, Texas panicum, Common rye, Shattercane, Sicklepod, Spanishneedles and Bristly starbur; and SUPPRESSES many weeds including Florida beggarweed, Bermudagrass, Hemp dogbane, Dogfennel, Guineagrass, Johnsongrass, Milkweed, Silverleaf nightshade, Redroot pigweed, Giant ragweed, Smutgrass, Sunflower, Canada thistle, Musk thistle, Vaseygrass, Velvetleaf.

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

Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting desirable vegetation. Operate this equipment at ground speeds no greater than 5 miles per hour. Performance may be improved by reducing speed in areas of heavy weed infestations to ensure adequate wiper saturation. Better results can 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.

Nonionic surfactant at a rate of 10 percent by volume of total herbicide solution is recommended with all wiper applications.

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

For Panel Applicators- Solutions ranging from 33 to 100 percent of this product in water can be used in panel wiper applicators.

Injection Systems

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

Controlled Droplet Application (CDA) Equipment

The rate of this product applied per acre by vehicle-mounted CDA equipment must not be less than the amount labeled in this label when applied by conventional broadcast equipment. For vehicle-mounted CDA equipment, apply 3.0 to 15.0 gallons of water per acre.

For the control of annual weeds with hand-held CDA units, apply a 20 percent solution of this product at a flow rate of 2.0 fluid ounces per minute and a walking speed of 1.5 mph (1.5 pints per acre). For the control of perennial weeds, apply a 20 to 40 percent solution of this product at a flow rate of 2.0 fluid ounces per minute and a walking speed of 0.75 mph (3.0 to 6.0 pints 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.

CROPS (Alphabetical)

This section is organized alphabetically by crop category. There may be several labeled crops listed in a crop category. Unless otherwise specified, applications may be made to control any weeds listed in the ANNUAL, PERENNIAL AND WOODY BRUSH TABLES. Also refer to the Selective Equipment section.

See Roundup Ready Crops section for use of this product in crops that contain the Roundup Ready gene. Do not use the instructions in this Crops section.

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 application rates and ensure that the total use of this and other glyphosate or sulfosate containing products does not exceed stated maximum use rate.

For any crop not listed in this "CROPS" section, applications must be made at least 30 days prior to planting.

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

When applying this product prior to transplanting crops into plastic mulch, residues may be removed from the plastic by 0.5 inches of water via sprinkler irrigation or natural rainfall.

ALFALFA, CLOVER, AND OTHER FORAGE LEGUMES

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

TYPES OF APPLICATIONS: Preplant, preemergence, at-planting, spot treatment (alfalfa and clover only), wiper applicators (alfalfa and clover only), renovation, preharvest (alfalfa only).

Preplant, Preemergence and At-planting

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

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

Preharvest (Alfalfa only)

USE INSTRUCTIONS: This product may be used in declining alfalfa stands or any stand of alfalfa where crop destruction is acceptable. This application will severely injure or destroy the stand of alfalfa. This product will control annual and perennial weeds including Quackgrass, when applied prior to the harvest of alfalfa. The treated crop and weeds can be harvested and fed to livestock after 36 hours. Allow a minimum of 36 hours between application and harvest. Applications may be made at any time of the year. Make only 1 application to an existing stand of alfalfa per year. For control of Quackgrass, apply in the spring, late summer or fall when Quackgrass is actively growing. Treatments for Quackgrass must be followed by deep tillage for complete control.

RESTRICTIONS: Do not apply more than 1.5 pints of this product per acre as a preharvest treatment. Do not use for alfalfa grown for seed, as a reduction in germination or vigor may occur.

Spot treatment or Wiper applications (Alfalfa and Clover only)

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

For spot treatment and wiper applications, this product must be applied in areas where the movement of domestic livestock can be controlled

RESTRICTIONS: No more than one-tenth of any acre must be treated at one time. Remove domestic livestock before application and wait 14 days after application before grazing livestock or harvesting.

Renovation

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

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

ASPARAGUS

TYPES OF APPLICATIONS: Preplant, preemergence, spot treatment, postharvest.

Preplant, Preemergence

USE INSTRUCTIONS: This product may be applied prior to emergence of asparagus.

RESTRICTION: Do not apply within a week before the first spears emerge.

Spot treatment

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

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

Postharvest

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

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

CANOLA

TYPES OF APPLICATIONS: Preplant, preemergence.

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

RESTRICTION: Do not apply more than 1.5 quarts of this product per acre by ground.

CEREAL AND GRAIN CROPS

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

TYPES OF APPLICATIONS: Preplant, preemergence, at-planting, spot treatment (except rice), postharvest, preharvest (wheat only), wiper applicators (wheat only).

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

Preplant, Preemergence and At-planting

USE INSTRUCTIONS: This product may be applied before, during or after planting of cereal crops.

Applications must be made prior to emergence of the crop.

Spot treatment (except rice)

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

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

Postharvest

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

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

Preharvest (wheat only)

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

Wheat stubble may be grazed immediately after harvest.

This product may be applied using either aerial or ground spray equipment. For ground applications, apply this product in 10.0 to 20.0 gallons of water per acre. For aerial applications, apply this product in 3.0 to 10.0 gallons of water per acre.

RESTRICTIONS: Do not apply more than 1.5 pints of this product per acre. Do not apply to wheat grown for seed, as a reduction in germination or vigor may occur.

Wiper applications (wheat only)

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

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

Red Rice Control Prior To Planting Rice

USE INSTRUCTIONS: Apply 1.5 pints of this product in 5.0 to 10.0 gallons of water per acre. Flush fields prior to application to obtain uniform germination and stand of Red rice. Make application when the majority of the Red rice plants are in the 2-leaf stage and no more than 4 inches tall. Red rice plants with less than 2 true leaves may be only partially controlled.

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

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

CHRISTMAS TREES

TYPES OF APPLICATIONS: Post-directed, spot treatment, site preparation.

Post-directed, Spot treatment

USE INSTRUCTIONS: This product may be used as a post-directed spray and spot treatment around established Christmas trees.

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

RESTRICTION: DO NOT USE THIS PRODUCT AS AN OVER-THE-TOP BROADCAST SPRAY IN CHRISTMAS TREES.

Site preparation

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

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

CITRUS

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

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

NOTE: FOR USE DIRECTIONS, SEE THE "TREE AND VINE CROPS (GENERAL)" SECTION. THE FOLLOWING DIRECTIONS ARE SPECIFIC TO CITRUS CROPS.

Florida and Texas only: For burndown or control of the weeds listed below, apply the labeled rates of this product in 3.0 to 30.0 gallons of water per acre. Where weed foliage is dense, use 10.0 to 30.0 gallons of water per acre.

For goatweed, apply 3.0 to 4.5 pints of this product per acre. Apply in 20.0 to 30.0 gallons of water per acre when plants are actively growing. Use 3.0 pints per acre when plants are less than 8 inches tall and 4.5 pints per acre when plants are greater than 8 inches tall. If goatweed is greater than 8 inches tall, the addition of Krovar® II or Karmex® may improve control. Refer to the individual product labels for specific crops, rates, geographic restrictions and precautionary statements.

Perennial weeds:

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

Weed Species	MAD DOG 5.4 Rate Per Acre			
	1.5 pt	3.0 pt	4.5 pt	7.5 pt
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

RESTRICTION: Allow a minimum of 1 day between last application and harvest.

CONSERVATION RESERVE PROGRAM (CRP)

TYPES OF APPLICATIONS: Renovation (rotating out of CRP), site preparation, dormant, wiper.

Rotating out of CRP, Site preparation.

USE INSTRUCTIONS: This product may be used to prepare CRP land for crop production.

Dormant, Wiper

USE INSTRUCTIONS: This product may be used to suppress competitive growth and seed production of undesirable vegetation in CRP acres. Such applications may be made with wiper application equipment or as a broadcast or spot treatment to dormant CRP grasses. For selective applications with broadcast spray equipment, apply 9.0 to 12.0 fluid ounces of this product per acre in early spring before desirable CRP grasses, such as crested and tall wheatgrass, break dormancy and initiate green growth. Late fall applications can be made after desirable perennial grasses have reached dormancy.

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

CORN

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

TYPES OF APPLICATIONS: Preplant, preemergence, at-planting, spot treatment, hooded sprayers, preharvest, post-harvest.

Preplant, Preemergence and At-planting

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

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

Apply these tank mixtures in 10.0 to 20.0 gallons of water or 10.0 to 60.0 gallons of nitrogen solution per acre.

For Southern states, do not apply in nitrogen solutions to tough-to-control grasses such as Barnyardgrass, Fall panicum, Broadleaf signalgrass, Annual ryegrass and any perennial weeds.

ATRAZINE	DUAL II	HARNESS EXTRA 5.6L	PARTNER®
DICAMBA DMA SALT	EXTRAZINE	LARIAT®	STEALTH®
BICEP®	FRONTIER®	LASSO®/ ALACHLOR	SIMAZINE
BICEP II	GUARDSMAN®	LINEX®	SURPASS®
BROADSTRIKE	HARNESS®	LOROX®	SURPASS 100
BULLET®	HARNESS XTRA	MICRO-TECH®	TOPNOTCH®
DUAL®			

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

Annual weeds – for difficult-to-control weeds such as Fall panicum, Barnyardgrass, Crabgrass, Shattercane and Broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 1.5 pints per acre in these tank mixtures. For other labeled annual weeds, apply 12.0 fluid ounces to 18.0 fluid ounces of this product per acre when weeds are less than 6 inches tall, and 1.5 to 2.25 pints when weeds are over 6 inches tall.

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

Spot treatment

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

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

Hooded Sprayers

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

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

Follow these requirements:

- The spray hoods must be operated on the ground or skimming across the ground.
- Do not apply more than 1.5 pints 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.

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

RESTRICTIONS: Do not graze or feed corn forage or fodder following applications of this product through hooded sprayers. Do not apply more than 4.5 pints of this product per acre per year for hooded sprayer applications.

Preharvest

USE INSTRUCTIONS: Make applications at 35 percent grain moisture or less. Ensure that maximum kernel fill is complete and the corn is physiologically mature (black layer formed). For ground applications, apply up to 4.5 pints of this product per acre. For aerial applications, apply up to 1.5 pints of this product per acre.

RESTRICTIONS: Allow a minimum of 7 days between application and harvest. Do not treat corn grown for seed because a reduction in germination or vigor may result.

Post-harvest

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

RESTRICTION: Do not harvest or feed treated vegetation for 8 weeks following application.

COTTON

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

Preplant, Preemergence, and At-planting

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

Hooded sprayer, Selective equipment

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

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

Spot treatment

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

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

Preharvest

USE INSTRUCTIONS: This product provides weed control and cotton regrowth inhibition when applied prior to harvest of cotton. For weed control, apply at rates given in the ANNUAL, PERENNIAL AND WOODY BRUSH TABLES. Apply 12.0 fluid ounces to 3.0 pints of this product per acre for cotton regrowth inhibition. Allow a minimum of 7 days between application and harvest of cotton.

This product may be applied using either aerial or ground spray equipment. For ground applications, apply this product in 10.0 to 20.0 gallons of water per acre. For aerial applications, apply this product in 3.0 to 10.0 gallons of water per acre.

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

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

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

DO NOT APPLY MORE THAN 1.5 PINTS OF THIS PRODUCT PER ACRE BY AIR. Do not apply more than 1.5 quarts of this product per acre by ground. Do not apply to cotton grown for seed, as a reduction in germination or vigor may occur.

FALLOW SYSTEMS

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

Chemical fallow

USE INSTRUCTIONS: This product may be applied during the fallow period prior to planting or emergence of any crop listed on this label. For any crop not listed on this label, applications must be made at least 30 days prior to planting. This product may be used as a substitute for tillage to control annual weeds in fallow

fields. Also, broadcast or spot treatments will control or suppress many perennial weeds in fallow fields. Ground or aerial application equipment may be used. Tank mixtures of this product with 2,4-D and dicamba may be used.

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

PRECAUTION: Follow planting, cropping, crop rotation and other restrictions and use precautions on the labels of each product used in tank mixtures. Some crop injury may occur if dicamba is applied within 45 days of planting.

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

Preplant fallow beds

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

Aid-to-tillage

USE INSTRUCTIONS: This product may be used in conjunction with tillage practices in fallow systems or preplant to labeled crops to control Downy brome, Cheat, Volunteer wheat, Tansy mustard and Foxtail.

Apply 6.0 fluid ounces of this product in 3.0 to 10.0 gallons of water per acre. Make applications before weeds are 6 inches in height. Application must be followed by conventional tillage practices no later than 15 days after treatment and before regrowth occurs. Allow at least 1 day after application before tillage.

PRECAUTION: Tank mixtures with residual herbicides may result in reduced performance of this product.

FARMSTEADS

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

Nonselective Weed Control, Trim-And-Edge

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

This product may be tank mixed with the following products. Refer to these product labels for approved farmstead sites and application rates. For annual weeds, use 1.5 pints per acre of this product when weeds are less than 6 inches tall and 2.25 pints per acre when weeds are greater than 6 inches tall. For perennial weeds, apply 3.0 to 7.5 pints per acre in these tank mixes. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are

registered for the intended use. Users must follow the most restrictive directions and precautionary language of the products in the mixture (for example, first aid from one product, spray drift management from another).

Arsenal®	Krovax I DF	Sahara®
Barricade® 65WG	Oust®	Simazine
Diuron	Pendulum® 3.3 EC	Surflan®
Endurance®	Pendulum WDG	Telar®
Escort®	Rifle®	Vanquish®
Karmex DF	Ronstar® 50 WP	2,4-D

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

Greenhouse/Shadehouse

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

Chemical mowing

USE INSTRUCTIONS: This product will suppress perennial grasses listed in this section to serve as a substitute for mowing. Apply this product at a rate of 4.5 to 6.0 fluid ounces per acre. Use 6.0 fluid ounces of this product per acre when treating Tall fescue, Fine fescue, Orchardgrass or Quackgrass covers. Use 4.5 fluid ounces of this product per acre when treating Kentucky bluegrass. Apply treatments in 10.0 to 20.0 gallons of spray solution per acre. Chemical mowing applications may be made along farm ditches and other parts of farmsteads.

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

Cut Stumps

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

USE INSTRUCTIONS: This product will control regrowth of cut stumps and resprouts of many types of woody brush and tree species, some of which are listed below. Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut trees or resprouts close to the soil surface.

Apply a 50 to 100 percent solution of this product to the freshly cut surface immediately after cutting.

Delays in application may result in reduced performance. For best results, applications must be made during periods of active growth and full leaf expansion.

Alder	Oak	Sweetgum
Eucalyptus	Reed, giant	Tan oak
Madrone	Salt-cedar	Willow

RESTRICTIONS: Do not make cut stump applications when the roots of desirable

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

Habitat Management

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

Habitat restoration and maintenance

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

Wildlife food plots

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

Rangelands

TYPES OF APPLICATIONS: Postemergence.

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

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

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

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

Postemergence

Apply 9.0 to 12.0 fluid ounces of this product to control or suppress many weeds, including Downy brome, Cheat grass, Cereal rye and Jointed goatgrass in rangelands. Apply when most mature brome plants are in early flower and before the plants including seedheads turn color. Allowing for secondary weed flushes to occur in the spring following rain events further depletes the seed reserve, and encourages perennial grass conversion on weedy sites. Fall applications are

possible, and recommended where spring moisture is usually limited and fall germination allows for good weed growth.

Apply 12.0 fluid ounces when the Medusahead has reached the 3-leaf stage. Delaying applications beyond this stage will result in reduced or unacceptable control. Fire may be useful in eliminating the thatch layer produced by slow decaying culms prior to application. Allow new growth to occur before spraying after a burn. Repeat applications in subsequent years may be necessary to eliminate the seedbank before reestablishing desirable perennial grasses in Medusahead-dominated rangelands.

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

FORESTRY CONIFER AND HARDWOOD RELEASE

Directed Spray and Selective Equipment

This product may be applied as a directed spray or by using selective equipment in forestry conifer and hardwood sites, including Christmas tree plantations and silvicultural nurseries. Mix 2.0 to 6.0 quarts of a nonionic surfactant per 100 gallons of spray solution (0.5 to 1.5 percent by spray volume) for all spray applications. Use a surfactant with greater than 80 percent active ingredient.

In hardwood plantations, tank mixtures with Oust may be used. In pine plantations, tank mixtures with Garlon® 4 or Arsenal AC may be used. Comply with all site restrictions, forestry species limitations and precautions on the tank mix product label.

Avoid contact of spray, drift, mist or drips with foliage, green bark or non-woody surface roots of desirable species.

See all sections in the "APPLICATION EQUIPMENT AND TECHNIQUES" portion of this labeling for specific equipment recommendations and precautions.

For spray-to-wet applications, use a 1.5 percent spray solution for the control of undesirable woody brush and trees. To control herbaceous weeds, use a 0.75 to 1.5 percent solution.

For low volume directed spray applications, use a 4.0 to 7.5 percent spray solution. Coverage must be uniform with at least 50 percent of the foliage contacted. Coverage of the top one-half of the unwanted vegetation is important.

For equipment calibrated for broadcast applications, use 1.5 to 7.5 quarts of this product per acre. Apply in 10.0 to 60.0 gallons of clean water per acre. Shielded application equipment may be used to avoid contact of the spray solution with desirable plants. Shields must be adjusted to prevent spray contact with the foliage or green bark of desirable vegetation.

Wiper application equipment may be used. See the "Selective Equipment" portion of this labeling for equipment and rate directions.

Broadcast Spray

Except where specifically labeled below, use only where conifers have been established for more than one year.

Application must be made after formation of final conifer resting buds in the fall or prior to initial bud swelling in the spring.

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

This product may require use with a surfactant. Follow the instructions under the "MIXING" portion of this labeling.

For release of the following conifer species outside the Southeastern United States:

Douglas fir	Pines*
<i>Pseudotsuga menziesii</i>	<i>Pinus</i> spp.
Fir	Redwood, California**
<i>Abies</i> spp.	<i>Sequoia</i> spp.
Hemlock**	Spruce
<i>Tsuga</i> spp.	<i>Picea</i> spp.

*Includes all species except loblolly pine, longleaf pine, shortleaf pine or slash pine.

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

Apply 0.75 to 1.5 quarts of this product per acre as a broadcast spray.

Note: For release of Douglas fir with this product or labeled tank mixtures of this product, Entry II or a nonionic surfactant labeled for over-the-top foliar sprays may be used. To avoid possible conifer injury, Entry II rates should not exceed 20.0 fluid ounces per acre at elevations above 1500 feet, or 10.0 fluid ounces per acre in the coastal range or at elevations below 1500 feet in Washington and Oregon.

Nonionic surfactants may be used at 2.0 fluid ounces per acre at elevations above 1500 feet, or 1.0 fluid ounce per acre in the coastal range or at elevations below 1500 feet. Use of surfactant rates exceeding those listed above may result in unacceptable conifer injury and are not allowed. Ensure that the nonionic surfactant has been adequately tested for Douglas fir safety before use.

In Maine, up to 2.25 quarts per acre of this product or a tank mix with 1.0 fluid ounce per acre of Arsenal Applicators Concentrate may be used for the control of difficult species.

To release Douglas fir, pine and spruce species at the end of the first growing season (except in California), apply 0.75 to 1.125 quarts of this product per acre. Ensure that the conifers are well hardened off.

Oust Tank Mixtures – To release jack pine, white pine and white spruce, apply 0.75

to 1.5 quarts of this product with 1.0 to 3.0 fl oz (1.0 to 1.5 for white pine) of Oust per acre. Make applications to actively growing weeds as a broadcast spray over the top of established conifers. Applications at these rates must be made after formation of conifer resting buds in the late summer or fall.

Arsenal Applicators Concentrate Tank Mixtures – This product may be tank mixed with Arsenal Applicators Concentrate for release of Douglas fir. Use 0.75 to 1.125 quarts of this product tank mixed with 2.0 to 6.0 fluid ounces of Arsenal per acre. For release of balsam fir and red spruce, apply a mixture of 1.5 quarts of this product and 1.0 to 2.5 fluid ounces of Arsenal Applicators Concentrate per acre.

For release of the following conifer species in the Southeastern United States:

Eastern white pine <i>Pinus strobus</i>	Shortleaf pine <i>Pinus echinata</i>
Loblolly pine <i>Pinus taeda</i>	Slash pine
Longleaf pine <i>Pinus palustris</i>	<i>Pinus elliotii</i>
	Virginia pine <i>Pinus virginiana</i>

Apply 1.125 to 1.875 quarts of this product per acre as a broadcast spray during late summer or early fall after the conifers have hardened off. For applications at the end of the first growing season, use 0.75 quart per acre of this product alone or in a labeled tank mixture.

Arsenal Applicators Concentrate Tank Mixtures – Apply 0.75 to 1.5 quarts of this product with 2.0 to 16.0 fluid ounces of Arsenal Applicators Concentrate per acre as a broadcast spray for conifer release. Use only on conifer species that are labeled for over-the-top sprays for both products. Use the higher labeled rates for dense, tough-to-control woody brush and trees.

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

Herbaceous Release

When applied as directed, this product plus listed residual herbicides provides postemergence control of the annual weeds and control or suppression of the perennial weeds listed in this label, and residual control of the weeds listed in the residual herbicide label. Make applications to actively growing weeds as a broadcast spray over the top of labeled conifers.

Oust Tank Mixtures:

To release loblolly pines: apply 12.0 to 18.0 fluid ounces of this product, plus an appropriate amount of Oust per acre.

To release slash pines: apply 9.0 to 12.0 fluid ounces of this product, plus an appropriate amount of Oust per acre.

Refer to the specific product label and observe all precautions and limitations on the label for all products used in tank mixtures, including application timing restrictions, soil restrictions, minimum re-cropping interval and rotational

guidelines. The more restrictive requirements apply.

Tank Mixes with Atrazine: For early spring release of Douglas fir, prior to bud swell, apply 0.75 quart of this product, plus 4.0 pounds active ingredient of atrazine per acre. Allow one full growing season before application. Do not add surfactant to this mix for this use.

Always read and follow the manufacturer's label directions for all herbicides and surfactants used.

GRAIN SORGHUM (MILO)

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

Preplant, Preemergence, At-planting

USE INSTRUCTIONS: This product may be applied before, during or after planting grain sorghum.

Applications must be made prior to emergence of the crop.

Spot treatment and Wiper applications

USE INSTRUCTIONS: This product may be applied as a spot treatment in grain sorghum. Make spot treatments before heading of milo. This product may be applied with wiper applicators to control or suppress the weeds listed under "Wiper Applicators" in the "Selective Equipment" section of this label.

RESTRICTIONS: For spot treatment, do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in treated area will be killed. Do not apply this product in a manner that allows spray to drift from the application target.

For wiper applicators, allow at least 40 days between application and harvest. Do not use roller applicators. Do not feed or graze treated milo fodder. Do not ensile treated vegetation.

Hooded Sprayers

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

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 1.5 pints 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.

RESTRICTIONS: Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage. Such damage shall be the sole responsibility of the applicator. Do not graze or feed milo forage or fodder following applications of this product through hooded sprayers. Do not apply more than 4.5 pints of this product per acre per year for hooded sprayer applications.

Preharvest

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

RESTRICTIONS: Do not apply more than 3.0 pints of this product per acre. Allow a minimum of 7 days between application and harvest of sorghum. Do not treat sorghum grown for seed, as a reduction in germination or vigor may occur. The use of this product for preharvest grain sorghum (milo) is not registered in California.

Post-harvest

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

This product may be applied to grain sorghum (milo) stubble following harvest to suppress or control regrowth. Apply 1.5 pints of this product per acre for control, or 1.25 pints of this product per acre for suppression.

RESTRICTION: Do not harvest or feed treated vegetation to livestock for 8 weeks following application.

GRASS SEED PRODUCTION

TYPES OF APPLICATIONS: Preplant, preemergence, renovation, site preparation, shielded sprayers, wiper applicators, spot treatments, creating rows in annual ryegrass.

USE INSTRUCTIONS: This product may be applied before, during, or after planting or renovation of turf or forage grass areas grown for seed production. Applications **MUST** be made prior to the emergence of the crop to avoid crop injury. 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.

RESTRICTION: 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. Do not feed or graze treated areas for 8 weeks following application.

Shielded Sprayers

USE INSTRUCTIONS: Apply 1.5 pints to 4.5 pints of this product as a broadcast spray in 10.0 to 20.0 gallons of water per acre to control weeds in the rows. Uniform planting in straight rows aids in shielded sprayer applications. Best results are obtained when the grass seed crop is small enough to easily pass by or through the protective shields.

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

Wiper Applications

PRECAUTIONS: Contact of the herbicide solution with desirable vegetation may result in damage or destruction. Applicators must be adjusted so that the wiper contact point is at least two (2) inches above the desirable vegetation. Weeds should be a minimum of six (6) inches above the desirable vegetation.

Better results may be obtained when more of the weed is exposed to the herbicide solution. Weeds not contacted by the herbicide solution will not be affected. This may occur in dense clumps, severe infestations, or when height of weeds varies so that not all weeds are contacted. In these instances, repeat treatments may be necessary. Better results may be obtained if 2 applications are made in opposite directions.

Spot Treatments

USE INSTRUCTIONS: Use a 1 to 5 percent solution on a volume to volume basis with water. See the "Selective Equipment" section for additional application recommendations.

RESTRICTIONS: Apply this product prior to heading of grasses. Do not treat more than 10 percent of the total field to be harvested. The crop receiving the spray in the treated area will be killed. Do not allow spray to drift outside the target area in order to avoid unwanted crop destruction.

Creating Rows in Annual Ryegrass

USE INSTRUCTIONS: Use 12.0 to 24.0 fluid ounces of this product per acre mixed with water. Use the higher rate when the ryegrass is greater than 6 inches tall. Best results are obtained when applications are made before the ryegrass reaches 6 inches in height.

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

To the extent permitted by the law, grower assumes all responsibility for crop losses from misapplication.

HERBS

TYPES OF HERBS: Peppermint, spearmint.

USE INSTRUCTIONS: This product may be used as a spot treatment in spearmint and peppermint.

Apply spray-to-wet with hand-held equipment, such as backpack and knapsack sprayers, pump-up pressure sprayers, hand-guns, hand-wands or any other hand-held or motorized spray equipment used to direct the spray solution on to a limited area. Further applications may be made in the same area at 30-day intervals.

RESTRICTIONS: Allow a minimum of 7 days between application and harvest. Do not treat more than one-tenth of any acre at one time. The crop receiving spray in the treated area will be killed. Do not apply this product in a manner that allows spray to drift from the application target.

PASTURES

TYPES OF PASTURES: Bahiagrass, bermudagrass, bluegrass, brome, fescue, orchardgrass, ryegrass, timothy, wheatgrass, alfalfa and clover.

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

Spot treatment and Wiper Application

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

For spot treatment and wiper applications, apply in areas where the movement of domestic livestock can be controlled.

RESTRICTIONS: No more than one-tenth of any acre must be treated at one time. Remove domestic livestock before application and wait 14 days after application before grazing livestock or harvesting.

Preplant, Preemergence and Pasture renovation

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

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

PEANUTS

TYPES OF APPLICATIONS: Preplant, preemergence, at-planting.

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

Applications must be made prior to the emergence of the crop.

SILVICULTURAL SITES AND UTILITY RIGHTS-OF-WAY

TYPES OF APPLICATIONS: This product is labeled for the control or partial control of woody brush, trees and herbaceous weeds. This product is labeled for use in forestry and utility sites. This product is also labeled for use in preparing or establishing wildlife openings within these sites and maintaining logging roads, and for side trimming along utility rights-of-way.

In forestry, this product is labeled for use in site preparation prior to planting any tree species, including Christmas trees and silvicultural nursery sites.

In utilities, this product is labeled for use along electrical power, pipeline and telephone rights-of-way, and in other utility sites associated with these rights-of-way, such as substations.

Application Rates and Timing:

Application	MAD DOG 5.4	Spray Volume (Gal of Spray Solution/A)
Broadcast	—	—
Aerial	1.5 to 7.5 qts/A	5.0 to 30.0
Ground	1.5 to 7.5 qts/A	10.0 to 60.0
Spray-to-Wet	—	—
Handgun, Backpack, Mistblower, Low Volume Directed Spray	0.6% to 2% by volume	spray-to-wet
Handgun, Backpack, Mistblower	4% to 7.5% by volume	partial coverage*

*For low volume directed spray applications, coverage must be uniform with at least 50 percent of the foliage contacted. Coverage of the top one-half of the plant is important for best results.

In forestry site preparation and utility rights-of-way applications, this product requires use with a nonionic surfactant. Use a nonionic surfactant with greater than 80 percent active ingredient and labeled for use with herbicides. Use of this product without surfactant will result in reduced performance. See the "MIXING" section of this labeling for more information.

Mix 2.0 or more quarts of the nonionic surfactant per 100 gallons of spray solution (0.5 percent or more by spray volume). Do not use surfactant concentrations greater than 1.5 percent by spray volume with handgun applications or 2.5 percent by spray volume with broadcast applications.

Use higher rates of this product within the labeled range for control or partial control of woody brush, trees and hard-to-control perennial herbaceous weeds. For best results, apply to actively growing woody brush and trees after full leaf expansion and before fall color and leaf drop. Increase rates within the labeled range for control of perennial herbaceous weeds any time after emergence and before seedheads, flowers or berries appear.

Use the lower rates of this product within the labeled range for control of annual herbaceous weeds and actively growing perennial herbaceous weeds after seedheads, flowers or berries appear. Apply to the foliage of actively growing annual herbaceous weeds any time after emergence.

This product has no herbicidal or residual activity in the soil. Where repeat applications are necessary, do not exceed 8.0 quarts of this product per acre per year.

Tank Mixtures

Tank mixtures of this product may be used to increase the spectrum of vegetation controlled. When tank mixing, read and carefully observe the label claims, cautionary statements and all information on the labels of both products used. Use according to the most restrictive precautionary statements for each product in the mixture. Any labeled rate of this product may be used in a tank mix. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions and precautionary language of the products in the mixture (for example, first aid from one product, spray drift management from another).

NOTE: For forestry site preparation, make sure the tank-mix product is approved for use prior to planting the desired species. Observe planting interval restrictions. For side trimming treatments in utility rights-of-way, tank mixtures with Arsenal 2WSL are not recommended. For side trimming treatments, it is recommended that this product be used alone as specified.

Product	Use Sites
Arsenal Applicators Concentrate	Forestry site preparation
Chopper®	Forestry site preparation
Escort	Forestry site preparation
Oust	Forestry site preparation, Utility sites
Garlon 3A*, Garlon 4	Forestry site preparation, Utility sites
Arsenal 2WSL	Utility sites

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

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

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

SMALL FRUITS AND BERRIES

LABELED CROPS: Blackberry, Blueberry, Boysenberry, Cranberry, Currant, Dewberry, Elderberry, Gooseberry, Huckleberry, Loganberry, Olallieberry, Raspberry (Black, Red), Youngberry.

TYPES OF APPLICATIONS: Preplant, preemergence, directed spray (except cranberry), wiper application.

USE INSTRUCTIONS: This product may be applied as a preplant or preemergence broadcast application or as a wiper application for crops listed in this section. Directed sprays may be applied to any crop except cranberries. For wick or wiper applicators, mix 3.0 quarts of this product in 4.0 gallons of water. 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.

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

SOYBEANS

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

Preplant, Preemergence and At-planting

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

Applications must be made prior to emergence of the crop.

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

CANOPY®	LAGO/ALACHLOR	STEALTH
COMMAND®	LINEX	PURSUIT®
DUAL	LOROX/LINURON	PURSUIT PLUS
DUAL II	LOROX PLUS	SCEPTER®
FRONTIER	MICRO-TECH	SENCOR®/LEXONE®
FUSION®	PARTNER	SQUADRON®
GEMINI	PREVIEW®	TURBO

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

Annual weeds: For difficult-to-control weeds such as Fall panicum, Barnyardgrass, Crabgrass, Shattercane and Broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 1.5 pints per acre in these tank mixtures. For other labeled annual weeds, apply 12.0 fluid ounces to 18.0 fluid ounces of this product per acre when weeds are less than 6 inches tall, and 1.5 to 2.25 pints when weeds are over 6 inches tall.

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

Spot treatment

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

RESTRICTIONS: Do not treat more than 10 percent of the total field area to be

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

Preharvest

USE INSTRUCTIONS: This product provides weed control when applied prior to harvest of soybeans.

Apply at rates given in the ANNUAL, PERENNIAL AND WOODY BRUSH TABLES. This product may be applied using either aerial or ground spray equipment. For ground applications, apply this product in 10.0 to 20.0 gallons of water per acre. For aerial applications, apply this product in 3.0 to 10.0 gallons of water per acre.

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

RESTRICTIONS: Do not graze or harvest treated crop for livestock feed within 25 days of last preharvest application. DO NOT APPLY MORE THAN 4.0 QUARTS PER ACRE OF THIS PRODUCT FOR PREHARVEST APPLICATIONS. DO NOT APPLY MORE THAN 1.5 PINTS PER ACRE OF THIS PRODUCT BY AIR. Do not apply to soybeans grown for seed as a reduction in germination or vigor may occur.

Selective equipment

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

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

SUGARCANE

TYPES OF APPLICATIONS: Preplant, preemergence, spot treatment, fallow, hooded sprayers.

Preplant, Preemergence

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

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

Spot Treatment

USE INSTRUCTIONS: This product may be applied as a spot treatment in sugarcane. For control of volunteer or diseased sugarcane, make a 3/4 percent solution of this product in water and spray to wet the foliage of vegetation to be controlled. Volunteer or diseased sugarcane should have at least 7 new leaves.

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

Fallow treatments

USE INSTRUCTIONS: This product may be used as a replacement for tillage in fields that are lying fallow between sugarcane crops. This product may also be used to remove the last stubble of ratoon cane. For removal of last stubble of ratoon cane, apply 3.0 to 3.75 quarts of this product in 10.0 to 40.0 gallons of water per acre to new growth having at least 7 new leaves. Allow 7 or more days after application before tillage.

Hooded sprayers

USE INSTRUCTIONS: This product may be used through hooded sprayers for weed control between the rows of sugarcane. 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.

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

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

Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting the crop. 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.

PRECAUTION: Droplets, mist, foam or splatter of the herbicide solution settling on the crop may result in discoloration, stunting or destruction. To avoid unwanted crop destruction, take care not to allow treated weeds to come into contact with the crop area.

TREE NUTS

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

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

NOTE: FOR USE DIRECTIONS, SEE THE "TREE AND VINE CROPS (GENERAL)" SECTION. THE FOLLOWING DIRECTIONS ARE SPECIFIC TO TREE NUTS.

RESTRICTION: Allow a minimum of 3 days between last application and harvest of tree nuts.

TREE AND VINE CROPS (GENERAL)

TYPES OF APPLICATIONS: Weed control, middles (between rows of trees), strips (in row of trees), selective equipment (except kiwi), perennial grass suppression.

NOTE: THIS SECTION GIVES DIRECTIONS THAT APPLY TO ALL CITRUS CROPS, TREE FRUITS, TREE NUTS AND VINE CROPS. SEE THE INDIVIDUAL CROP SECTIONS FOR INSTRUCTIONS, PREHARVEST INTERVALS, PRECAUTIONS AND RESTRICTIONS FOR SPECIFIC CROPS.

USE INSTRUCTIONS: This product may be applied in middles, strips and for weed control in established citrus groves, tree fruit and tree nut orchards, and vineyards. Apply at rates given in the annual, perennial and woody brush tables. Repeat applications may be made up to a maximum of 8.0 quarts per acre per year. This product may also be used for site preparation prior to transplanting these crops. Allow a minimum of 3 days between application and transplanting. Applications may be made with boom equipment, CDA, shielded sprayers, hand-held and high-volume wands, lances, orchard guns or with wiper applicator equipment, except as directed.

Middles (between rows)

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

A tank mixture of this product plus Goal® 2 XL may be used for annual weeds in middles between rows of citrus crops, tree fruits, tree nuts and vine crops. This mixture is recommended when weeds are stressed or growing in dense populations.

Strips (in rows)

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

DEVIRINOL® 50 DF	KROVAR II	SOLICAM® DF
DIREX® 4L	PRINCEP® CALIBER 90®	STEALTH
GOAL 2XL	SIMAZINE 4L	SURFLAN AS
KARMEF DF	SIMAZINE 80W	SURFLAN 75W
KROVAR I	SIM-TROL™ 4L	

RESTRICTION: Do not apply these tank mixtures in Puerto Rico.

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

Apply 12.0 fluid ounces to 7.5 pints of this product per acre in these tank mixtures. Use rates at the higher end of the labeled rate range when weeds are stressed, growing in dense populations or are greater than 12 inches tall.

Perennial grass suppression

This product will suppress perennial grasses such as Bahiagrass, Bermudagrass, Tall fescue, Orchardgrass, Kentucky bluegrass, and Quackgrass that are grown as

ground covers in tree and vine crops.

For suppression of Tall fescue, Fine fescue, Orchardgrass and Quackgrass, apply 6.0 fluid ounces of this product in 10.0 to 20.0 gallons of water per acre.

For suppression of Kentucky bluegrass covers, apply 4.5 fluid ounces of this product per acre. Do not add ammonium sulfate.

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

For suppression of vegetative growth and seedhead inhibition of Bahiagrass for approximately 45 days, apply 4.5 fluid ounces of this product in 10.0 to 25.0 gallons of water per acre. Apply 1 to 2 weeks after full green-up or after mowing to a uniform height of 3 to 4 inches. This application must be made prior to seedhead emergence.

For suppression up to 120 days, apply 3.0 fluid ounces of this product per acre, followed by an application of 1.5 to 3.0 fluid ounces per acre about 45 days later. Make no more than 2 applications per year.

For burndown of bermudagrass, apply 1.5 pints to 3.0 pints of this product in 3.0 to 20.0 gallons of water per acre. Use this treatment only if reduction of the bermudagrass stand can be tolerated. When burndown is required prior to harvest, allow at least 21 days to ensure sufficient time for burndown to occur.

For suppression of bermudagrass, apply 4.5 to 12.0 fluid ounces of this product per acre east of the Rocky Mountains and 12.0 fluid ounces of this product per acre west of the Rocky Mountains. Apply in a total spray volume of 3.0 to 20.0 gallons per acre, no sooner than 1 to 2 weeks after full green-up. If the bermudagrass is mowed prior to application, maintain a minimum of 3 inches in height. Sequential applications may be made when regrowth occurs and bermudagrass injury and stand reduction can be tolerated. East of the Rocky Mountains, rates of 4.5 to 7.5 fluid ounces per acre must be used in shaded conditions or where a lesser degree of suppression is desired.

Selective equipment

Shielded and wiper applicators may be used in tree crops and grapes. Refer to the individual crop sections for time interval between application and harvest.

RESTRICTIONS: For citron and olives, apply as a post-directed spray only.

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 AND VINES. CONTACT OF THIS PRODUCT WITH OTHER THAN MATURED BROWN BARK CAN RESULT IN SERIOUS CROP DAMAGE.

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

TREE FRUITS

LABELED CROPS: Apple, Apricot, Cherry (Sweet, Sour), Crabapple, Loquat, Mayhaw, Nectarine, Olive Peach, Pear, Plum/Prune (All), Quince.

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

NOTE: FOR USE DIRECTIONS, SEE THE "TREE AND VINE CROPS (GENERAL)" SECTION.

THE FOLLOWING DIRECTIONS ARE SPECIFIC TO TREE FRUITS.

Restrictions on application equipment

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

For citron and olives, apply as a post-directed spray only.

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

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

RESTRICTION: Allow a minimum of 1 day between last application and harvest for apple, crabapple, loquat, mayhaw, pear, quince.

Allow a minimum of 17 days between last application and harvest for apricot, cherry, nectarine, olive, peach, plum/prune.

TROPICAL CROPS

LABELED CROPS: Atemoya, Avocado, Barbados Cherry (acerola), Banana, Breadfruit, Canistel, Carambola, Cherimoya, Cocoa beans, Coconuts, Coffee, Dates, Durian, Figs, Guava, Jaboticaba, Jackfruit, Longan, Lychee, Mango, Mangosteen, Marmaladebox (genip), Papaya, Passion fruit, Persimmon, Pineapple, Plantain, Pomegranate, Rambutan, Sapodilla, Sapote (black, mamey, white), Soursop, Sugar apple, Tamarind, Tea.

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

RESTRICTIONS: Allow a minimum of 14 days between last application and harvest of acerola, atemoya, avocado, banana, breadfruit, canistel, carambola, cherimoya, cocoa beans, coconuts, dates, figs, genip, jaboticaba, jackfruit, longan, lychee, mango, mayhaw, passion fruit, persimmon, pomegranate, sapodilla, sapote,

soursop, sugar apple, tamarind, and tea.

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

Allow a minimum of 1 day between last application and harvest of banana, guava, papaya and plantain.

Do not feed or graze treated pineapple forage following application.

VEGETABLE CROPS

LABELED CROPS: Amaranth, Arugula, Artichoke (Jerusalem), Beans (All), Beet greens, Garden beets, Broccoli (All), Brussels sprouts, Cabbage (All), Cabbage (Chinese), Cantaloupe, Cardoon, Cavalo Broccolo, Carrot, Cauliflower, Casaba melon, Celery, Celery (Chinese), Celeriac, Celtuce, Chard (Swiss), Chayote, Chervil, Chick peas, Chicory, Chrysanthemum, Collards, Corn salad, Crenshaw melon, Cress, Cucumber, Dandelion, Dock (sorrel), Eggplant, Endive, Fennel (Florence), Garlic, Gherkin, Ginseng, Gourds, Ground cherry, Guar, Honeydew melon, Honey ball melon, Horseradish, Kale, Kohlrabi, Leek, Lentils, Lettuce, Mango melon, Melons (All), Mizuna, Muskmelon, Mustard greens, Okra, Onion, Oriental radish, Parsley, Parsnips, Peas (All), Pepinos, Pepper (All), Persian melon, Potato (Irish), Pumpkin, Purslane, Radish, Rape greens, Rhubarb, Rutabaga, Salsify, Shallot, Spinach (All), Mustard Spinach, Squash (Summer, Winter), Sugar beets, Sweet potato, Tomatillo, Tomato, Turnip, Watercress, Watermelon, Yams.

USE INSTRUCTIONS: This product may be applied prior to the emergence of direct seeded vegetables or prior to transplanting vegetables.

PRECAUTIONS: Residues can be removed by a single 0.5 inch application of water, either by natural rainfall or via a sprinkler system. Applications made at emergence will result in injury or death to emerged seedlings.

When applying this product prior to transplanting crops into plastic mulch, care must be taken to remove residues of this product, which could cause crop injury, from the plastic prior to transplanting.

For the following crops, apply only prior to planting. Allow at least 3 days between application and planting of cantaloupe, casaba melon, crenshaw melon, cucumber, eggplant, gherkin, gourds, ground cherry, honeydew melon, honey ball melon, mango melon, melons (all), muskmelon, pepper (all), Persian melon, pumpkin, squash (summer, winter), tomatillo, watercress, and watermelon.

Wiper applicators may be used in rutabagas. Allow at least 14 days between application and harvest.

VINE CROPS

LABELED CROPS: Grape (raisin, table, wine), Kiwi fruit

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

NOTE: FOR USE DIRECTIONS, SEE THE "TREE AND VINE CROPS (GENERAL)" SECTION.

THE FOLLOWING DIRECTIONS ARE SPECIFIC TO VINE CROPS.

Applications must not be made when green shoots, canes or foliage are in the spray zone. In the northeast and Great Lakes regions, applications must be made prior to the end of bloom stage of grapes to avoid injury, or make applications with shielded sprayers or wiper equipment.

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

ROUNDUP READY® CROPS

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

THIS PRODUCT IS TO BE USED FOR POSTEMERGENCE APPLICATION ONLY ON CROP VARIETIES DESIGNATED AS CONTAINING THE ROUNDUP READY GENE OR GLYPHOSATE TOLERANT GENE.

Applying this product to crop 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.

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

Spray Drift Management

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

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

DO NOT exceed a maximum rate of 24.0 fluid ounces per acre of this product when making applications by air unless otherwise directed. For aerial application in California or Arkansas, refer to the federal supplemental label for aerial applications in that state for specific instructions, restrictions and requirements.

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

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

NOTE: The following directions are based on a clean start at planting by using a burn down application or tillage to control existing weeds before crop emergence. In no-till and stale seedbed systems, a preplant burn-down treatment of 18.0 to 48.0 fluid ounces per acre of this product is required to control existing weeds

prior to crop emergence.

There are no rotational crop restrictions following the application of this product.

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.

CANOLA WITH THE ROUNDUP READY GENE

TYPES OF APPLICATIONS: Preplant, preemergence, postemergence.

USE INSTRUCTIONS:

Maximum Allowable Combined Application Quantities Per Season	
Preplant and preemergence applications	48.0 fluid ounces per acre
Total in-crop application from emergence to 6-leaf	24.0 fluid ounces per acre

For ground applications with broadcast equipment, apply this product in 5.0 to 20.0 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 3.0 to 15.0 gallons of water per acre.

Preplant or Pre-emergent applications: This product may be applied by aerial or ground application equipment prior to planting or emergence of canola.

Over-the-top applications: This product may be applied by aerial or ground application equipment postemergence to Roundup Ready canola from emergence through the 6-leaf stage of development.

To maximize yield potential spray canola early to eliminate competing weeds. Any single over-the-top broadcast application must not exceed 10.0 fluid ounces per acre. No more than 2 over-the-top broadcast applications may be made from crop emergence through the 6-leaf stage of development.

Sequential over-the-top applications of this product must be at least 10 days apart.

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 "PERENNIAL WEEDS RATE TABLE" on this label.

Some weeds with multiple germination times or suppressed (stunted) weeds may require sequential applications of this product for control. The second application must be made after some regrowth has occurred and at least 10 days after a previous application of this product.

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.

Allow a minimum of 60 days between last application and canola harvest.

CORN WITH THE ROUNDUP READY GENE

TYPES OF APPLICATIONS: Preplant, preemergence, at-planting, postemergence, spot treatment, postharvest.

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 must be made to actively growing weeds before they reach the maximum size listed in the "ANNUAL WEEDS RATE TABLE" and "PERENNIAL WEEDS RATE TABLE." Refer to the "MIXING" section of this labeling for proper use instructions.

This product may be applied postemergence to Roundup Ready corn from emergence through the V8 stage (8 leaves with collars) or until corn height reaches 30 inches, whichever comes first. Single in-crop applications of this product are not to exceed 24.0 fluid ounces per acre. Sequential in-crop applications of this product from emergence through the V8 stage or 30 inches must not exceed 48.0 fluid ounces per acre per growing season.

Maximum Allowable Application Rates

Combined total per year for all applications	6.0 quarts per acre
Preplant, Preemergence applications	3.75 quarts per acre
Total in-crop applications from emergence through the V8 stage or 30 inches	48.0 fluid ounces per acre
Maximum preharvest application rate after maximum kernal fill is complete and the crop is physiologically mature (black layer formation) until 7 days before harvest	24.0 fluid ounces per acre

The addition of 1 to 2 percent dry ammonium sulfate by weight or 8.5 to 17.0 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, Micro-Tech, or Partner 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.

For ground applications: Use the labeled rates of this product in 5.0 to 20.0 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 labeled rates of this product in 3.0 to 15.0 gallons of spray solution per acre.

PRECAUTIONS: 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.

Weed Control Directions

Apply 18.0 to 24.0 fluid ounces of MAD DOG 5.4 per acre for control of labeled grasses and broadleaf weeds in conventional and no-till corn production systems.

Refer to the "ANNUAL WEEDS RATE TABLE" of the labeling rates for specific annual weeds. MAD DOG 5.4 applied at up to 24.0 fluid ounces per acre will control or suppress the growth of perennial weeds such as: Bermudagrass, Canada thistle, Common milkweed, Field bindweed, Hemp dogbane, Horsenettle, Nutsedge, Quackgrass, Rhizome johnsongrass, Redvine, Trumpet creeper, Swamp smartweed, and Wirestem muhly. For additional information on perennial weeds, see the "PERENNIAL WEEDS RATE TABLE" in this label.

Preemergence followed by Postemergence Weed Control Program

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

Postemergence Only Weed Control Program

This product may be applied alone as a postemergence in-crop application to provide control of emerged weeds listed on this label. The postemergence application of this product must be made before the weeds reach a height and/or density that the weeds become competitive with the crop. If new flushes of weeds occur, a sequential application of this product at 18.0 to 24.0 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 mixture with a labeled rate of Harness, Harness Xtra, Harness Xtra 5.6L, Micro-Tech, Bullet, Partner, 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. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions and precautionary language of the products in the mixture (for example, first aid from one product, spray drift management from another).

Tank Mix Partner	Maximum Height of Corn For Application
Harness Harness Xtra Harness Xtra 5.6	11 inches
Bullet* Micro-Tech* Partner*	5 inches
Permit	24 inches
Atrazine	12 inches

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

COTTON WITH THE ROUNDUP READY GENE

TYPES OF APPLICATIONS: Preplant, preemergence, at-planting, over-the-top, post-directed, hooded sprayer, preharvest.

ATTENTION: This product is 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.

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.

USE INSTRUCTIONS:

Maximum Allowable Yearly Rates

Combined total per year for all applications	6.0 quarts per acre
Preplant, Preemergence applications	3.75 quarts per acre
Total in-crop applications from cracking to layby	3.0 quarts per acre
Maximum preharvest application rate	1.5 quarts per acre

For ground applications with broadcast equipment, apply this product in 5.0 to 20.0 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 3.0 to 15.0 gallons of water per acre.

The combined total application from crop emergence until harvest must not exceed 4.5 quarts per acre.

Over-the-top applications: This product may be applied by aerial or ground application equipment postmergence 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 must not exceed 24.0 fluid ounces per acre. No more than 2 over-the-top broadcast applications may be made from crop emergence through the 4-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 2 nodes of incremental growth between applications.

Post-directed or hooded applications: This product may be applied using precision post-directed or hooded sprayers to Roundup Ready cotton through layby. At this stage, post-directed equipment should be used which directs the spray to the base of the cotton plants. Contact of the spray with cotton leaves must be avoided to the maximum extent possible. To minimize spray onto the leaves of the cotton plants, place nozzles in a low position directing a horizontal spray pattern under the cotton leaves to contact weeds in the row, and maintain low spray pressure (less than 30 PSI). For best results, make applications while

weeds are small (less than 3 inches). Any single post-directed application must not exceed 24.0 fluid ounces per acre of this product. No more than 2 applications can 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 2 nodes of incremental growth between applications.

ATTENTION: USE OF MAD DOG 5.4 IN ACCORDANCE WITH LABEL DIRECTIONS IS EXPECTED TO RESULT IN NORMAL GROWTH OF ROUNDUP READY COTTON, HOWEVER, VARIOUS ENVIRONMENTAL CONDITIONS, AGRONOMIC PRACTICES AND OTHER FACTORS MAKE IT IMPOSSIBLE TO ELIMINATE ALL RISKS ASSOCIATED WITH THIS PRODUCT, EVEN WHEN APPLICATIONS ARE MADE IN CONFORMANCE WITH THE LABEL SPECIFICATIONS. IN SOME CASES, THESE FACTORS CAN RESULT IN BOLL LOSS, DELAYED MATURITY AND/OR YIELD LOSS.

Salvage Treatment: This treatment may be used after the 4-leaf stage of development and must only be used where weeds threaten to cause the loss of the crop. 24.0 fluid ounces 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.

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

Weeds controlled: For specific rates of application and instructions for control of specific weed species, refer to the "ANNUAL WEEDS RATE TABLE" and "PERENNIAL WEEDS RATE TABLE" of this label. MAD DOG 5.4 applied at 24.0 fluid ounces per acre will burndown or suppress the growth of the following perennial weeds and reduce crop competition: Yellow and Purple nutsedge, Rhizome johnsongrass, Common bermudagrass, Silverleaf nightshade, Trumpet creeper, and Redvine. Fall preharvest applications may be required for control of these perennial weeds.

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. Allow a minimum of 7 days between final application and harvest of cotton or feeding of cotton forage or hay.

NOTE: MAD DOG 5.4 will not enhance the performance of harvest aids when applied to Roundup Ready cotton.

RESTRICTION: DO NOT apply MAD DOG 5.4 preharvest to crops grown for seed.

ROUNDUP READY FLEX COTTON

The instructions provided in this section are specific to, and must only be used with, varieties designated as Roundup Ready Flex cotton. Applications described in this section over the top of cotton other than Roundup Ready Flex cotton will cause crop injury and reduced yields. DO NOT combine the instructions in this section with those in the "Roundup Ready Cotton" section of this label, or with any other Roundup Ready cotton or Roundup Ready Flex cotton instructions on labeling for this or other glyphosate containing products. Drift of this product from

applications made to Roundup Ready Flex cotton onto adjacent fields of post4-leaf (node) Roundup Ready cotton may cause extensive crop injury, including boll loss, delayed maturity and/or yield loss.

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

USE INSTRUCTIONS: Refer to the following table for maximum application rates of this product with Roundup Ready Flex cotton.

Maximum Allowable Rates	
Combined total per year for all applications	6.0 quarts per acre
Total of all Preplant, At-Planting, Preemergence applications	3.75 quarts per acre
Total of all In-crop applications from cracking to 60 percent open bolls	4.5 quarts per acre
Total of all In-crop applications between layby and 60 percent open bolls	1.5 quarts per acre
Total of all In-crop applications from 60 percent open bolls to 7 days prior to harvest	1.5 quarts per acre
Total of all In-crop applications from emergence through harvest	4.5 quarts per acre

See the "ROUNDUP READY CROPS" section of the container label for precautionary instructions for use in Roundup Ready crops. See the "PRODUCT INFORMATION" section of the container label for more information on Maximum Application Rates.

TYPES OF APPLICATIONS: Preplant, At-Planting, Preemergence

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

TANK MIXTURES: This product may be tank-mixed with 2,4-D or Clarity® and applied prior to planting only. This product may be tank-mixed with the following products and applied prior to crop emergence.

Ensure that the specific product being used is labeled for application prior to emergence of cotton. Read and follow label directions of all products in the tank mixture. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions and precautionary language of the products in the mixture (for example, first aid from one product, spray drift management from another).

2,4-D	metolachlor
clomazone (Aim®)	norflurazone (Solicam)
dicamba	s-metolachlor (Dual Magnum®, Dual II Magnum®)
diuron (Direx, Karmex)	pendimethalin (Stealth)
flumioxan (Chateau®, Valor®)	prometryn (Caparol®, Cotton-Pro®)
fluometuron (Cotoran®, Meturon)	pyrithiobac-sodium (Staple®)
fomesafen (Reflex®)	

Maximum quantity of this product that may be applied for all preplant, at-planting and preemergence applications combined is 3.75 quarts per acre per season. Refer to individual tank-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

Postemergence (In-crop)

USE INSTRUCTIONS: This product may be applied to control annual grasses and broadleaf weeds listed on this label in Roundup Ready Flex cotton. To maximize yield potential, eliminate competing weeds early. Many perennial weeds will be controlled or suppressed with one or more applications of this product. Use an initial application of 25.0 fluid ounces per acre on 1 to 3 inch tall annual grass and broadleaf weeds. This product may be applied postemergence to Roundup Ready Flex cotton using ground application equipment at rates up to 36.0 fluid ounces per acre per application. In addition to broadcast application, post-directed spray equipment may be used to achieve more thorough weed coverage.

TANK MIXTURES: This product may be tank-mixed with the following products and applied postemergence (in-crop) over the top of Roundup Ready Flex cotton. Ensure that the specific product being used is labeled for application postemergence (in-crop) to cotton. Read and follow label directions of all products in the tank mixture. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions and precautionary language of the products in the mixture (for example, first aid from one product, spray drift management from another).

clethodim	pyrithiobac-sodium (Staple)
fluzifop-P-butyl (Fusilade® DX)	quizalofop-p-ethyl (Assure® II)
fomesafen (Reflex)	sethoxydim (Poast Plus®)
metolachlor (Stalwart®)	trifloxysulfuron-sodium (Envoke®)
s-metolachlor (Dual Magnum)	

Staple may cause leaf yellowing and/or leaf crinkling when applied postemergence (in-crop) in Roundup Ready Flex cotton. Dual Magnum and Stalwart applied over the top of Roundup Ready Flex cotton may cause leaf injury in the form of necrotic spotting.

This product can be tank-mixed with the following products for in-crop application using precision postdirected or hooded sprayers. Ensure that the specific product being used is labeled for application postemergence (in-crop) to cotton. Read and follow label directions of all products in the tank mixture.

Refer to individual tank-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

carfentrazone-ethyl (Aim)	pendimethalin (Stealth)
diuron (Direx)	prometryn (Caparol)
flumioxazin (Chateau, Valor)	pyrithiobac-sodium (Staple)
fluometuron (Cotoran®)	trifloxysulfuron-sodium (Envoke)
linuron (Layby™-Pro)	

The maximum single, in-crop application rate of this product to Roundup Ready Flex cotton using ground application equipment is 36.0 fluid ounces per acre. In-crop application rates above 25.0 fluid ounces 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. Do not exceed a maximum rate of 25.0 fluid ounces of this product per acre when making application by air. Between layby and 60 percent open bolls, the maximum combined total application rate of this product is 48.0 fluid ounces per acre. The maximum combined total of all applications of this product made from crop emergence to 60 percent open bolls must not exceed 4.5 quarts per acre. DO NOT ADD ADDITIONAL SURFACTANT OR ADDITIVES CONTAINING SURFACTANT TO THIS PRODUCT FOR OVER-THE-TOP APPLICATION TO ROUNDUP READY FLEX COTTON.

Preharvest

USE INSTRUCTIONS: This product may be applied to Roundup Ready Flex cotton at up to 48.0 fluid ounces per acre for annual and perennial weed control prior to harvest after 60 percent boll crack.

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

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

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

SOYBEANS WITH THE ROUNDUP READY GENE

TYPES OF APPLICATIONS: Preplant, preemergence, at-planting, postemergence, preharvest, postharvest.

USE INSTRUCTIONS: 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.

Maximum Allowable Application Rates

Combined total per year for all applications	6.0 quarts per acre
Preplant, Preemergence applications	3.75 quarts per acre
Total in-crop applications from emergence from cracking throughout flowering	2.25 quarts per acre
Maximum preharvest application rate	24.0 fluid ounces per acre

RESTRICTIONS: The combined total application from crop emergence through harvest must not exceed 2.25 quarts per acre. The maximum rate for any single in-

crop application is 48.0 fluid ounces per acre.

The maximum combined total of this product which can be applied during flowering is 48.0 fluid ounces per acre. Allow a minimum of 14 days between final application and harvest or feeding of soybean grain, forage or hay.

The use of this product for in-crop applications over Roundup Ready soybeans is not registered in California.

Annual Weed Rate Tables

The following rates will provide control of labeled grasses and broadleaf weeds in conventional and no-till Roundup Ready soybean production systems. Refer to the "ANNUAL WEEDS RATE TABLES" of this label for rates for specific annual weeds.

Loveland Products, Inc. will not warrant crop safety or weed control when Roundup Ready soybeans are treated with herbicides not specified on this label. Because of the potential for: 1) crop injury, 2) poor weed control from antagonism, and/or 3) rotational crop restrictions, herbicides not specified on this label should not be used, whether applied preemergence or applied postemergence as a tank mixture with MAD DOG 5.4.

This product may be used up to 48.0 fluid ounces per acre in any single in-crop application for control of annual weeds, where heavy weed densities exist.

Midwest/Mid-Atlantic Instructions

Narrow row or drilled soybeans: A single in-crop application of this product will provide effective control of labeled weeds. Use an initial application of 24.0 fluid ounces per acre, on 4 to 8 inches weeds. Weeds will generally be 4 to 8 inches tall 3 to 5 weeks after planting. If the initial application is delayed and weeds are 8 to 18 inches tall, use 36.0 fluid ounces per acre.

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 18.0 to 24.0 fluid ounces per acre may be necessary to control late flushes of weeds.

Wide row soybeans: An in-crop application of this product will provide effective control of the initial stand of labeled weeds. Use an initial application of 24.0 fluid ounces per acre, on 4- to 8-inch weeds. Weeds will generally be 4 to 8 inches tall 3 to 5 weeks after planting. If new flushes of weeds occur, they can be controlled by sequential applications of this product.

Initial and Sequential (if needed) Applications

Weed Height (Inches)	Rate (fl oz/A)
1 to 3	18.0
4 to 8	24.0
8 to 18	36.0

Giant ragweed: Apply 24.0 fluid ounces per acre when the weed is 8 to 12 inches tall to avoid the need for sequential application.

Black nightshade, Pennsylvania smartweed, Ladysthumb smartweed, Velvetleaf and Waterhemp: Apply 24.0 fluid ounces per acre to weeds 3 to 6 inches tall and 36.0 fluid ounces per acre when weeds are up to 12 inches tall. For Morningglory species apply 24.0 fluid ounces per acre when weeds are up to 4 inches tall, and 36.0 fluid ounces per acre when weeds are up to 6 inches tall.

Some weeds, such as Black nightshade, Woolly cupgrass, Shattercane, Wild proso millet, Burcumber, 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 18.0 fluid ounces of this product per acre for sequential applications.

Southeast Instructions

Narrow row, drilled, or wide-row soybeans: An in-crop application of this product will provide effective control of the initial stand of labeled weeds. Use an initial application of 24.0 fluid ounces per acre on 3- to 6-inch weeds. Weeds will generally be 3 to 6 inches tall 2 to 3 weeks after planting.

Initial Treatment

Weed Height (inches)	Rate (fl oz/A)
3 to 6	24.0
6 to 12	36.0

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 12.0 to 24.0 fluid ounces per acre may be necessary to control late flushes of weeds.

Sequential Application (if needed)

Weed Height (inches)	Rate (fl oz/A)
2 to 3	12.0
3 to 6	18.0
6 to 12	24.0

Florida pusley, Hemp sesbania and Spurred anoda: Apply 24.0 fluid ounces per acre to weeds 2 to 4 inches for the initial application. Apply 24.0 fluid ounces per acre when these weeds are 3 to 6 inches tall if a sequential application is necessary. Morningglory, Black nightshade, Groundcherry, and Pennsylvania smartweed: Apply 18.0 fluid ounces per acre on 1- to 3-inch weeds, 24.0 fluid ounces per acre on 3- to 6-inch weeds, or 36.0 fluid ounces per acre on 6- to 12-inch weeds for the initial application.

Some weeds, such as Black nightshade, Broadleaf signalgrass, Texas panicum, Burcumber, 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 of this product should be made after some regrowth has occurred. Use a minimum of 12.0 fluid ounces of this product per acre for sequential applications.

Delta/Mid-South Instructions

Narrow row, drilled, or wide row soybeans: An in-crop application of this product will provide effective control of the initial stand of labeled weeds. A sequential application will be required to control new flushes of weeds. Use an initial application of 24.0 fluid ounces per acre, on 2- to 4-inch weeds. Weeds will generally be 2 to 4 inches tall 2 to 3 weeks after planting.

Initial Treatment

Weed Height (inches)	Rate (fl oz/A)
2 to 4	24.0
5 to 12	36.0

Sequential Application

Weed Height (inches)	Rate (fl oz/A)
2 to 3	12.0
3 to 6	18.0
6 to 12	24.0

Hemp sesbania and spurred anoda: Apply a sequential treatment of 24.0 fluid ounces per acre on 3- to 6-inch weeds if necessary.

Some weeds, such as Black nightshade, Broadleaf signalgrass, Texas panicum, Burcumber, 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 18.0 fluid ounces of this product per acre for sequential applications.

Perennial Weeds Rate Instructions

A 24.0 to 48.0 fluid ounces per acre rate (single or multiple applications) of this product will control or suppress perennial weeds such as: Bermudagrass, Canada thistle, Common milkweed, Field bindweed, Hemp dogbane, Horsenettle, Marestalk (horseweed), Nutsedge, Quackgrass, Rhizome johnsongrass, Redvine, Trumpetcreeper, Swamp smartweed, and Wirestem mully.

Allow perennial weed species to achieve at least 6 inches of growth before spraying with MAD DOG 5.4.

ANNUAL WEEDS RATE TABLE

(Alphabetically by Species)

LISTED RATES APPLY FOR WATER CARRIER VOLUMES OF 3.0 TO 10.0 GALLONS PER ACRE FOR GROUND APPLICATIONS AND 3.0 TO 5.0 GALLONS PER ACRE FOR AERIAL APPLICATIONS.

Apply to actively growing annual weeds. Annual weeds are easiest to control when they are small.
Older, mature (hardened) annual weed species may require higher rates even if they meet the size requirements.

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

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

This product can be used up to 48.0 fluid ounces per acre where heavy weed densities exist.

ANNUAL WEEDS RATE TABLE

WEED SPECIES	RATE (fl oz/A)				
	12.0	18.0	24.0	30.0	36.0
	MAXIMUM HEIGHT/LENGTH				
Ammannia, purple	3	6	12	-	18
Annoda, spurred	-	2	3	5	8
Barley	18	18+	-	-	-
Barnyardgrass	-	3	6	7	9
Bassia, fivehook	-	-	6	7	9
Beggarweed, Florida	-	5	8	-	-
Bittercress	12	20	-	-	-
Bluegrass, annual	10	-	-	-	-
Bluegrass bulbous	6	-	-	-	-
Brome, downy ^{1,2}	6	-	-	downy	-
Brome, Japanese	6	12	24	-	-
Browntop panicum	6	8	12	-	24
Buckwheat, wild ³	-	1	2	-	-
Burcucumber	-	6	12	-	18
Buttercup	12	20	-	-	-
Carolina foxtail	10	-	-	-	-
Carolina geranium	-	-	4	-	9
Carpetweed	-	6	12	-	-
Cheat ⁴	6	20	-	-	-
Chervil	20	-	-	-	-
Chickweed	-	12	18	-	-
Cocklebur	12	18	24	-	36
Copperleaf, hophornbeam	-	2	4	-	6
Copperleaf, Virginia	-	2	4	-	6
Coreopsis, plains	-	6	12	-	18
Corn, volunteer (non-Roundup Ready)	6	12	20	-	-
Corn speedwell	12	-	-	-	-
Crabgrass	3	6	12	-	-
Crowfootgrass	-	-	6	-	12
Cutleaf evening primrose	-	-	3	-	6
Devilsclaw (unicorn plant)	-	3	6	-	-
Dwarf dandelion	12	-	-	-	-

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WEED SPECIES	RATE (fl oz/A)				
	12.0	18.0	24.0	30.0	36.0
	MAXIMUM HEIGHT/LENGTH				
Eastern mannagrass	8	12	-	-	-
Eclipta	-	4	8	12	-
Fall panicum	4	-	6	-	12
Falsedandelion	-	20	-	-	-
Falseflax, smallseed	12	-	-	-	-
Fiddleneck	-	6	12	-	-
Field pennycress	6	12	-	-	-
Filaree	-	-	6	-	12
Fleabane, annual	6	20	-	-	-
Fleabane, hairy (Conyza bonariensis)	-	-	6	-	10
Fleabane, rough	3	6	12	-	-
Florida pusley	-	-	4	-	6
Foxtail (giant, bristly, yellow)	6	12	20	-	-
Foxtail, green	12	-	-	-	-
Goatgrass, jointed	6	12	-	-	-
Goosegrass	-	3	6	-	12
Grain sorghum (milo)	6	12	20	-	-
Groundcherry	-	3	6	-	9
Groundsel, common	-	6	10	-	-
Hemp sesbania	-	3	4	6	8
Henbit	-	-	6	-	12
Horseweed/Marestail (Conyza canadensis)	-	6	12	-	18
Itchgrass	6	8	12	-	18
Jimsonweed	-	-	12	-	18
Johnsongrass (seedling)	6	12	18	-	24
Junglerice	-	3	6	7	9
Knotweed	-	-	6	-	12
Kochia ⁴	-	3 to 6	12	-	-
Lambsquarters	-	6	12	-	20
Little barley	6	12	-	-	-
London rocket	6	-	24	-	-
Mayweed	-	2	6	12	18
Morningglory (Ipomoea spp.)	-	-	3	-	6
Mustard, blue	6	12	18	-	-
Mustard, tansy	6	12	18	-	-
Mustard, tumble	6	12	18	-	-
Mustard, wild	6	12	18	-	-
Nightshade, black	-	4	6	-	12

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WEED SPECIES	RATE (fl oz/A)				
	12.0	18.0	24.0	30.0	36.0
MAXIMUM HEIGHT/LENGTH					
Nightshade, hairy	-	4	6	-	12
Oats	3	6	18	-	-
Pigweed, palmer	-	12	18	24	-
Pigweed, species	-	12	18	24	-
Prickly lettuce	-	6	12	-	-
Purslane	-	-	3	-	6
Ragweed, common	-	6	12	-	18
Ragweed, giant	-	6	12	-	18
Red rice	-	-	4	-	-
Russian thistle ⁵	-	6	12	-	-
Rye, volunteer/cereal ²	6	18	18+	-	-
Ryegrass species ⁶	-	-	6	-	12
Sandbur, field	6	12	-	-	-
Sandbur, longspine	6	12	-	-	-
Shattercane	6	12	20	-	-
Shepherd's purse	6	12	-	-	-
Sicklepod	-	2	4	-	8
Signalgrass, broadleaf	-	3	6	7	9
Smartweed, ladythumb	-	-	6	-	9
Smartweed, Pennsylvania	-	-	6	-	9
Sowthistle, annual	-	-	6	-	12
Spanishneedles	-	-	6	-	12
Speedwell, purslane	12	-	-	-	-
Sprangletop	6	12	20	-	-
Spurge, prostrate	-	6	12	-	-
Spurge, spotted	-	6	12	-	-
Spurry, umbrella	6	-	-	-	-
Stinkgrass	-	12	-	-	-
Sunflower	12	18	-	-	-
Teaweed/Prickly sida	-	2	4	-	6
Texas panicum	6	8	12	-	24
Velvetleaf	-	-	6	-	12
Virginia pepperweed	-	18	-	-	-
Waterhemp	-	-	6	-	12
Wheat ²	6	12	18	-	-
Wheat (overwintered)	-	6	12	-	18
Wild oats	3	6	18	-	-
Wild Proso Millet	-	6	12	-	18
Witchgrass	-	12	-	-	-
Woolly cupgrass	-	6	12	-	-
Yellow rocket	-	12	20	-	-

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¹ For control of downy brome in no-till systems, use 18.0 fluid ounces per acre.

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

³ Use 18.0 fluid ounces per acre of this product to control wild buckwheat in the cotyledon to 2-leaf stage. Use 24.0 fluid ounces per acre to control 2- to 4-leaf wild buckwheat. For improved control of wild buckwheat over 2 inches in size, use sequential treatments of 24.0 fluid ounces followed by 24.0 fluid ounces of this product per acre.

⁴ Do not treat kochia in the button stage.

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

Annual Weeds - Rates for Higher Water Carrier Volumes

For ground applications with water carrier volumes between 11.0 and 40.0 gallons per acre and aerial applications between 6.0 and 15.0 gallons per acre, apply 1.5 to 3.0 pints of this product per acre. Use 1.5 pints per acre if weeds are less than 6 inches tall, 2.25 pints per acre if weeds are 6 to 12 inches tall and 3.0 pints per acre if weeds are greater than 12 inches tall. These rates will provide control of weeds listed in the "ANNUAL WEEDS RATE TABLE." Older, mature (hardened) annual weed species may require higher rates even if they meet the size requirements.

Annual Weeds – Tank Mixtures with 2,4-D, Dicamba

It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions and precautionary language of the products in the mixture (for example, first aid from one product, spray drift management from another).

9.0 to 12.0 fluid ounces of this product plus an appropriate amount of dicamba or an appropriate amount of 2,4-D per acre will control the following weeds with the maximum height or length indicated: 6 inches – Prickly lettuce, Marestalk/Horseweed (*Conyza canadensis*), Morningglory (*Ipomoea* spp.), Kochia (dicamba only); 12 inches – Cocklebur, Lambsquarters, Pigweed, Russian thistle.

12.0 fluid ounces of this product an appropriate amount of 2,4-D per acre will control the following weeds when they are a maximum height or length of 6 inches: Common ragweed, Giant ragweed, Pennsylvania smartweed, and Velvetleaf.

9.0 fluid ounces of the product an appropriate amount of dicamba or an appropriate amount of 2,4-D per acre will control foxtail up to 18 inches.

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

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

DO NOT APPLY DICAMBA TANK MIXTURES BY AIR IN CALIFORNIA.

PERENNIAL WEEDS RATE TABLE (Alphabetically by Species)

Apply to actively growing perennial weeds.

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

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

Repeat treatments must be made prior to crop emergence.

Unless otherwise stated, allow 7 or more days after application before tillage.

Best results are obtained when soil moisture is adequate for active weed growth.

Weed Species	Rate (PT/A)	Water Volume	Hand-Held % Solution	Comments
Alfalfa	1.5 to 3.0	3.0 to 10.0	1.5	Make applications after the last hay cutting in the fall. Allow alfalfa to regrow to a height of 6 to 8 inches or more prior to treatment. Applications should be followed with deep tillage at least 7 days after treatment, but before soil freeze-up.
Alligatorweed	6.0	3.0 to 20.0	1.25	Partial control. Apply when most of the plants are in bloom. Repeat applications will be required to maintain control.
Anise (fennel)	-	-	0.75 to 1.5	Apply as a spray-to-wet treatment. Optimum results are obtained when plants are treated at the bud to full-bloom stage of growth.
Bahiagrass	4.5 to 7.5	3.0 to 20.0	1.5	Apply when most plants have reached the early head stage.
Bentgrass	2.25	10.0 to 20.0	1.5	For suppression in grass seed production areas. For ground applications only. Ensure entire crown area has resumed growth prior to a fall application. Bentgrass should 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.
Bermudagrass	4.5 to 7.5	3.0 to 20.0	1.5	For control, apply 7.5 pints of this product per acre. For partial control, apply 4.5 pints per acre. Treat when bermudagrass is actively growing and seedheads are present. Retreatment may be necessary to maintain control.
Bermudagrass, water (knotgrass)	1.5 to 2.25	5.0 to 10.0	1.5	Apply 2.25 pints of this product in 5.0 to 10.0 gallons of water per acre. Apply when water bermudagrass is 12 to 18 inches in length. Allow 7 or more days before tilling, flushing or flooding the field. Fall applications only: Apply 1.5 pints of this product in 5.0 to 10.0 gallons of water per acre. Fallow fields should be tilled prior to application. Apply prior to frost on water bermudagrass that is 12 to 18 inches in length. This product is not registered in California for use on water bermudagrass.
Bindweed, field	0.75 to 7.5	3.0 to 20.0	1.5	Do not treat when weeds are under drought stress as good soil moisture is necessary for active growth. For control, apply 6.0 to 7.5 pints of this product per acre west of the Mississippi River and 4.5 to 6.0 pints east of the Mississippi River. Apply when the weeds are at or beyond full bloom. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost. Also for control, apply 3.0 pints of this product plus 0.5 pounds AI of Rifle in 10.0 to 20.0 gallons of water per acre. Do not apply by air. For suppression on irrigated agricultural land, apply 1.5 to 3.0 pints of this product plus 1 pound a.i. of 2,4-D in 10.0 to 20.0 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 12.0 fluid ounces of this product plus 0.5 pound AI 2,4-D in 3.0 to 10.0 gallons of water per acre for ground applications and 3.0 to 5.0 gallons of water per acre for aerial applications. Apply by air in fallow and reduced tillage systems only. Delay applications until maximum emergence has occurred and when vines are between 6 to 18 inches in length.

Weed Species	Rate (PT/A)	Water Volume	Hand-Held % Solution	Comments
<i>Bindweed, field cont'd</i>				In California only, apply 1.5 to 7.5 pints of this product per acre. Actual rate needed for suppression or control will vary within this range depending on local conditions. For suppression on irrigated land where annual tillage is performed, apply 1.5 pints of this product in 3.0 to 10.0 gallons of water per acre. Apply to bindweed that has reached a length of 12 inches or greater. Allow maximum weed emergence and runner growth. Allow 3 or more days after application before tillage.
Bluegrass, Kentucky	1.5 to 3.0	3.0 to 40.0	1.5	Apply 3.0 pints of this product in 10.0 to 40.0 gallons of water per acre when most plants have reached boot-to-early seed-head stage of development. For partial control in pasture or hay crop renovation, apply 1.5 to 2.25 pints of this product in 3.0 to 10.0 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.
Blueweed, Texas	4.5 to 7.5	3.0 to 40.0	1.5	Apply 6.0 to 7.5 pints of this product per acre west of the Mississippi River and 4.5 to 6.0 pints per acre east of the Mississippi River. Apply when plants are at or beyond full bloom. New leaf development indicates active growth. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost.
Brackenfern	4.5 to 6.0	3.0 to 40.0	0.75 to 1.5	Apply to fully expanded fronds which are at least 18 inches long.
Bromegrass, smooth	1.5 to 3.0	3.0 to 40.0	1.5	Apply 3.0 pints of this product in 10.0 to 40.0 gallons of water per acre when most plants have reached boot-to-early seed-head stage of development. For partial control in pasture or hay crop renovation, apply 1.5 to 2.25 pints of this product in 3.0 to 10.0 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.
Bursage, woolly-leaf	-	3.0 to 20.0	1.5	For control, apply 3.0 pints of this product plus 1.0 pint of Rifle per acre. For partial control, apply 1.5 pints of this product plus 1.0 pint of Rifle 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	3.0 to 4.5	3.0 to 40.0	1.5	For best results, apply when most plants have reached the boot-to-head stage of growth.
Cattail	4.5 to 7.5	3.0 to 40.0	1.5	Apply when most plants have reached the early head stage.
Clover, red, white	4.5 to 7.5	3.0 to 20.0	1.5	Apply when most plants have reached the early bud stage.
Cogongrass	4.5 to 7.5	10.0 to 40.0	1.5	Apply when cogongrass is at least 18 inches tall in late summer or fall. Due to uneven stages of growth and the dense nature of vegetation preventing good spray coverage, repeat treatments may be necessary to maintain control.
Dallisgrass	4.5 to 7.5	3.0 to 20.0	1.5	Apply when most plants have reached the early head stage.
Dandelion	4.5 to 7.5	3.0 to 40.0	1.5	Apply when most plants have reached the early bud stage of growth. Also for control, apply 12.0 fluid ounces of this product plus 0.5 pound AI 2,4-D in 3.0 to 10.0 gallons of water per acre.
Dock, curly	4.5 to 7.5	3.0 to 40.0	1.5	Apply when most plants have reached the early bud stage of growth. Also for control, apply 12.0 fluid ounces of this product plus 0.5 pound AI 2,4-D in 3.0 to 10.0 gallons of water per acre.

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Weed Species	Rate (PT/A)	Water Volume	Hand-Held % Solution	Comments
Dogbane, hemp	6.0	3.0 to 40.0	1.5	Apply when most plants have reached the late bud to flower stage of growth. Following crop harvest or mowing, allow weeds to regrow to a mature stage prior to treatment. For best results, apply in late summer or fall. For suppression, apply 12.0 fluid ounces of this product plus 0.5 pound a.i. of 2,4-D in 3.0 to 10.0 gallons of water per acre for ground applications and 3.0 to 5.0 gallons of water per acre for aerial applications. Delay applications until maximum emergence of dogbane has occurred.
Fescue (except tall)	4.5 to 7.5	3.0 to 20.0	1.5	Apply when most plants have reached the early head stage.
Fescue, tall	1.5 to 4.5	3.0 to 40.0	1.5	Apply 4.5 pints of this product per acre when most plants have reached boot-to-early seedhead stage of development. Fall applications only: Apply 1.5 pints of this product in 3.0 to 10.0 gallons of water per acre. Apply to fescue in the fall when plants have 6 to 12 inches of new growth. A sequential application of 12.0 fluid ounces per acre of this product will improve long-term control and control seedlings germinating after fall treatments or the following spring.
Guineagrass	4.5	3.0 to 40.0	0.75	Apply when most plants have reached at least the 7-leaf stage of growth. Ensure thorough coverage when using hand-held equipment.
Horsenettle	4.5 to 7.5	3.0 to 20.0	1.5	Apply when most plants have reached the early bud stage.
Horseradish	6.0	3.0 to 40.0	1.5	Apply when most plants have reached the late bud to flower stage of growth. For best results, apply in late summer or fall.
Iceplant	-	-	1.5	Iceplant should be at or beyond the early bud stage of growth. Thorough coverage is necessary for best control.
Jerusalem artichoke	4.5 to 7.5	3.0 to 20.0	1.5	Apply when most plants are in the early bud stage.
Johnsongrass	0.75 to 4.5	3.0 to 40.0	0.75	In annual cropping systems apply 1.5 to 3.0 pints of this product per acre. Apply 1.5 pints of this product in 3.0 to 10.0 gallons of water per acre. Use 3.0 pints of this product when applying 10.0 to 40.0 gallons of water per acre. In noncrop, or areas where annual tillage (no-till) is not practiced, apply 3.0 to 4.5 pints of this product in 10.0 to 40.0 gallons of water per acre. For best results, apply when most plants have reached the boot-to-head stage of growth or in the fall prior to frost. Allow 7 or more days after application before tillage. Do not tank-mix with residual herbicides when using the 1.0 quart per acre rate. For burndown of Johnsongrass, apply 12.0 fluid ounces of this product in 3.0 to 10.0 gallons of water per acre before the plants reach a height of 12 inches. For this use, allow at least 3 days after treatment before tillage. Spot treatment (partial control or suppression) – Apply a 0.75 percent solution of this product when Johnsongrass is 12 to 18 inches in height. Coverage must be uniform and complete.
Kikuyugrass	3.0 to 4.5	3.0 to 40.0	1.5	Spray when most kikuyugrass is at least 8 inches in height (3 or 4-leaf stage of growth). Allow 3 or more days after application before tillage.
Knapweed	6.0	3.0 to 40.0	1.5	Apply when most plants have reached the late bud to flower stage of growth. For best results, apply in late summer or fall.
Lantana	-	-	0.75 to 1.0	Apply at or beyond the bloom stage of growth. Use the higher application rate for plants that have reached the woody stage of growth.
Lespedeza	4.5 to 7.5	3.0 to 20.0	1.5	Apply when most plants have reached the early bud stage.
Milkweed, common	4.5	3.0 to 40.0	1.5	Apply when most plants have reached the late bud to flower stage of growth.

Weed Species	Rate (PT/A)	Water Volume	Hand-Held % Solution	Comments
Muhly, wirestem	1.5 to 3.0	3.0 to 40.0	1.5	Use 1.5 pints of this product in 3.0 to 10.0 gallons of water per acre. Use 3.0 pints of this product when applying 10.0 to 40.0 gallons of water per acre or in pasture, sod, or noncrop areas. Spray when the wirestem muhly is 8 inches or more in height. Do not till between harvest and fall applications or in the fall or spring prior to spring applications. Allow 3 or more days after application before tillage.
Mullein, common	4.5 to 7.5	3.0 to 20.0	1.5	Apply when most plants are in the early bud stage.
Napiergrass	4.5 to 7.5	3.0 to 20.0	1.5	Apply when most plants are in the early head stage.
Nightshade, silverleaf	3.0	3.0 to 10.0	1.5	Applications should be made when at least 60 percent of the plants have berries. Fall treatments must be applied before a killing frost.
Nutsedge; purple, yellow	0.75 to 4.5	3.0 to 40.0	0.75 to 1.5	Apply 4.5 pints of this product per acre or apply a 0.75 to 1.5 percent solution for control of nutsedge plants and immature nutlets attached to treated plants. Treat when plants are in flower or when new nutlets can be found at rhizome tips. Nutlets which have not germinated will not be controlled and may germinate following treatment. Repeat treatments will be required for long-term control of ungerminated tubers. Sequential applications: 1.5 to 3.0 pints of this product in 3.0 to 10.0 gallons of water per acre will also provide control. Make applications when a majority of the plants are in the 3 to 5-leaf stage (less than 6 inches tall). Repeat this application, as necessary, when newly emerging plants reach the 3 to 5-leaf stage. Subsequent applications will be necessary for long-term control. For partial control of existing plants, apply 12.0 fluid ounces to 3.0 pints of this product in 3.0 to 40.0 gallons of water per acre. Treat when plants have 3 to 5 leaves and most are less than 6 inches tall. Repeat treatments will be required to control subsequent emerging plants or regrowth of existing plants.
Orchardgrass	1.5 to 3.0	3.0 to 40.0	1.5	Apply 3.0 pints of this product in 10.0 to 40.0 gallons of water per acre when most plants have reached boot-to-early seed-head stage of development. For partial control in pasture or hay crop renovation, apply 1.5 to 2.25 pints of this product in 3.0 to 10.0 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height. Orchardgrass sods going to no-till corn: Apply 1.5 to 2.25 pints of this product in 3.0 to 10.0 gallons of water per acre. Apply to orchardgrass that is a minimum of 12 inches tall for spring applications and 6 inches tall for fall applications. Allow at least 3 days following application before planting. A sequential application of atrazine will be necessary for optimum results.
Pampasgrass	-	-	1.5	Pampasgrass should be at or beyond the boot stage of growth. Thorough coverage is necessary for best control.
Paragrass	4.5 to 7.5	3.0 to 20.0	1.5	Apply when most plants are in the early head stage.
Phragmites	4.5 to 7.5	10.0 to 40.0	0.75 to 1.5	For partial control. For best results, treat during late summer or fall months or when plants are actively growing and in full bloom. Treatment before or after this stage may lead to reduced control. Due to the dense nature of the vegetation, which may prevent good spray coverage or uneven stages of growth, repeat treatments may be necessary to maintain control. Visual control symptoms will be slow to develop.
Poison hemlock	-	-	0.75 to 1.5	Apply as a spray-to-wet treatment. Optimum results are obtained when plants are treated at the bud to full-bloom stage of growth.

Weed Species	Rate (PT/A)	Water Volume	Hand-Held % Solution	Comments
Pokeweed, common	1.5	3.0 to 40.0	1.5	Apply to actively growing plants up to 24 inches tall.
Quackgrass	1.5 to 4.5	3.0 to 40.0	1.5	In annual cropping systems, or in pastures and sods followed by deep tillage: Apply 1.5 pints of this product in 3.0 to 10.0 gallons of water per acre. For 10.0 to 40.0 gallons of water per acre, apply 3.0 pints of this product. Do not tank mix with residual herbicides when using the 1.5 pint rate. Spray when quackgrass is 6 to 8 inches in height. Do not till between harvest and fall applications or in fall or spring prior to spring application. Allow 3 or more days after application before tillage. In pastures or sods, use a moldboard plow for best results. In pastures, sods or noncrop areas where deep tillage does not follow application: Apply 3.0 to 4.5 pints of this product in 10.0 to 40.0 gallons of water per acre when the quackgrass is greater than 8 inches tall.
Redvine	1.25 to 3.0	5.0 to 10.0	1.5	For suppression, apply 18.0 fluid ounces of this product per acre at each of 2 applications 7 to 14 days apart or a single application of 3.0 pints per acre. Apply labeled rates in 5.0 to 10.0 gallons of water per acre. Apply in late September or early October to plants which are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.
Reed, giant	-	-	1.5	Best results are obtained when applications are made in late summer to fall.
Ryegrass, perennial	1.5 to 4.5	3.0 to 40.0	0.75	In annual cropping systems apply 1.5 to 3.0 pints of this product per acre. Apply 1.5 pints of this product in 3.0 to 10.0 gallons of water per acre. Use 3.0 pints of this product when applying 10.0 to 40.0 gallons of water per acre. In noncrop, or areas where annual tillage (no-till) is not practiced, apply 3.0 to 4.5 pints of this product in 10.0 to 40.0 gallons water per acre. For best results, apply when most plants have reached the boot-to-head stage of growth or in the fall prior to frost. Do not tank-mix with residual herbicides when using the 1.5 pint per acre rate.
Smartweed, swamp	4.5 to 7.5	3.0 to 40.0	1.5	Apply when most plants have reached the early bud stage of growth. Also for control, apply 12.0 fluid ounces of this product plus 0.5 pound a.i. 2,4-D in 3.0 to 10.0 gallons of water per acre in the late summer or fall.
Sowthistle, perennial	3.0 to 4.5	3.0 to 40.0	1.5	Apply when most plants are at or beyond the bud stage of growth. After harvest, mowing or tillage in the late summer or fall, allow at least 4 weeks for initiation of active growth and rosette development prior to the application of this product. Fall treatments must be applied before a killing frost. Allow 3 or more days after application before tillage.
Spurge, leafy	-	3.0 to 10.0	1.5	For suppression, apply 12.0 fluid ounces of this product plus 0.5 pound a.i. 2,4-D in 3.0 to 10.0 gallons of water per acre in the late summer or fall. If mowing has occurred prior to treatment, apply when most of the plants are 12 inches tall.
Starthistle, yellow	3.0	10.0 to 40.0	1.5	Best results are obtained when applications are made during the rosette, bolting and early flower stages.
Sweet potato, wild	-	-	1.5	Partial control. Apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.
Thistle, artichoke	-	-	1.5	Partial control. Apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.

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Weed Species	Rate (PT/A)	Water Volume	Hand-Held % Solution	Comments
Thistle, Canada	3.0 to 4.5	3.0 to 40.0	1.5	Apply when most plants are at or beyond the bud stage of growth. After harvest, mowing or tillage in the late summer or fall, allow at least 4 weeks for initiation of active growth and rosette development prior to the application of this product. Fall treatments must be applied before a killing frost. Allow 3 or more days after application before tillage. For suppression, apply 1.5 pints of this product, or 12.0 fluid ounces of this product plus 0.5 pound AI 2,4-D, in 3.0 to 10.0 gallons of water per acre in the late summer or fall after harvest, mowing or tillage. Allow rosette regrowth to a minimum of 6 inches in diameter before treating. Applications can be made as long as leaves are still green and plants are actively growing at the time of application. Allow 3 or more days after application before tillage.
Timothy	3.0 to 4.5	3.0 to 40.0	1.5	For best results, apply when most plants have reached the boot-to-head stage of growth.
Torpedograss	6.0 to 7.5	3.0 to 40.0	1.5	For partial control. Apply when most plants are at or beyond the seedhead stage of growth. Repeat applications will be required to maintain control. Fall treatments must be applied before frost.
Trumpetcreeper	3.0	5.0 to 10.0	1.5	Partial control. Apply in late September or October, to plants which are at least 18 inches tall and have been growing 45-60 days since the last tillage operation. Make applications at least 1 week before a killing frost.
Vaseygrass	4.5 to 7.5	3.0 to 20.0	1.5	Apply when most plants are in the early head stage.
Velvetgrass	4.5 to 7.5	3.0 to 20.0	1.5	Apply when most plants are in the early head stage.
Wheatgrass, western	3.0 to 4.5	3.0 to 40.0	1.5	For best results, apply when most plants have reached the boot-to-head stage of growth.

WOODY BRUSH AND TREES RATE TABLE (Alphabetically by Species)

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

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

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

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

Weed Species	Rate (PT/A)	Water Volume	Hand-Held % Solution	Comments
Alder	4.5 to 6.0	3.0 to 40.0	0.75 to 1.5	For control
Ash	3.0 to 7.5	3.0 to 40.0	0.75 to 1.5	Partial control
Aspen, quaking	3.0 to 4.5	3.0 to 40.0	0.75 to 1.5	For control
Bearmat (Bearclover)	3.0 to 7.5	3.0 to 40.0	0.75 to 1.5	Partial control
Beech	3.0 to 7.5	3.0 to 40.0	0.75 to 1.5	Partial control
Birch	3.0	3.0 to 40.0	0.75	For control

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Weed Species	Rate (PT/A)	Water Volume	Hand-Held % Solution	Comments
Blackberry	4.5 to 6.0	10.0 to 40.0	0.75 to 1.5	For control. Make applications after plants have reached full leaf maturity. Best results are obtained when applications are made in late summer or fall. Applications may also be made after leaf drop and until a killing frost or as long as stems are green. After berries have set or dropped in late fall, blackberry can be controlled by applying a 0.75 percent solution of this product. For control of blackberries after leaf drop and until a killing frost or as long as stems are green, apply 4.5 to 6.0 pints of this product in 10.0 to 40.0 gallons of water per acre.
Blackgum	3.0 to 7.5	3.0 to 40.0	0.75 to 1.5	For control
Bracken	3.0 to 7.5	3.0 to 40.0	0.75 to 1.5	For control
Broom; French, Scotch	-	-	1.5	For control
Buckwheat, California	-	-	0.75 to 1.5	For partial control. Thorough coverage of foliage is necessary for best results.
Cascara	3.0 to 7.5	3.0 to 40.0	0.75 to 1.5	Partial control
Catsclaw	-	-	0.75 to 1.5	Partial control
Ceanothus	3.0 to 7.5	3.0 to 40.0	0.75 to 1.5	Partial control
Chamise	-	-	0.75	For control. Thorough coverage of foliage is necessary for best results.
Cherry; bitter, black, pin	3.0 to 4.5	3.0 to 40.0	0.75 to 1.5	For control
Coyote brush	-	-	1.5	For control. Apply when at least 50 percent of the new leaves are fully developed.
Dogwood	3.0 to 7.5	3.0 to 40.0	0.75 to 1.5	Partial control
Elderberry	3.0	3.0 to 40.0	0.75	For control
Elm	3.0 to 7.5	3.0 to 40.0	0.75 to 1.5	Partial control
Eucalyptus	-	-	1.5	For control of eucalyptus resprouts, apply when resprouts are 6 to 12 feet tall. Ensure complete coverage. Avoid application to drought-stressed plants.
Florida holly (Brazilian Peppertree)	3.0 to 7.5	3.0 to 40.0	0.75 to 1.5	Partial control
Gorse	3.0 to 7.5	3.0 to 40.0	0.75 to 1.5	Partial control
Hasardia	-	-	0.75 to 1.5	Partial control. Thorough coverage of foliage is necessary for best results.
Hawthorn	3.0 to 4.5	3.0 to 40.0	0.75 to 1.5	For control
Hazel	3.0	3.0 to 40.0	0.75	For control
Hickory	3.0 to 7.5	3.0 to 40.0	0.75 to 1.5	Partial control
Honeysuckle	3.0 to 6.0	3.0 to 40.0	0.75 to 1.5	For control
Hornbeam, American	3.0 to 7.5	3.0 to 40.0	0.75 to 1.5	Partial control
Kudzu	6.0	3.0 to 40.0	1.5	For control. Repeat applications may be required to maintain control.
Locust, black	3.0 to 6.0	3.0 to 40.0	0.75 to 1.5	Partial control
Madrone resprouts	-	-	1.5	Partial control. Apply to resprouts that are 3 to 6 feet tall. Best results are obtained with spring/early summer treatments.
Manzanita	3.0 to 7.5	3.0 to 40.0	0.75 to 1.5	Partial control
Maple, red	3.0 to 6.0	3.0 to 40.0	0.75 to 1.5	For control, apply a 0.75 to 1.5 percent solution when at least 50 percent of the new leaves are fully developed. For partial control, apply 3.0 to 6.0 pints of this product per acre.

Weed Species	Rate (PT/A)	Water Volume	Hand-Held % Solution	Comments
Maple, sugar	-	-	0.75 to 1.5	For control. Apply when at least 50 percent of the new leaves are fully developed.
Monkey flower	-	-	0.75 to 1.5	Partial control. Thorough coverage of foliage is necessary for best results.
Oak; black, white	3.0 to 6.0	3.0 to 40.0	0.75 to 1.5	Partial control
Oak, post	4.5 to 6.0	3.0 to 40.0	0.75 to 1.5	For control
Oak; northern, pin	-	-	0.75 to 1.5	For control. Apply when at least 50 percent of the new leaves are fully developed.
Oak, southern, red	3.0 to 4.5	3.0 to 40.0	0.75 to 1.5	For control
Persimmon	3.0 to 7.5	3.0 to 40.0	0.75 to 1.5	Partial control
Pine	3.0 to 7.5	3.0 to 40.0	0.75 to 1.5	For control
Poison ivy/Poison oak	6.0 to 7.5	3.0 to 40.0	1.5	For control. Repeat applications may be required to maintain control. Fall treatments must be applied before leaves lose green color.
Poplar, yellow	3.0 to 7.5	3.0 to 40.0	0.75 to 1.5	Partial control
Redbud, eastern	3.0 to 7.5	3.0 to 40.0	0.75 to 1.5	For control
Rose, multiflora	3.0	3.0 to 40.0	0.75	For control. Treatments should be made prior to leaf deterioration by leaf-eating insects.
Russian olive	3.0 to 7.5	3.0 to 40.0	0.75 to 1.5	Partial control
Sage, black	-	-	0.75	For control. Thorough coverage of foliage is necessary for best results.
Sage, white	3.0 to 7.5	3.0 to 40.0	0.75-1.5	Partial control
Sage brush, California	-	-	0.75	For control. Thorough coverage of foliage is necessary for best results.
Salmonberry	3.0	3.0 to 40.0	0.75	For control
Salt-cedar	3.0 to 7.5	3.0 to 40.0	0.75 to 1.5	For control
Sassafras	3.0 to 7.5	3.0 to 40.0	0.75 to 1.5	Partial control
Sourwood	3.0 to 7.5	3.0 to 40.0	0.75 to 1.5	Partial control
Sumac; poison, smooth, winged	3.0 to 6.0	3.0 to 40.0	0.75 to 1.5	Partial control
Sweetgum	3.0 to 4.5	3.0 to 40.0	0.75 to 1.5	For control
Swordfern	3.0 to 7.5	3.0 to 40.0	0.75 to 1.5	Partial control
Tallowtree, Chinese	-	-	0.75	For control. Thorough coverage of foliage is necessary for best results.
Tan oak resprouts	-	-	1.5	For partial control. Apply to resprouts that are less than 3 to 6 feet tall. Best results are obtained with fall applications.
Thimbleberry	3.0	3.0 to 40.0	0.75	For control
Tobacco, tree	-	-	0.75 to 1.5	Partial control
Trumpet creeper	3.0 to 4.5	3.0 to 40.0	0.75 to 1.5	For control
Vine maple	3.0 to 7.5	3.0 to 40.0	0.75 to 1.5	Partial control
Virginia creeper	3.0 to 7.5	3.0 to 40.0	0.75 to 1.5	For control
Waxmyrtle, southern	3.0 to 7.5	3.0 to 40.0	0.75 to 1.5	Partial control
Willow	4.5	3.0 to 40.0	0.75	For control

STORAGE AND DISPOSAL

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

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

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

CONTAINER HANDLING: 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. Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

For packages up to and equal 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 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. **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 50 gallons: Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. 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 55 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. Storage and Disposal cont'd: Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

For help with any spill, leak, fire or exposure involving this material, call day or night CHEMTREC - 1-800-424-9300.

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