40806US0022

PEEL HERE TO OPEN

Tomahawk 4™

Herbicide

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

Herbicide for Roundup Ready® Crops.
Selective broad-spectrum weed control in Roundup Ready® crops.
Non-selective, broad-spectrum weed control for many agricultural systems and farmsteads.
Non-selective, broad-spectrum weed control for Non-Crop Areas and Industrial Sites, Forestry Site Preparation, Ornamentals, Plant Nurseries and Christmas Trees, Parks, Recreational and Residential Areas, Railroads, Roadsides, Utility Sites.
A broad-spectrum postemergence herbicide for non-crop, industrial, turf and ornamental weed control.
TOMAHAWK 4 contains Glyphosate, the same active ingredient used in Roundup®.

Not all uses and products specified on this label are registered for use in California. Check the registration status of each use and product in California before using.

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

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

KEEP OUT OF REACH OF CHILDREN

CAUTION

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.
(If you do not understand the label, find someone to explain it to you in detail.)

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

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

See Label Booklet For Additional Precautionary Statements and Directions for Use.

Manufactured For:
United Suppliers, Inc.
30473 260th Street
Eldora, IA 50627

EPA Reg. No. 33270-18
EPA Est. No. 42750-MO-001

EPA 021610/Trans 101812/Rev A

NET CONTENTS: 2.5 GALLONS

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US Herbicide

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PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION. Harmful if inhaled. Causes moderate eye irritation. Avoid breathing spray mist. Avoid contact with eyes or clothing.

FIRST AID	
IF IN EYES	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes; then continue rinsing eye. • Call a Poison Control Center or doctor for treatment advice.
IF INHALED	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance; then give artificial respiration, preferably mouth-to-mouth if possible. • Call a Poison Control Center or doctor for further treatment advice.
IF SWALLOWED	• Call a Poison Control Center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to by a Poison Control Center or doctor. • Do not give anything to an unconscious person.
Have the product container or label with you when calling a poison control center or doctor or going for treatment. This product is identified as TOMAHAWK 4, EPA Registration No. 33270-18. You may also contact 1-800-222-1222, day or night, for emergency medical treatment information.	

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear: long-sleeved shirt and long pants, shoes plus socks, and protective eyewear. 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.

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

USER SAFETY RECOMMENDATIONS

Users should:

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

Domestic Animals: This product is considered to be relatively non-toxic 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.

ENVIRONMENTAL HAZARDS

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

PHYSICAL OR CHEMICAL HAZARDS

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

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

DIRECTIONS FOR USE

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

This product can only be used in accordance with the Directions for Use on this label or in separately published Supplemental Labeling. Supplemental labeling may be found on the Agrian website or obtained by contacting your local distributor.

ENDANGERED SPECIES PROTECTION REQUIREMENTS: This product may have effects on federally listed threatened or endangered species or their critical habitat in some locations. When using this product, you must follow the measures contained in the Endangered Species Protection Bulletin for the county or parish in which you are applying the pesticide. To determine whether your county or parish has a Bulletin and to obtain that Bulletin, consult http://www.epa.gov/espp/ or call 1-800-447-3813 no more than 6 months before using this product. Applicators must use Bulletins that are in effect in the month in which the pesticide will be applied. New Bulletins will generally be available from the above sources 6 months prior to their effective dates.

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

AGRICULTURAL USE REQUIREMENTS

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

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 4 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated such as plants, soil, or water is: coveralls; chemical-resistant gloves greater than 14 mils in thickness composed of materials such as butyl rubber, natural rubber, neoprene rubber, or nitrile rubber; shoes plus socks; and protective eyewear.

NON-AGRICULTURAL USE REQUIREMENTS

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

Keep people and pets off treated areas until spray solution has dried.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Keep container closed to prevent spills and contamination.

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

CONTAINER DISPOSAL: Non-refillable containers. Do not reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Offer for recycling or reconditioning, if appropriate, or dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.
Non-refillable container greater than 5 gallons: Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip back and forth several times. Turn the container over on its other end and tip back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.
Pressure rinse as follows (all sizes): Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.
Refillable container (250/265 gallon): Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller.
To clean the container before final disposal, empty the remaining contents from the container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing process two more times.

USE INFORMATION

This product is a postemergence, systemic, non-selective herbicide and will control 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 sprayers after dilution and thorough mixing with water or other carriers as described in this label.

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

Stage of Weeds
Annual Weeds: Best control of annual weeds is obtained when this product is applied in the early growth stage. **Perennial Weeds:** Best control of most perennial weeds is obtained when treatment is made at late growth stages approaching maturity. For specific instructions, refer to the "ANNUAL WEEDS," "PERENNIAL WEEDS," and "WOODY BRUSH AND TREES RATE SECTIONS".

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

Reduced weed control may result from treating weeds with disease or insect damage, weeds heavily covered with dust, or weeds under poor growing conditions.

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 specified stage for treatment.

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

Spray Coverage
For best results, spray coverage must be uniform and complete. Do not spray 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 the 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 root stocks of perennials will not be affected by this herbicide and will continue to grow.

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

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

Except as otherwise specified in a crop section of this label, the combined total of all treatments must not exceed 8 quarts of this product (6 pounds of glyphosate acid) per acre per year. For applications in non-crop sites or in tree, vine, or shrub crops, the combined total of all treatments must not exceed 10.6 quarts of this product (8 pounds of glyphosate acid) per acre per year.

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

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

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

NOTE: Use of this product in any manner not consistent with this label may result in injury to persons, animals or crops, or have other unintended consequences.

WEED RESISTANCE MANAGEMENT

Glyphosate, the active ingredient in this product, is a Group 9 herbicide based on the mode of action classification system of the Weed Science Society of America. 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 by using other cultural or mechanical practices.

Weed Management

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

- Scout your fields before and after herbicide applications.
- Start with a clean field, using 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 for adding other herbicides into a continuous Roundup Ready system is to rotate to other Roundup Ready crops.
- Utilize the specified label 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 instructions that encourage application rates of this product below the label specified rates.
- Control weed escapes and prevent weeds from setting seeds.
- Clean equipment before moving from field to field to minimize the spread of weed seed or plant parts.
- Use new commercial seed that is as free of weed seed as possible.
- Report any incidence of repeated non-performance of this product on a particular weed to your county extension agent.

Management Practices For Glyphosate-Resistant Biotypes

Note: Appropriate testing is critical in order to determine if a weed is resistant to glyphosate. Contact your local county extension agent or visit the following websites; www.weedresistancemanagement.com or www.weedscience.org. For more information see the "ANNUAL WEEDS" and "PERENNIAL WEEDS RATE SECTION" of this label.

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

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

- If a naturally-occurring resistant biotype is present in your field, this product must 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.
- 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

Spray solutions of this product must be mixed, stored, and applied using only clean 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.

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

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

NOTE: PRODUCT PERFORMANCE MAY BE SIGNIFICANTLY REDUCED IF WATER CONTAINING SOIL SEDIMENT IS USED AS CARRIER. DO NOT MIX THIS PRODUCT WITH WATER FROM PONDS AND DITCHES THAT ARE VISIBLY MUDDY OR MURKY.

Mixing with Water

This product mixes readily with water. Mix spray solutions of this product as follows: Begin filling the mixing tank or spray tank with clean water. Add the specified amount of this product near the end of the filling process and mix gently. Use caution to avoid siphoning back into the carrier source. During mixing, foaming of the spray solution may occur. To prevent or minimize foaming, mix gently, terminate by-pass and return lines at the bottom of the tank, and, if necessary, use an anti-foam or defoaming agent.

Tank Mixtures

This product does not provide residual weed control. This product may be tank mixed with other herbicides to provide residual weed control, a broader weed control spectrum, or an alternate mode of action. Read and follow all label directions of all products in the tank mixture.

To the extent consistent with applicable law, buyer and all users are responsible for all loss or damage in connection with the use or handling of mixtures of this product with herbicides or other materials that are not expressly specified in this labeling or in separate supplemental labeling for this product.

Tank mixtures with other herbicides, insecticides, fungicides, micronutrients, or foliar fertilizers may result in reduced weed control or crop injury and are NOT specified for applications of this product unless otherwise noted in this product label or in separate supplemental labeling.

When a tank mixture with a generic active ingredient such as diuron, atrazine, 2,4-D, or dicamba is specified in this label, the user is responsible for ensuring that the specific application being made is included on the label of the specific product being used in the tank mixture.

Refer to all individual product labels, supplemental labeling, and fact sheets for all products in the tank mixture and observe all precautions and limitations on the label, including application timing restrictions, soil restrictions, minimum re-cropping interval, and rotational guidelines. Use according to the most restrictive label requirements.

Always predetermine the compatibility of all tank mix products together in the carrier by mixing small proportional quantities in advance. For best results, it is specified that tank mixtures with this product be applied at a minimum spray volume rate of 10 gallons per acre.

Tank Mixing Procedure
Prepare tank mixtures of this product as follows:

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

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

Keep by-pass and return lines on or near the bottom of the tank to minimize foaming. Screen size in nozzle or line strainers must be no finer than 50 mesh.

Mixing for Hand-Held Sprayers
Prepare the desired spray volume by mixing the amount of this product as indicated in the following table in water:

Table 1.

Spray Solution Amount of TOMAHAWK 4						
Desired Volume	0.5%	1%	1.5%	2%	5%	10%
1 gal	0.7 oz	1.3 oz	2 oz	2.7 oz	6.5 oz	13 oz
25 gal	1 pt	1 qt	1.5 qt	2 qt	5 qt	10 qt
100 gal	2 qt	1 gal	1.5 gal	2 gal	5 gal	10 gal

2 tablespoons = 1 fluid ounce

For use in backpack sprayers, it is specified that the appropriate amount of this product be mixed with water in a larger container and then fill the sprayer with the mixed solution.

Surfactants
Nonionic surfactants (NIS) or wetting agents that have at least 70 percent active ingredient and are labeled for use with herbicides may be added to the spray solution, unless otherwise directed. Do not reduce rates of this herbicide when adding surfactants. Read and carefully observe cautionary statements and other information appearing on the additives label.

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

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

Colorants or Dyes
Colorants or marking dyes may be added to spray solutions of this product; however, they can reduce performance. Use colorants or dyes according to the manufacturer's directions.

Drift Reduction Additives
Drift reduction additives may be used with all equipment types, except wiper applicators, sponge bars, and Controlled Droplet Applicator (CDA) equipment. When a drift reduction additive is used, read and carefully observe the precautions, limitations, and all other information appearing on the additive label. Use of drift reduction additives can affect spray coverage, which can reduce product performance.

APPLICATION EQUIPMENT AND TECHNIQUES

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

Aerial – Fixed wing and helicopter.

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

Hand-Held or Backpack Spray Equipment – Backpack sprayers, pump-up pressure sprayers, handguns, handwands, mistblowers*, lances, and other hand-held and motorized spray equipment used to direct the spray onto weed foliage.

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

Selective Equipment – Shielded and hooded sprayers, wiper applicators, and sponge bars.

Injection Systems – Aerial or ground injection sprayers.

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

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

Aerial Equipment

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

All labeled applications of this product may be made by aerial equipment where appropriate, provided that the applicator complies with the precautions and restrictions specified on this product's labeling. Use the specified rates of this herbicide in 3 to 15 gallons of water per acre unless otherwise specified on this label. Unless otherwise specified, do not exceed 2 quarts per acre. Refer to the individual use area sections of this label for further instructions.

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

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 IS MOST SUSCEPTIBLE. Maintaining an organic coating (paint) that meets aerospace specification MIL-C-38413 may help prevent corrosion.

Aerial Spray Drift Management
The following drift management requirements must be followed to avoid off-target movement during aerial applications to agricultural field crops.

1. The distance of the outermost nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.
2. Nozzles must always point backward, parallel with the airstream and never be pointed downwards more than 45 degrees. Comply with all State regulations where applicable.

Importance of Droplet Size
The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly or under unfavorable environmental conditions (read the following sections on "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 the higher rated flows produce larger droplets.
- **Pressure**: Use the lower spray pressures specified for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, use higher flow rate nozzles instead of increasing spray pressure.
- **Number of nozzles**: Use the minimum number of nozzles that will provide uniform coverage.
- **Nozzle orientation**: Orienting nozzles so that the spray is released backwards, parallel to the airstream, will produce larger droplets than other orientations. Significant deflection from the horizontal will reduce droplet size and increase drift potential.
- **Nozzle type**: Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce larger droplets than other nozzle types.
- **Boom length**: For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.
- **Application height**: Applications must not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces the exposure of the droplets to 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 speed, smaller droplets, 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 wind speed. Application must be avoided when wind speeds are 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 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, the movement of smoke produced by a ground source or an aircraft smoke generator can also identify temperature inversions. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

Sensitive Areas
Apply this product only when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

Avoid direct application to any body of water.

FOR AERIAL APPLICATION IN CALIFORNIA ONLY

Extreme care must be exercised to avoid contact of spray with foliage, green stems, or fruit of desirable crops, plants, trees, or other desirable vegetation since severe damage or destruction may result.

Restrictions: This product, when tank mixed with dicamba, may not be applied by air in California. When tank mixing this product with 2,4-D, only 2,4-D amine formulations may be used for aerial application in California. Tank mixtures with 2,4-D amine formulations may be applied by air in California for fallow and reduced tillage systems and for alfalfa and pasture renovation applications only.

Non-crop Sites
When applied as directed and under the conditions described in the "Weeds Controlled" section of this label booklet for this product, this herbicide will control or partially control the labeled weeds growing in the following industrial, recreational and public areas including airports, ditch banks, dry ditches, dry canals, fencerows, golf courses, highways, industrial plant sites, lumber yards, manufacturing sites, office complexes, parking areas, parks, petroleum tank farms and pumping installations, pipelines, power and telephone rights-of-way, railroads, roadsides (guardrails, shoulders), schools, storage areas, utility substations, warehouse areas, and other public sites.

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

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.

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

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

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

Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove resides 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 IS MOST SUSCEPTIBLE. Maintaining an organic coating (paint) that meets aerospace specification MIL-C-38413 may prevent corrosion.

FOR AERIAL APPLICATION IN FRESNO COUNTY, CALIFORNIA ONLY

From February 15 through March 31 only. For aerial application outside of these dates, refer to the "FOR AERIAL APPLICATION IN CALIFORNIA ONLY" section printed above.

Applicable Area
This supplement only applies to the area contained inside the following boundaries within Fresno County, California.

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

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

(continued)

FOR AERIAL APPLICATION IN FRESNO COUNTY, CALIFORNIA ONLY *(Continued)*

From February 15 through March 31 only. For aerial application outside of these dates, refer to the "FOR AERIAL APPLICATION IN CALIFORNIA ONLY" section printed above.

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

Aerial Applicator Training and Equipment
Aerial application of this herbicide 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-in constitutes such documentation or other written records showing calculations and measurements of flight and spray parameters acceptable to the Fresno County Agricultural Commissioner.

Application 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.

Read the "WARRANTY" section in the label booklet before using this product.

Ground Broadcast Equipment

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

Hand-Held or Backpack Equipment

Apply to foliage of vegetation to be controlled on a spray-to-wet basis; do not spray to the point of run-off. Spray coverage must be uniform and complete. Use coarse sprays only. For specific rates and timing, refer to the "ANNUAL WEEDS – HAND-HELD OR BACKPACK EQUIPMENT" section of this product label.

For low-volume directed-spray applications, spray 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. To ensure adequate spray coverage, spray both sides of large or tall woody brush and trees, when foliage is thick and dense, or where there are multiple sprouts.

Selective Equipment

This product may be diluted in water and applied through shielded sprayers, hooded sprayers, wiper applicators, or sponge bars to weeds growing in any non-crop site specified on this label.

In cropping systems, hooded sprayers, shielded sprayers, and wipers may be used in row middles (in between rows of crop plants), and wipers may be used over the top of crops only when specified in this product's labeling. Such equipment must be capable of preventing all crop contact with the herbicide solutions and operated without leakage of spray mists or dripping onto crop.

AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION.

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

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

Shielded and Hooded Sprayers
When applied as directed under conditions described for shielded applicators, this product will control those weeds listed in the "ANNUAL WEEDS RATE SECTION" and "PERENNIAL WEEDS RATE SECTION" of this label. Use the following equation to convert from a broadcast rate per acre to a band rate per acre.

(continued)

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

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

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. Adjust the shields on these sprayers to protect desirable vegetation.

When applying to crops grown on raised beds, ensure that the hood is capable of completely enclosing the spray pattern. If necessary, extend the front and rear flaps of the hooded applicator downward to reach the ground in deep furrows. EXTREME CARE MUST BE TAKEN TO AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION.

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

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 specified. Spray volume must be 20-30 gallons per acre.

These procedures will reduce the potential for crop injury:

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

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

Wiper Applicators

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.

Application equipment used over the top of desirable vegetation must be adjusted so that the wiper contact point is at least 2 inches above the desirable vegetation. Better results may be obtained when more of the weed is exposed to the herbicide solution. Weeds must be a minimum of 6 inches above the desirable vegetation. Adjust height of applicator to ensure adequate contact with weeds. Weeds not contacted by the herbicide solution will not be affected. Poor contact may occur when weeds are growing in dense clumps, in severe weed infestations, or when weed height varies dramatically. In these instances, repeat treatments may be necessary.

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 provide adequate wiper saturation with the herbicide solution. Better results may be obtained when two applications are made in opposite directions.

Droplets, mist, foam, or splatter of the herbicide solution settling onto desirable vegetation may result in discoloration, stunting, or destruction. Avoid leakage or dripping onto desirable vegetation. Keep wiping surfaces clean. Be aware that on sloping ground, the herbicide solution may migrate causing dripping on the lower end and drying of the wicks on the upper end of the wiper applicator.

Do not use wiper equipment when weeds are wet.

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

Do not add surfactant to the herbicide solution.

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

For Panel Applicators: Use solutions ranging from 33 to 100 percent of this product in water.

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 for use in injection systems.

CDA Equipment

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

For control of annual weeds with hand-held CDA units, apply a 20-percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 1.5 mph (1 quart per acre). For the control of perennial weeds, apply a 20- to 40-percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 0.35 mph (2 to 4 quarts per acre).

Controlled droplet applicators produce a spray pattern that is not easily visible. Extreme care must be taken to avoid spray or drift onto the foliage or any other green tissue of desirable vegetation, as damage or destruction of the plant may result.

ANNUAL AND PERENNIAL CROPS (Alphabetical)

NOTE: THIS SECTION GIVES DIRECTIONS THAT APPLY TO CROPS LISTED ALPHABETICALLY IN THE SECTIONS THAT FOLLOW.

See the "ROUNDUP READY CROPS" section of this label or separately published Supplemental Labeling for this product for instructions on treating Roundup Ready crops.

TYPES OF APPLICATIONS: Chemical Fallow, Preplant Fallow Beds, Preplant, At-Planting, Preemergence, Hooded Sprayers in Row-Middles, Shielded Sprayers in Row-Middles, Wiper Application in Row-Middles, Post-Harvest.

USE INSTRUCTIONS: Apply this product during fallow intervals preceding planting, prior to planting or transplanting, at-planting, or preemergence to annual and perennial crops listed in this label, except where specifically limited. For any crop not listed in this label, applications must be made at least 30 days prior to planting. Unless otherwise specified, weed control applications may be made according to the rates listed in the "ANNUAL WEEDS," "PERENNIAL WEEDS," and "WOODY BRUSH AND TREES RATE SECTIONS" in this label. Specific rates of this product that are emphasized in this product's labeling to control resistant weeds take precedence over the Use rates in the "ANNUAL WEEDS" and "PERENNIAL WEEDS RATE SECTIONS". Repeat applications may be made up to a maximum of 8 quarts of this product per acre per year.

Post-directed hooded sprayers and wiper applicators capable of preventing all crop contact with herbicide solutions may be used in mulched or unmulched row middles after crop establishment. Where specifically noted in the individual crop sections that follow, wipers may also be used above certain crops to control tall weeds. Refer to the "SELECTIVE EQUIPMENT" section of this label for essential precautions regarding crop injury. Crop injury is possible with these applications and shall be the sole responsibility of the applicator.

All labeled applications may be made by aerial equipment where appropriate, provided that the applicator complies with the precautions and restrictions specified in this product's labeling. Refer to the "AERIAL EQUIPMENT" section of this label for additional information.

PRECAUTIONS: Avoid contact of this herbicide with foliage, green shoots or stems, bark, exposed roots (including those emerging from plastic mulch), or fruit of crops, as severe crop injury or destruction may result. When making at-planting and preemergence applications, applications must be made before crop emergence to avoid severe crop injury. Broadcast applications made at emergence will result in injury or death of emerged seedlings. Apply before seed germination in coarse sandy soils to further minimize the risk of injury. Unless otherwise specified in this product's labeling, applications with selective equipment including wipers and hooded sprayers must be made at least 14 days prior to harvest. Post-harvest or fallow applications must be made at least 30 days prior to planting any crops not listed on this label. See "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional information.

In crops where spot treatments are allowed, do not treat more than 10 percent of the total field to be harvested. Crop sprayed in treated area will be killed. Take care not to spray or allow spray to drift outside the target area in order to avoid unwanted crop destruction.

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

Cereal and Grain Crops

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

TYPES OF APPLICATIONS: Those listed in "ANNUAL AND PERENNIAL CROPS" section of this label plus the following:
Red Rice Control Prior to Planting Rice, Spot Treatment (Except Rice), Over-The-Top Wiper Application (Feed Barley and Wheat only), Preharvest (Wheat and Feed Barley Only).

RESTRICTIONS: Do not treat rice fields or levees when flooded.

Preplant, Preemergence, At-Planting
This product may be applied before, during, or after planting of cereal crops. Applications must be made prior to crop emergence.

Red Rice Control Prior to Planting Rice
Apply 1.5 quarts of this product in 5 to 10 gallons of water per acre. Flush fields prior to application to obtain uniform germination and stand of red rice. Make application when the majority of the red rice plants are at the 2-leaf stage and no more than 4 inches tall.

Red rice plants with less than 2 true leaves may be only partially controlled.

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

RESTRICTIONS: Do not treat rice fields or levees when the fields contain floodwater. Do not flood treated fields for 8 days following application.

Spot Treatment (Except Rice)
This product may be applied as a spot treatment in cereal crops. Apply this product before heading in small grains.

PRECAUTIONS: Crop sprayed in treated area will be killed. Take care not to spray or to allow spray to drift outside target area to avoid unwanted crop destruction.

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

Over-the-Top Wiper Application (Feed Barley and Wheat only)
Wiper applications may be used in wheat and feed barley. To control common rye or cereal rye, apply after the weeds have headed and achieved maximum growth.

PRECAUTIONS: Droplets, mist, foam, or splatter of the herbicide solution settling onto desirable vegetation may result in discoloration, stunting, or destruction.

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

Preharvest (Feed Barley and Wheat Only)
This product provides weed control when applied prior to harvest of feed barley or wheat. For wheat, apply after the hard-dough stage of grain (30 percent or less grain moisture). For feed barley, apply after the hard-dough stage and when the grain contains 20 percent moisture or less. Stubble may be grazed immediately after harvest.

For ground applications, apply this product in 10 to 20 gallons of water per acre. For aerial applications, apply this product in 3 to 10 gallons of water per acre.

PRECAUTIONS: Preharvest application is not specified for barley or wheat grown for seed, as a reduction in germination or vigor may occur.

RESTRICTIONS: Do not apply more than 1 quart of this product per acre. Allow 7 days between application and harvest or grazing.

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

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

Corn

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

TYPES OF APPLICATIONS: Those listed in "ANNUAL AND PERENNIAL CROPS" section of this label plus the following: Spot Treatment, Preharvest.

Use directions for corn containing the Roundup Ready gene are in the "ROUNDUP READY CROPS" section of this label.

Preplant, At-Planting, Preemergence
This product may be applied alone or in a tank mixture before, during, or after planting corn. Applications must be made prior to crop emergence.

TANK MIXTURES: This product may be tank mixed with the following products to provide residual weed control, a broader weed control spectrum, or an alternate mode of action. Ensure that the specific product is registered for application prior to planting corn. Apply these tank mixtures in 10 to 20 gallons of water or 10 to 60 gallons of nitrogen solution per acre.

acetochlor	Bullet®	Guardsman MAX	Lorox™	Resource®
Aim®, Aim EC	Define	Harness®	Marksman	s-metolachlor
alachlor	Degree®	Harness Xtra	Micro-Tech®	Stalwart C
Atrazine	Degree Xtra®	Harness Xtra 5.6L	Metolachlor	Stalwart Xtra
Axiom™	Distinct™	Hornet	Outlook	Topnotch™
Balance PRO	Dual II Magnum	Keystone	pendimethalin	2,4-D
Banvel™/Clarity™	Epic™	Keystone LA	Python™	
Bicep Magnum	Frontier™	Lariat®	Python II	
Bicep Lite II Magnum	Fultime™	Leadoff™	Radius	
Bicep II Magnum	Guardsman™	Linex™	Resolve	

For difficult-to-control annual weeds such as fall panicum, barnyardgrass, crabgrass, shattercane, and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 2 pints per acre in these tank mixtures. For other annual weeds, apply 1.5 to 2 pints of this product per acre when weeds are less than 6 inches tall, and 2 to 3 pints per acre when weeds are over 6 inches tall. When using nitrogen solutions as the carrier, use rate may need to be increased for acceptable weed control.

For more information, see the "TANK MIXTURES" and "TANK MIXING PROCEDURES" sections of this label. 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.

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

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. The area covered by this restriction includes Illinois and Indiana south of Route 50, and the following states: Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, New Jersey, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia.

Hooded Sprayers
This product may be applied with hooded sprayers for weed control between rows of corn. Only hooded sprayers that completely enclose the spray pattern may be used. See additional instructions for the use of hooded sprayers in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

PRECAUTIONS: Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage. To the extent consistent with applicable law, such damage shall be the sole responsibility of the applicator.

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

Spot Treatment
This product may be applied as a spot treatment prior to silking of corn.

PRECAUTIONS: Crop sprayed in the treated area will be killed. Take care not to spray or to allow spray to drift outside target area to avoid unwanted crop destruction.

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

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

RESTRICTIONS: Allow a minimum of 7 days between application and harvest. Preharvest application is not allowed for corn grown for seed, as a reduction in germination or vigor may occur.

Post-Harvest
This product may be applied after harvest of corn. Higher rates may be required for control of large weeds that were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used. Ensure that the specific product being used in the tank mixture is registered for post-harvest application in corn. Read and follow label directions of all products in the tank mixture.

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

Cotton

TYPES OF APPLICATIONS: Those listed in "ANNUAL AND PERENNIAL CROPS" section of this label plus the following: Selective equipment, Spot treatment, Preharvest.

Use directions for cotton containing the Roundup Ready gene are in the "ROUNDUP READY CROPS" section of this label.

Preplant, At-Planting, Preemergence
This product may be applied before, during, or after planting cotton. Applications must be made prior to crop emergence.

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

Caparol®	Cotton PRO®	Karmex	Stalwart
Clarity™	Direx	Meturon®	Staple
Command	Dual Magnum™	pendimethalin	Zorial®
Cotoran®	Dual II Magnum	Reflex	2,4-D

For more information, see the "TANK MIXTURES" and "TANK MIXING PROCEDURES" sections of this label. 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.

Selective Equipment
This product may be applied through hooded sprayers, shielded sprayers, or wiper applicators in cotton. Additional instructions on the use of selective equipment are found in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

RESTRICTIONS: Allow at least 7 days between application and harvest.

Spot Treatment
This product may be applied as a spot treatment in cotton prior to boll opening.

PRECAUTIONS: Crop sprayed in the treated area will be killed. Take care not to spray or to allow spray to drift outside target area to avoid unwanted crop destruction.

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

Preharvest
This product provides weed control and cotton regrowth inhibition when applied prior to harvest of cotton. For weed control, apply at rates given in the "ANNUAL WEEDS" and "PERENNIAL WEEDS RATE SECTIONS" of this label. For cotton regrowth inhibition, apply 1 pint to 2 quarts of this product per acre.

Up to 2 quarts of this product may be applied after sufficient bolls have developed to produce the desired yield of cotton. Applications made prior to this time could affect maximum yield potential.

TANK MIXTURES: This product may be tank mixed with DEFT™ 6, Dropp, Folex™, Ginstar, or Prep™ to provide additional enhancement of cotton leaf drop. Read and follow label directions for all products used in the tank mixture.

RESTRICTIONS: Allow a minimum of 7 days between application and harvest of cotton. Preharvest application is not allowed for cotton grown for seed, as a reduction in germination or vigor may occur. DO NOT ADD ADDITIONAL SURFACTANT OR ADDITIVES CONTAINING SURFACTANT TO THIS PRODUCT FOR PREHARVEST APPLICATIONS TO COTTON. Refer to individual tank mix product label for restrictions and precautions. Use according to the most restrictive precautionary statements for each product in the tank mixture.

For more information, see the "TANK MIXTURES" and "TANK MIXING PROCEDURES" sections of this label.

Fallow Systems

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

TYPES OF APPLICATIONS: Chemical Fallow, Preplant Fallow Beds, Aid-to-Tillage.

Chemical Fallow
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. Tank mixtures of this product with 2,4-D and dicamba may be used for a broader weed control spectrum. Applications up to 2 quarts per acre may be made by aerial application onto fallow sites where there is sufficient buffer to prevent injury due to drift onto adjacent crops.

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

RESTRICTIONS: Do not apply dicamba tank mixtures by air in California.

Preplant Fallow Beds
This product will control weeds listed in the "ANNUAL WEEDS," "PERENNIAL WEEDS," and "WOODY BRUSH AND TREES RATE SECTIONS" of this label prior to planting.

TANK MIXTURES: Use 12 fluid ounces of this product, plus 2 to 3 fluid ounces of Goal™ 2XL, per acre to control the following weeds up to the maximum height, diameter or length indicated: 3" – common cheeseweed, chickweed, groundsel; 6" – London rocket, shepherdspurse.

Use 16 fluid ounces of this product, plus 2 to 3 fluid ounces of Goal 2XL, per acre to control the following weeds up to the maximum height, diameter, or length indicated: 6" – common cheeseweed, groundsel, marestail *(Conyza canadensis),* 12" – chickweed, London rocket, shepherdspurse.

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

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

Grain Sorghum (Milo)

TYPES OF APPLICATIONS: Those listed in "ANNUAL AND PERENNIAL CROPS" section of this label plus the following: Spot Treatment, Over-the-Top Wiper Application, Preharvest.

Preplant, At-Planting, Preemergence

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

TANK MIXTURES: This product may be tank mixed with the products listed below. Ensure that the specific product being used in the tank mixture is registered for post-harvest application in corn. Read and follow label directions of all products in the tank mixture. Apply these tank mixtures in 10 to 20 gallons of water or 10 to 60 gallons of nitrogen solution per acre, provided that the specific product being used is labeled for application prior to planting grain sorghum.

Atrazine	Bullet	INTRRO	Micro-Tech	s-metolachlor
Bicep II Magnum	Dual II Magnum	Lariat	metolachlor	

For difficult-to-control annual 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 a tank mixture of this product at 2 pints per acre plus the products listed above.

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

For more information, see the "TANK MIXTURES" and "TANK MIXING PROCEDURES" sections of this label. 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.

Spot Treatment, Over-the-Top Wiper Application

This product may be applied as a spot treatment in grain sorghum before heading. This product may be applied with wiper applicators to control or suppress tall weeds. For additional instructions, see "Wiper Applicators" in the "SELECTIVE EQUIPMENT" section of this label.

PRECAUTIONS: Crop sprayed in treated area will be killed. Take care not to spray or to allow spray to drift outside target area to avoid unwanted crop destruction.

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

Hooded Sprayers

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

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

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

Preharvest

This product may be applied for weed control prior to harvest after sorghum grain has reached 30 percent grain moisture or less.

RESTRICTIONS: Do not apply more than 2 quarts of this product per acre. As with other herbicides that cause sudden plant death, avoid preharvest applications of this product to milo infected with charcoal rot, as lodging can occur. Allow a minimum of 7 days between application and harvest of grain sorghum. Preharvest application is not specified for 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

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

This product may be applied to grain sorghum (milo) stubble following harvest to suppress or control regrowth. Apply 1 quart of this product per acre for control or 1.5 pints of this product per acre for suppression.

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

Herbs and Spices

CROPS: Allspice, Angelica, Star anise, Annatto (seed), Balm, Basil, Borage, Burnet, Camomile, Caper buds, Caraway, Black caraway, Cardamom, Cassia bark, Cassia buds, Catnip, Celery seed, Chervil (dried), Chive, Chinese chive, Cinnamon, Clary, Clove buds, Coriander leaf (cilantro or Chinese parsley), Coriander seed (cilantro), Costmary, Culantro (leaf), Culantro (seed), Cumin, Curry (leaf), Dill (dillweed), Dill (seed), Epazote, Fennel seed (common and Florence), Fenugreek, White ginger flower, Grains of paradise, Horehound, Hyssop, Juniper berry, Lavender, Lemongrass, Lovage (leaf and seed), Mace, Marigold, Marjoram (including oregano), Mexican oregano, Mioga flower, Mustard (seed), Nasturtium, Nutmeg, Parsley (dried), Pennyroyal, Pepper (black and white), Pepper leaves, Peppermint, Perilla, Poppy (seed), Rosemary, Rue, Saffron, Sage, Savory (summer and winter), Spearmint, Stevia leaves, Sweet bay, Tansy, Tarragon, Thyme, Vanilla, Wintergreen, Woodruff, Wormwood.

TYPES OF APPLICATIONS: Those listed in "ANNUAL AND PERENNIAL CROPS" section of this label plus the following: Over-the-Top Wiper Application (Peppermint and Spearmint Only), Spot Treatment (Peppermint and Spearmint Only).

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

Over-the-Top Wiper Application, Spot Treatment (Peppermint and Spearmint only)
This product may be applied as a spot treatment or over the top of peppermint or spearmint with wiper applicators in spearmint and peppermint. Apply spot treatments on a spray-to-wet basis with hand-held equipment such as backpack sprayers, pump-up pressure sprayers, hand-guns, hand-wands, or any other hand-held or motorized spray equipment used to direct the spray solution to a limited area.

PRECAUTIONS: Crop sprayed in treated area will be killed. Take care not to spray or allow spray to drift outside the target area to avoid unwanted crop destruction. For wiper applications, contact of the herbicide solution with the crop may result in discoloration, stunting, or destruction.

RESTRICTIONS: Allow at least 7 days between application and harvest. Further applications may be made in the same area at 30-day intervals. In spot treatment applications, no more than 10 percent of the total field area to be harvested must be treated at one time.

Oil Seed Crops

CROPS: Borage, Buffalo gourd (seed), Canola, Crambe, Flax, Jojoba, Lesquerella, Meadowfoam, Mustard (seed), Rape, Safflower, Sesame, Sunflower.

Use directions for canola containing the Roundup Ready gene are in the "ROUNDUP READY CROPS" section of this label.

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

This product may be applied before, during, or after planting oil seed crops listed in this section. Broadcast applications must be made prior to crop emergence. Wiper applicators or hooded sprayers may be used between the rows once the crop is established. See additional instructions of the use of selective equipment in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

TANK MIXTURES: For sunflowers, a tank mixture with Prowl may be applied before, during, or after planting into conventionally tilled soil, a cover crop, established sod, or previous crop residue.

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

Soybeans

TYPES OF APPLICATIONS: Those listed in "ANNUAL AND PERENNIAL CROPS" section of this label plus the following: Spot Treatment, Preharvest, Selective Equipment.

Use directions for soybeans containing the Roundup Ready gene are in the "ROUNDUP READY CROPS" section of this label.

Preplant, At-Planting, Preemergence
This product may be applied alone or in a tank mixture before, during, or after planting soybeans. Applications must be made prior to crop emergence.

TANK MIXTURES: This product may be tank mixed with the following products to provide residual weed control, a broader spectrum, or an alternate mode of action. Ensure that the specific product being used in the tank mixture is registered for application prior to planting soybean and follow all label directions of all products in the tank mixture. Apply these tank mixtures in 10 to 20 gallons of water per acre.

Aim™	Classic	Dual II Magnum	INTRRO	Micro-Tech	Python	Squadron™
Assure II™	Command™	FirstRate™	Lexone	Outlook™	Reflex™	Steel™
Axiom	Command	Flexstar™	Linex™	Pendimax	Resourcev	Valor™
Blanket	Xtra™	Frontier™	Lorox/Linuron	pendimethalin	s-metolachlor	
Boundary™	Domain™	Fusion™	Lorox Plus™	Pursuit™	Scepter™	
Canopy™	Dual Magnum	Gauntlet™	Metolachlor	Pursuit Plus	Sencor™	

For tough-to-control annual weeds such as fail panicum, barnyardgrass, crabgrass, shattercane, and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tail, apply this product at 2 pints per acre in these tank mixtures. For other annual weeds, apply 1.5 to 2 pints of this product per acre when weeds are less than 6 inches tall, and 2 to 3 pints per acre when weeds are over 6 inches tall. For more information, see the "TANK MIXTURES" and "TANK MIXING PROCEDURES" sections of this label.

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.

Spot Treatment
This product may be applied as a spot treatment prior to initial pod set in soybeans.

PRECAUTIONS: Crop sprayed in treated area will be killed. Take care not to spray or allow spray to drift outside the target area to avoid unwanted crop destruction.

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

Preharvest
This product may be applied for weed control prior to harvest of soybeans after pods have set and lost all green color. Apply at rates given in the "ANNUAL WEEDS RATE SECTION" and "PERENNIAL WEEDS RATE SECTION". Care must be taken to avoid excessive seed shatter loss due to ground application equipment.

RESTRICTIONS: Do not apply more than 5 quarts of this product per acre for preharvest applications. Do not apply more than 2 quarts of this product per acre by air. Allow a minimum of 7 days between application and harvest of soybeans. Do not graze or harvest treated hay or fodder for livestock feed within 25 days of last preharvest application. (If the application rate is 1 quart per acre or lower, the grazing restriction is reduced to 14 days after last preharvest application.) Preharvest application is not specified for soybeans grown for seed, as a reduction in germination or vigor may occur.

Selective Equipment
This product may be applied through shielded or hooded sprayers, wiper applicators, or sponge bars in soybeans. Additional instructions on the use of selective equipment are found in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

RESTRICTIONS: Allow at least 7 days between application and harvest.

Sugarcane

TYPES OF APPLICATIONS: Those listed in "ANNUAL AND PERENNIAL CROPS" section of this label plus Spot Treatment.

Preplant, At-Planting, Preemergence
This product may be applied in or around sugarcane fields or in fields prior to the emergence of plant cane.

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

Spot Treatment
This product may be applied as a spot treatment in sugarcane. For control of volunteer or diseased sugarcane, apply a 1-percent solution of this product in water using a spray-to-wet technique. Volunteer or diseased sugarcane must have at least 7 new leaves.

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

Fallow Treatments
This product may be used as a replacement for tillage in fields that are lying fallow between sugarcane crops. This product may also be used to remove the last stubble of ratoon cane. For removal of last stubble of ratoon cane, apply 4 to 5 quarts of this product in 10 to 40 gallons of water per acre to new growth having at least 7 new leaves. Allow 7 or more days after application before tillage. Applications up to 3 quarts per acre may be made by aerial application in fallow sites where there is sufficient buffer to prevent drift onto adjacent crops. Tank mixtures with 2,4-D and dicamba may be used.

Hooded Sprayers
This product may be applied using hooded sprayers for weed control between the rows of sugarcane. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional use instructions.

PRECAUTIONS: Droplets, mist, foam, or splatter of the herbicide solution settling on the crop may result in discoloration, stunting, or destruction. Such damage shall be the sole responsibility of the applicator.

RESTRICTIONS: Crop injury may occur when the foliage of treated weeds contacts the crop. Do not apply this product when crop leaves are growing in direct contact with weeds to be treated.

Sugarcane Ripening
This product may be applied to foliage as a plant growth regulator to hasten ripening and increase the level of sucrose in sugarcane. It is effective in both low and high tonnage sugarcane.

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

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

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

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

PRECAUTIONS: Application of this product may initiate development of shooting eyes. This product may not increase the sucrose content of sugarcane under conditions of good natural ripening. Within 2 to 3 weeks after application, this product may produce a slight yellowing to pronounced browning and drying of leaves and a shortening of upper internodes. Spindle death may occur. Rainfall within 6 hours after application may reduce effectiveness.

Application is not specified for sugarcane grown for seed, as a reduction in germination or vigor may occur.

RESTRICTIONS: Do not feed or graze treated sugarcane forage following application. Do not plant subsequent crops in treated fields other than the following for 30 days after application: alfalfa or other forage legumes, beans (all types), corn (all types), cotton, melons (all types), pasture grasses, peanuts, potatoes (Irish or sweet), sorghum (milo), soybeans, squash (all types), or wheat. Do not apply for enhanced ripening to any crops other than sugarcane.

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

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

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

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

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

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

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

Vegetable Crops

NOTE: THIS "VEGETABLE CROPS" SECTION GIVES DIRECTIONS THAT APPLY TO ALL VEGETABLE CROPS LISTED ALPHABETICALLY IN THE SECTIONS THAT FOLLOW. SEE THE INDIVIDUAL CROP CATEGORIES FOR SPECIFIC INSTRUCTIONS, PREHARVEST INTERVALS, PRECAUTIONS, AND RESTRICTIONS.

TYPES OF APPLICATIONS: Chemical Fallow, Preplant Fallow Beds, Preplant, At-Planting, Preemergence, Prior to Transplanting Vegetables, Hooded Sprayers in Row-Middles, Shielded Sprayers in Row-Middles, Wiper Application in Row-Middles, Post-Harvest, Selective Equipment Applications (Nonbearing Ginseng), Over-the-Top Wiper Application (Rutabagas only), Spot Treatment or Preharvest (Dry Beans, Peas, Lentils, and Chickpeas only).

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

Avoid contact of herbicide with foliage, green shoots or stems, bark, exposed roots (including those emerging from plastic mulch), or fruit of crops, because severe crop injury or destruction may result. When making preemergence and at-planting applications, applications must be made before crop emergence to avoid severe crop injury. Apply before seed germination in coarse sandy soils to further minimize the risk of crop injury. In crops with vines, hooded sprayer, shielded sprayer, and wiper applications to row middles must be made prior to vine development; otherwise, severe injury or destruction may result. Unless otherwise specified in this product's labeling, treatments with selective equipment including wipers and hooded sprayers must be made at least 14 days prior to harvest. Post-harvest or fallow applications must be made at least 30 days prior to planting any non-labeled crop. See "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional information.

(continued)

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

Bulb Vegetables
CROPS: Garlic, Great-headed garlic, Leek, Onion (dry bulb and green), Welsh onion, Shallot.

Cucurbit Vegetables and Fruits
CROPS: Chayote (fruit), Chinese waxgourd (Chinese preserving melon), Citron melon, Cucumber, Gherkin, Edible gourd (includes hyotan, cucuzza, hechima, Chinese okra), Melons (all), *Momordica* spp. (includes balsam apple, balsam pear, bittermelon, Chinese cucumber), Muskmelon (includes cantaloupe, casaba, crenshaw melon, golden pershaw melon, honeydew melon, honey ball melon, mango melon, Persian melon, pineapple melon, Santa Claus melon, snake melon), Pumpkin, Summer squash (includes crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini), Winter squash (includes butternut squash, calabaza, hubbard squash, acorn squash, spaghetti squash), Watermelon.

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

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

RESTRICTIONS: For Watercress, avoid applications within 3 days prior to seeding and during the period between seeding and emergence to minimize the risk of crop injury.

Fruiting Vegetables
CROPS: Eggplant, Groundcherry (*Physalis* spp.), Pepino, Pepper (includes bell pepper, chili pepper, cooking pepper, pimento, sweet pepper), Tomatillo, Tomato.

RESTRICTIONS: For Eggplant, Ground cherry, Pepper (all), and Tomatillo, allow at least 3 days between application and planting. For Tomato and tomatillos grown on sandy soil, do not make hooded, shielded sprayer, or wiper applications in row middles because of potential for crop injury.

Legume Vegetables (Succulent or Dried)
CROPS: Bean (Lupines: includes grain lupin, sweet lupin, white lupin, and white sweet lupin), Bean *(Phaseolus:* includes field bean, kidney bean, lima bean, navy bean, pinto bean, runner bean, snap bean, tepary bean, wax bean), Bean *(Vigna:* includes adzuki bean, asparagus bean, blackeyed pea, catjang, Chinese longbean, cowpea, crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean, yardlong bean), Broad bean (fava), Chickpea (garbanzo), Guar, Jackbean, Lablab bean, Lentil, Pea *(Pisum:* includes dwarf pea, edible-podded pea, English pea, field pea, garden pea, green pea, snowpea, sugar snap pea), Pigeon pea, Soybean (immature seed), Sword bean.

Spot Treatment or Preharvest (Dry Beans, Peas, Lentils, and Chickpeas only)
This product may be applied as an over-the-top broadcast spray or as a spot treatment to control labeled weeds in dry beans, peas, lentils, or chick peas. For spot treatment, to control troublesome weeds such as Canada thistle, quackgrass, mayweed (dog fennel), and milkweed, apply in 10 to 20 gallons of water per acre through ground broadcast spray equipment or use a 2-percent solution in a hand-held sprayer. For preharvest treatments, apply in 3 to 20 gallons of water per acre at the hard dough stage of the legume seed (30-percent grain moisture or less).

RESTRICTIONS: Follow the limitations listed in the table below. Only one application per year may be made; do not combine a preharvest spray with a spot treatment on the same crop area. Employ at least a 30-day plant-back interval between treatment and replanting for any crop not specified for treatment in this label. Do not feed treated vines and hay from these crops to livestock. Do not treat cowpeas or field (feed) peas, since these crops are considered to be grown as livestock feed. Preharvest application is not specified for dry legumes grown for seed, as a reduction in germination or vigor may occur.

Crop	Maximum Rate (fluid ounces per acre)	Minimum Pre-Harvest Interval (days)	Allowed in
Dry Beans	32	7	All States
Dry Peas, Lentils, and Chickpeas	26	14	Idaho, Minnesota, Montana, Nebraska, North Dakota, Oregon, South Dakota, and Washington

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

Selective Equipment (Non-Bearing Ginseng only)
This product may be applied for weed control in established non-bearing ginseng. Applications may be made with boom equipment, CDA, shielded sprayers, hand-held and backpack wands, lances, and orchard guns or with wiper application equipment. See additional instructions under "Selective Equipment" in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

PRECAUTIONS: Conduct applications so that there is no contact of this product with the ginseng plant. Droplets, mist, foam, or splatter of the herbicide solution settling onto desirable vegetation may result in discoloration, stunting, or destruction.

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

Over-the-Top Wiper Application (Rutabagas only)
Wiper applicators may be used over the top of rutabagas for the control of taller weeds. See additional instructions under "Selective Equipment" in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

PRECAUTIONS: Droplets, mist, foam, or splatter of the herbicide solution settling onto desirable vegetation may result in discoloration, stunting, or destruction.

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

Miscellaneous Crops

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

TYPES OF APPLICATIONS: Those listed in "ANNUAL AND PERENNIAL CROPS" section of this label plus the following: Weed Control, Site Preparation, Spot Treatment (Asparagus), and Post-Harvest (Asparagus).

Use directions for sugar beets containing the Roundup Ready gene are in the "ROUNDUP READY CROPS" section of this label.

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

Weed Control, Site Preparation
This product may be applied for weed control or for site preparation prior to planting or transplanting crops listed in this section.

PRECAUTIONS: This product could cause crop injury when applied prior to transplanting or direct-seeding crops into plastic mulch. Care must be taken to remove residues of this product from the plastic prior to planting. Residual product can be removed by a single 0.5-inch application of water, either by natural rainfall or by irrigation. Care must be taken to ensure that the washwater flushes off the plastic mulch and does not enter transplant holes.

RESTRICTIONS: Allow at least 21 days between residue removal and transplanting. Applications made at emergence will result in injury or death to emerged seedlings. Do not apply within a week before the first asparagus spears emerge. Do not feed or graze treated pineapple forage following application.

Spot Treatment (Asparagus)
This product may be applied immediately after cutting, but prior to the emergence of new spears.

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

Post-Harvest (Asparagus)
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. See additional instructions under "Selective Equipment" in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

PRECAUTIONS: Direct contact of the spray with asparagus may result in serious crop injury. 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.

TREE, VINE, AND SHRUB CROPS (Alphabetical)

NOTE: THIS SECTION GIVES DIRECTIONS THAT APPLY TO TREE, VINE, AND SHRUB CROPS LISTED ALPHABETICALLY IN THE SECTIONS THAT FOLLOW. SEE THE INDIVIDUAL CROP CATEGORIES FOR SPECIFIC INSTRUCTIONS, PREHARVEST INTERVALS, PRECAUTIONS, AND RESTRICTIONS.

TYPES OF APPLICATIONS: Preplant (site preparation) Broadcast Sprays, Weed Control, Middles (between rows of trees, vines, or bushes), Strips (within rows of trees, vines, or bushes), Selective Equipment (shielded sprayers, wiper treatments), Directed Spray, Spot Treatment, Perennial Grass Suppression, Cut Stump.

This product may be applied with boom equipment, CDA equipment, shielded sprayers, hand-held and backpack wands, lances, orchard guns, or with wiper applicator equipment, unless prohibited in the specific crop sections that follow.

USE INSTRUCTIONS: This product may be applied in middles (between rows of trees or vines), strips (within rows of trees or vines), and for weed control or perennial grass suppression in established tree fruit and nut groves, orchards, berries, and vineyards. It may also be used for site preparation prior to planting or transplanting these crops. Apply 1 pint to 5 quarts per acre according to the "ANNUAL WEEDS" and "PERENNIAL WEEDS RATE SECTIONS" of this label. Use the higher rates in the specified range when weeds are stressed, growing in dense populations, or are greater than 12 inches tall. Repeat applications may be made up to a maximum of 10.6 quarts per acre per year. See the "USE INFORMATION" section of this label for more information on maximum annual use rates.

PRECAUTIONS: Use extreme care to avoid contact of this herbicide solution, spray, drift, or mist with foliage or green bark of trunk, branches, suckers, fruit or other parts of trees, canes, and vines. Avoid applications when recent pruning wounds or other mechanical injury has occurred. Contact of this product with other than matured brown bark can result in serious crop damage or destruction.

RESTRICTIONS: Only shielded or directed sprayers may be used in crops with potential for crop contact, and then only where there is sufficient clearance. For applications in strips (within rows of trees), only selective equipment (directed sprays, hooded sprayers, shielded applicators, or wipers) must be used in order to minimize the potential for overspray or drift of this product onto the crop. For berry crops, hooded or shielded sprayers must be fully enclosed including top, sides, front, and back. Only wipers or shielded applicators capable of preventing all contact with the crop may be used. See additional instructions and precautions in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

Allow a minimum of 3 days between application and transplanting.

Middles (between rows)
This product will control or suppress annual and perennial weeds and ground covers growing between rows of tree and vine crops listed on this label. If weeds are under drought stress, irrigate prior to application. Reduced weed control may result if weeds have been recently mowed at the time of application.

TANK MIXTURES: A tank mixture of this product plus Goal 2XL may be applied for annual weed control between rows (middles) of citrus crops, tree fruits, tree nuts, and vine crops. This mixture is specified when weeds are stressed or growing in dense populations. Application of 16 to 32 fluid ounces of this product per acre plus 3 to 12 fluid ounces of Goal 2XL per acre will control annual weeds with a maximum height, length, or diameter of 6 inches, including crabgrass, common groundsel, junglerice, common lambsquarters, redroot pigweed, London rocket, common ryegrass, shepherdspurse, annual sowthistle, filaree (suppression), horseweed/marestail *(Conyza canadensis),* stinging nettle, and common purslane (suppression). This tank mixture will also control common cheeseweed (malva) or hairy fleabane *(Conyza bonariensis)* with a maximum height, length, or diameter of 3 inches. Read and follow all labels and directions for use of all products being used in the tank mixture.

Strips (In Rows)
TANK MIXTURES: This product may be applied within rows of tree or vine crops in tank mixtures with the following products, provided that the label of the specific product used permits the desired use:

Devrinol™ 50 DF	Karmex II DF	Simazine 80W	Surflan 75W
Direx™ 4L	pendimethalin	Sim-Trol™ 4L	
Goal 2XL	Princep Caliber™ 90	Solicam™ DF	
Karmex DF	Simazine 4L	Surflan™ AS	

Do not apply these tank mixtures in Puerto Rico.

For more information, see the "TANK MIXTURES" and "TANK MIXING PROCEDURES" sections of this label. Refer to the individual product labels for information about specific crops, rates, geographic restrictions, and precautionary statements.

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

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

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

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

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

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

For burndown of Bermudagrass, apply 1 to 2 quarts of this product in 3 to 20 gallons of water per acre. Use this treatment only if reduction of the Bermudagrass stand can be tolerated. When burndown is required prior to harvest, allow at least 21 days to ensure sufficient time for burndown to occur.

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

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

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

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

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

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

RESTRICTIONS: DO NOT MAKE CUT STUMP APPLICATIONS WHEN THE ROOTS OF ADJACENT DESIRABLE TREES MAY BE GRAFTED TO THE ROOTS OF THE CUT STUMP. INJURY RESULTING FROM ROOT GRAFTING MAY OCCUR IN ADJACENT TREES. Some sprouts, stems, or trees may share the same root system. Adjacent trees having 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.

Berry Crops

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

TYPES OF APPLICATIONS: Those listed in "TREES, VINE AND SHRUB CROPS" section of this label, plus Spot Treatment in Cranberry Production and Post-Harvest Treatment in Cranberry Production.

RESTRICTIONS: To avoid damage, herbicide spray must not be allowed to contact desirable vegetation including green shoots, canes, or foliage. Allow a minimum of 30 days between last application and harvest of cranberries. Allow a minimum of 14 days between last application and harvest of other berry crops.

Spot Treatment in Cranberry Production
Spot treatments may be used to control weeds growing in dry ditches (interior and perimeter) of cranberry production areas. Hand-held sprayers or other appropriate application equipment listed under "APPLICATION EQUIPMENT AND TECHNIQUES" in this label may be used. Drop water level to remove standing water in ditches prior to application. With hand-held sprayers, use 1- to 2-percent solution of this product. Spray adequately to wet the vegetation only; do not spray to the point of run-off.

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

Post-Harvest Treatments in Cranberry Production
Application of this product may be made after the harvest of cranberries to control weeds growing in the field. Apply this product to vines that appear dormant (after they have turned red). Hand-held sprayers, wipers, or other appropriate application equipment listed in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label may be used. If using hand-held sprayers, use a 0.5- to 1-percent solution of this product. Spray adequately to wet the vegetation only; do not spray to the point of run-off. If using hand-held boom sprayers, apply 2 to 4 quarts of this product per acre.

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

RESTRICTIONS: Make applications only after cranberries have been harvested. Do not treat more than 10-percent of the total bog. Allow a minimum of 6 months after last application and next harvest of cranberries. Do not make applications by air. Do not apply directly to water.

Citrus

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

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

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

The following use instructions pertain to applications in Florida and Texas only.

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

For goatweed, apply 2 to 3 quarts of this product in 20 to 30 gallons of water per acre when plants are actively growing. Use 2 quarts per acre when plants are less than 8 inches tall, and 3 quarts per acre when plants are greater than 8 inches tall. If goatweed is greater than 8 inches tall, use of this product in a tank mixture with Krovar™ I or Karmex™ may improve weed control.

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

Perennial Weeds
S= Suppression; PC = Partial control; B = Burndown; C = Control

WEED SPECIES	TOMAHAWK 4 RATE PER ACRE			
	1 QT	2 QT	3 QT	5 QT
Bermudagrass	B	-	PC	C
Guineagrass	-	-	-	-
Texas and Florida Ridge	B	C	C	C
Florida Flatwoods	-	B	C	C
Paragrass	B	C	C	C
Torpedograss	S	-	PC	C

Miscellaneous Tree Food Crops

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

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

Non-Food Tree Crops

CROPS: Pine, Poplar, Eucalyptus, Christmas trees, and all other non-food tree crops.

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

NOTE: Unless otherwise directed, this product is not specified for use as an over-the-top broadcast spray in plantations or other labeled tree crops.

Site preparation
This product may be used for weed control prior to planting non-food tree crops.

PRECAUTIONS: Care must be taken to protect non-target plants during site preparation applications.

Directed Spray, Spot Treatment, Wiper Application
This product may be used as a post-directed spray and spot treatment around established poplar, eucalyptus, Christmas trees, and other non-food tree crops.

PRECAUTIONS: Avoid contact of spray, drift, or mist of this product with foliage or green bark of established Christmas trees and other pine trees. Desirable plants may be protected from the spray solution by using shields or coverings made of cardboard or other impermeable material.

Pome Fruit

CROPS: Apple, Crabapple, Loquat, Mayhaw, Pear (including Oriental pear), Quince.

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

RESTRICTIONS: Allow a minimum of 1 day between last application and harvest in pome crops.

Stone Fruit

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

TYPES OF APPLICATIONS: Those listed in "TREES, VINE, AND SHRUB CROPS" section of this label. For olive groves, apply only as a directed spray.

RESTRICTIONS: Allow a minimum of 17 days between last application and harvest in stone fruit crops.

Remove suckers and low hanging limbs at least 10 days prior to application. Avoid applications near trees with recent pruning wounds or other mechanical injury. Apply only near trees that have been planted in the orchard for 2 or more years. USE EXTREME CARE TO ENSURE THAT NO PART OF THE PEACH TREE IS CONTACTED WITH OVERSPRAY OR DRIFT OF THIS PRODUCT.

Tree Nuts

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

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

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

Tropical and Subtropical Trees and Fruits

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

TYPES OF APPLICATIONS: Those listed in "TREES, VINE, AND SHRUB CROPS" section of this label, and as described below as a Bananacide (Bananas Only).

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

Bananacide (Banana Only)
This product may be used to destroy banana plants infected with the Banana Bunchy Top Virus, as well as non-infected banana plants in order to establish disease free buffers around plantations. Remove all fruit from the plants within the treatment area prior to treatment. Inject 1/25 fluid ounce (1 mL) of this product's concentrate per 2 to 3 inches of pseudostem diameter. Make the injection at least one foot above the ground, except for very small plants, which must be injected vertically into the top. Any subsequent regrowth must also be destroyed. All plants and mats (or units) within a 4-foot radius around a treated mat must be mechanically destroyed.

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

RESTRICTIONS: Do not apply more than 1/2 fluid ounce (15 mL) of this product per mat (or unit). Remove all fruit from plants and mats (or units) prior to treatment. Do not harvest any fruit or plant materials from treated mats (or units) following injection. Do not allow livestock to consume treated plant materials. Following transplant of new banana plants into treated areas, allow plants to become established for 3 months before applying this product for weed control.

Vine Crops

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

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

Apply this product for weed control only when green shoots, canes, or foliage are not in the spray zone.

In the northeast and Great Lakes regions, apply this product to production grape vineyards prior to the end of the bloom stage of grapes in order to avoid crop injury or apply using shielded sprayers or wiper equipment.

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

PASTURE GRASSES, FORAGE LEGUMES, AND RANGELANDS

USE INSTRUCTIONS: Refer to the "ANNUAL WEEDS" and "PERENNIAL WEEDS RATE SECTIONS" of this label for specified rates for specific weeds. When applied as directed, this product will control these annual and perennial grasses and broadleaf weeds. Specified rates of this product specified on this label for the control of tough weeds, or those specified on separate supplemental labeling for this product, supersede rates specified in the "ANNUAL WEEDS," "PERENNIAL WEEDS," and "WOODY BRUSH AND TREES RATE SECTIONS" of this label.

All labeled treatments may be made by aerial equipment where appropriate, provided that the applicator complies with the precautions and restrictions specified on this product's labeling.

Alfalfa, Clover, and Other Forage Legumes

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

TYPES OF APPLICATIONS: Preplant, At-Planting, Preemergence, Preharvest (except Kenaf and Leucanea), Spot Treatment, Over-the-Top Wiper Application, Renovation, Stand Removal.

Use directions for alfalfa with the Roundup Ready gene are in the "ROUNDUP READY CROPS" section of this label.

Preplant, At-Planting, Preemergence
This product may be applied before, during, or after planting crops listed in this section. Applications must be made prior to crop emergence.

RESTRICTIONS: Remove domestic livestock before application. The crop may be fed or grazed as soon as it reaches sufficient maturity.

Preharvest (Except Kenaf and Leucanea)
This product may be used in declining alfalfa stands or any stand of alfalfa where crop destruction is acceptable. This product will control annual or perennial weeds, including quackgrass, when applied prior to crop harvest. Applications may be made at any time of the year. For control of quackgrass, apply in the spring, late summer, or fall when quackgrass is actively growing. Treatments for quackgrass must be followed by deep tillage for complete control.

PRECAUTIONS: This application may destroy the alfalfa stand and may severely injure or destroy other labeled crops such as clover. Preharvest application is not specified for alfalfa grown for seed, as a reduction in germination or vigor may result.

RESTRICTIONS: Make only one application to an existing stand of crop per year. The treated crop and weeds can be harvested and fed to livestock according to the application rates and intervals defined below.

	Maximum single preharvest application rate (per acre)	Minimum interval between application and harvest or livestock grazing
Alfalfa	2 quarts	36 hours
All other legumes listed	3 pints	3 days

Spot Treatment, Over-the-Top Wiper Application
This product may be applied as a spot treatment or over the top of crops listed in this section with wiper applicators. For wipers, see "Wiper Applicators" in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label. Applications may be made in the same area at 30-day intervals.

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

Renovation, Stand Removal
This product may be applied as a broadcast spray to remove established stands of alfalfa, clover, and other forage legumes listed on this label. If the crop is to be grazed or harvested for feed, use up to a maximum of 2 quarts per acre in alfalfa and up to 3 pints per acre in other labeled legumes. For complete removal of established stands of clover, it may be necessary to use treatment rates greater than this, as listed in the "PERENNIAL WEEDS RATE SECTION" of this label.

RESTRICTIONS: For applications up to 2 quarts per acre for alfalfa or 3 pints per acre for all other forage legumes, remove domestic livestock before application; then follow the minimum harvest or grazing intervals in the table above under Preharvest in this section. For treatment rates above these levels, do not graze or harvest treated foliage for livestock feed or allow grazing. Crops listed in this label may be planted into the treated area at any time; for all other crops, wait 30 days or more between application and planting.

Conservation Reserve Program (CRP)

TYPES OF APPLICATIONS: Renovation (Rotating Out Of CRP), Site Preparation, Postemergence Weed Control in Dormant CRP Grasses, Over-the-Top Wiper Application.

Renovation (Rotating Out of CRP), Site Preparation
This product may be used to prepare CRP land for crop production. Refer to Federal, state, or local use guides for CRP renovation directions.

RESTRICTIONS: Crops listed on this label may be planted into the treated area at any time; for any other crop, wait at least 30 days between application and planting.

Postemergence Weed Control in Dormant CRP Grasses, Over-the-Top Wiper Application
Apply this product to suppress competitive growth and seed production of undesirable vegetation on CRP land. Applications may be made using wiper applicators to control tall weeds or as a broadcast or spot treatment to dormant CRP grasses. For selective applications with broadcast spray equipment, apply 12 to 16 fluid ounces of this product per acre in early spring before desirable CRP grasses such as crested and tall wheatgrass break dormancy and initiate green growth. Late fall applications can be made after desirable perennial grasses have reached dormancy.

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

RESTRICTIONS: No waiting period is required between application and grazing or harvesting for feed. Do not apply more than 3 quarts per acre per year onto CRP land.

Grass Seed or Sod Production

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

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

Preplant, At-Planting, Preemergence, Renovation, Removal of Established Stands, Site Preparation
This product controls most existing vegetation prior to renovating turf or forage grass seed areas or establishing turf grass grown for sod. It may be used to destroy undesirable grass vegetation when production fields are converted to alternate species or crops. Make applications before, during, or after planting or for renovation. For maximum control of existing vegetation, delay planting to determine if any regrowth from escaped underground plant parts occurs. Where existing vegetation is growing under mowed turf management, apply this product after omitting at least one regular mowing to allow sufficient growth for good interception of the herbicide spray. Where repeat treatments are necessary, sufficient regrowth must be attained prior to application. For warm-season grasses such as Bermudagrass, summer or fall applications provide best control. Broadcast equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested. Application rates of up to 5 quarts per acre may be used to totally remove established stands of tough-to-kill grass species.

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

Shielded Sprayers
Apply 1 to 3 quarts of this product as a broadcast spray in 10 to 20 gallons of water per acre to control weeds between grass seed rows. Uniform planting in straight rows aid in shielded sprayer applications. Best results are obtained when the grass seed crop is small enough to easily pass by or through the protective shields. See additional instructions on the use of shielded sprayers in the "APPLICATION EQUIPMENT AND TECHNIQUES" section.

PRECAUTIONS: Droplets, mist, foam, or splatter of the herbicide solution settling onto desirable vegetation may result in discoloration, stunting, or destruction. To the extent permitted by law, such damage shall be the sole responsibility of the applicator.

Over-the-Top Wiper Application
This product may be applied over the top of desirable grasses using wiper applicators for the control of tall weeds. See additional instructions on the use of wiper applicators in the "APPLICATION EQUIPMENT AND TECHNIQUES" section.

PRECAUTIONS: Droplets, mist, foam, or splatter of the herbicide solution settling onto desirable vegetation may result in discoloration, stunting, or destruction. To the extent permitted by law, such damage shall be the sole responsibility of the applicator.

Spot Treatment
Apply a 1- to 1.5 percent solution of this product using hand-held spray equipment to control weeds within established vegetation prior to heading of grasses grown for seed. Hand-held equipment may also be used to control sod remnants or other unwanted vegetation after sod is harvested.

PRECAUTIONS: Crop sprayed in treated area will be killed. Take care not to spray or allow spray to drift outside the target area to avoid unwanted crop destruction.

RESTRICTIONS: Apply this product prior to heading of grasses. Do not treat more than 10 percent of the total field area.

Creating Rows in Annual Ryegrass
Apply 16 to 32 fluid ounces of this product per acre. Best results are obtained when applications are made before ryegrass reaches 6 inches in height. Use the higher rate when the ryegrass is greater than 6 inches in height. Set nozzle heights to allow the establishment of the desired row spacing. Use of low-pressure nozzles or drop nozzles designed to target the application over a narrow band are specified.

PRECAUTIONS: Take care not to spray or allow droplets, spray fines, or drift to settle outside the treatment area to avoid unwanted crop destruction.

Grower assumes all responsibility for crop losses from misapplication of this product.

Pastures

CROPS: Any grass (Gramineae family) except Corn, Sorghum, Sugarcane, and those listed in the "CEREAL AND GRAIN CROPS" section of this label including Bahiagrass, Bermudagrass, Bluegrass, Bromegrass, Fescue, Guineagrass, Kikuya grass, Orchardgrass, Pangola grass, Ryegrass, Timothy, Wheatgrass.

TYPES OF APPLICATIONS: Preplant, Preemergence, Pasture Renovation, Spot Treatment, Over-the-Top Wiper Application, Postemergence Weed Control (Broadcast Treatments).

Preplant, Preemergence, Pasture Renovation
This product may be applied for weed control prior to planting or emergence of forage grasses. This product may also be used to control perennial pasture species listed on this label prior to replanting.

RESTRICTIONS: If application rates total 3 quarts per acre or less, no waiting period between treatment and feeding or livestock grazing is required. If the rate is greater than 3 quarts per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting. Crops listed on this label may be planted into the treated area at any time; all other crops may be planted 30 days after application.

Spot Treatment, Over-the-Top Wiper Application
This product may be applied in pastures as a spot treatment or over the top of desired grasses using wiper applicators to control tall weeds. Applications may be repeated in the same area at 30-day intervals. See additional instructions on the use of wiper applicators in the "APPLICATION EQUIPMENT AND TECHNIQUES" section.

RESTRICTIONS: For spot treatment and wiper application methods using rates of 3 quarts of this product per acre or less, the entire field or any portion of it may be treated. When spot treatments or wiper applications are made using rates above 3 quarts of this product per acre, no more than 10 percent of the field may be treated at any one time. To achieve maximum performance, remove domestic livestock before application and wait 7 days after application before grazing or harvesting for feed.

Postemergence Weed Control (Broadcast Treatments)
This product may be applied to pastures to suppress competitive growth and seed production of annual weeds and undesirable vegetation. For selective applications with broadcast spray equipment, apply 12 to 16 fluid ounces of this product per acre in early spring before desirable perennial grasses break dormancy and initiate green growth. Late fall applications can be made after perennial grasses have reached dormancy.

PRECAUTIONS: Some stunting of perennial grasses will occur if broadcast applications are made when plants are not dormant. Use of higher application rates will cause stand reductions.

RESTRICTIONS: No waiting period is required between application and grazing or harvesting for feed. Do not apply more than 3 quarts per acre per year onto pasture grasses except for renovation use described above in this section. If replanting is needed due to severe stand reduction, wait at least 30 days after treatment prior to planting any crop not listed on this label.

Rangelands

TYPES OF APPLICATIONS: Postemergence.

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

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

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

Apply 12 to 16 fluid ounces of this product to control or suppress many weeds including downy brome, cheatgrass, 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 specified where spring moisture is usually limited and fall germination allows for good weed growth.

For medusahead, apply 16 fluid ounces of this product at the 3-leaf stage. Delaying applications beyond this stage will result in reduced or unacceptable control. Fire may be useful in eliminating the thatch layer produced by slow decaying culms prior to application. Allow new growth to occur before spraying after a bum. Repeat applications in subsequent years may be necessary to eliminate the seedbank before re-establishing desirable perennial grasses in medusahead-dominated rangelands.

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

RESTRICTIONS: Do not use ammonium sulfate when spraying rangeland grasses with this product. No waiting period between treatment and feeding or livestock grazing is required. Do not apply more than 3 quarts of this product per acre per year.

ROUNDUP READY CROPS

Roundup Ready crops contain a patented gene that provides tolerance to glyphosate, the active ingredient in this product. Applying this product to crops that are not Roundup Ready will result in severe crop injury or destruction and yield loss. Avoid contact with foliage, green stems, or fruit of crops, or any desirable plants that do not contain a Roundup Ready gene, since severe plant injury or destruction will result.

Information on Roundup Ready crops may be obtained from your seed supplier.

The following instructions or those published separately on supplemental labeling for this product include all applications of this product that can be made onto the specified Roundup Ready crops during the complete cropping season.

DO NOT combine these treatment instructions with those for crops in the "ANNUAL AND PERENNIAL CROPS (ALPHABETICAL)" section of this label that do not contain the Roundup Ready gene. THIS PRODUCT MAY ONLY BE USED FOR POSTEMERGENCE (IN-CROP) APPLICATION ONLY ON CROPS DESIGNATED AS CONTAINING THE ROUNDUP READY GENE.

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

For ground broadcast applications: Apply this product in 5 to 20 gallons of spray solution per acre. Carefully select proper nozzle and spray pressure to avoid spraying a fine mist. For best results with ground application equipment, use flat spray nozzles. Check for even distribution of spray droplets.

For aerial applications: All labeled treatments may be made by aerial equipment where appropriate, provided that the applicator complies with the precautions and restrictions specified on this product's labeling, in particular in the "Aerial Equipment" section. Apply this product in 3 to 15 gallons of water per acre. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for procedures to avoid spray drift that may cause injury to any vegetation not intended for treatment. Use of appropriate buffer zones will help prevent injury to adjacent vegetation.

ATTENTION: AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS WHICH DO NOT CONTAIN THE ROUNDUP READY GENE.

TANK MIXTURE: Tank mixtures with other herbicides, insecticides, fungicides, micronutrients, or foliar fertilizers may result in reduced weed control or crop injury and are NOT specified for applications of this product over the top of Roundup Ready crops unless otherwise noted in this product label or in separate supplemental labeling.

Unless otherwise directed, nonionic surfactant maybe added to the spray solution for applications to Roundup Ready crops. The addition of certain surfactants to this product may result in some crop response including leaf necrosis, leaf chlorosis, or leaf speckling due to the surfactant added to the spray mixture. Read and carefully observe cautionary statements and other information appearing on the surfactant label.

Ammonium sulfate may be mixed with this product for applications to Roundup Ready crops. Refer to the "MIXING" section for instructions on the use of ammonium sulfate. 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: The following instructions are based on a clean start at planting by using a burndown application or tillage to control existing weeds before crop emergence. In no-till and stale seedbed systems, a preplant burn-down treatment of this product is specified to control existing weeds prior to crop emergence. Some weeds such as black nightshade, broadleaf signalgrass, sicklepod, Texas panicum, sandbur, annual morningglory, woolly cupgrass, shattercane, wild proso millet, burcucumber, and giant ragweed with multiple germination times or suppressed (stunted) weeds may require a second application of this product for complete control. The second application must be made after some regrowth has occurred and at least 10 days after a previous application of this product.

Rates of this product specified in the following sections or in separate supplemental labeling for this product on the control of tough weeds supersede the rates specified in the "ANNUAL WEEDS RATE SECTION" and the "PERENNIAL WEEDS RATE SECTION" of this label.

Roundup Ready Alfalfa

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

USE INSTRUCTIONS: Refer to the following table for the maximum application rates of this product.

Maximum Application Rates	
Combined total per year for all applications including Preplant during year of establishment	8 quarts per acre
Combined total per year for in-crop applications for newly established and established stands	6 quarts per acre
Preplant, At-planting, and Preemergence single applications	2 quarts per acre

See the "PRECAUTIONS" and "RESTRICTIONS" sections under the "ROUNDUP READY CROPS" heading of this label for instructions for use of this product in Roundup Ready crops. See the "USE INFORMATION" section of this label for more information on "Annual Maximum Application Rates."

Preplant, At-Planting, Preemergence
This product may be applied before, during, or after planting alfalfa with a Roundup Ready gene, up to a maximum of 2 quarts per acre.

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

Refer to the "ANNUAL WEEDS RATE SECTION" and "PERENNIAL WEEDS RATE SECTION" in this label for rate directions for specific weeds. When applied as directed, this product will control these annual and perennial grasses and broadleaf weeds. In addition to those weeds listed in these sections, this product will suppress the parasitic weed Dodder (*Cuscuta* spp.) in Roundup Ready alfalfa. Repeat applications may be necessary for complete control.

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

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

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

ESTABLISHED STANDS (Non-Seeding Year) Application Rates	
In-crop application, per cutting, up to 5 days before cutting	Up to 2 quarts per acre

RESTRICTIONS: Where Roundup Ready alfalfa is grown with a companion or cover crop or is overseeded with a second species, in-crop (over-the-top) applications of this product will eliminate the non-Roundup Ready species. Any single in-crop application of this product must not exceed 2 quarts per acre. Sequential applications of this product must be at least 7 days apart. The combined total per year for all in-crop applications in both newly established (seeding year) and established stands (non-seeding year) must not exceed 6 quarts per acre. Remove domestic livestock before application. Wait a minimum of 5 days after application before grazing, cutting, and feeding of forage and hay.

PRECAUTIONS: Tank mixtures of this product with other herbicides, insecticides, or fungicides may result in crop injury or reduced weed control.

RESTRICTIONS: Do not apply to frozen or snow covered ground.

Roundup Ready Canola (Spring)

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

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

Maximum Application Rates	
The total of all Preplant, At-planting, Preemergence applications	2 quarts per acre
The total of all In-crop applications from emergence to 6-leaf stage	1 quart per acre

See the "PRECAUTIONS" and "RESTRICTIONS" sections under the "ROUNDUP READY CROPS" heading of this label for instructions for use of this product in Roundup Ready crops. See the "USE INFORMATION" section of this label for more information on "Annual Maximum Application Rates."

Preplant, At-planting, Preemergence
This product may be applied before, during, or after planting, up to a maximum of 2 quarts per acre.

Postemergence (In-crop)
Apply this product postemergence to Roundup Ready spring canola from emergence through the 6-leaf stage of development. Applications made during bolting or flowering may result in crop injury and yield loss. To maximize yield potential, make applications early to eliminate competing weeds.

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

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

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

Roundup Ready Canola (Winter)

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

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

Maximum Application Rates	
The total of all Preplant, At-planting, Preemergence applications	2 quarts per acre
The total of all In-crop application from emergence to canopy closure or prior to bolting in the spring stage	2 quarts per acre

See the "PRECAUTIONS" and "RESTRICTIONS" sections under the "ROUNDUP READY CROPS" heading of this label for instructions for use of this product in Roundup Ready crops. See the "USE INFORMATION" section of this label for more information on "Annual Maximum Application Rate."

Preplant, At-Planting, Preemergence
This product may be applied before, during, or after planting, up to a maximum of 2 quarts per acre.

Postemergence (In-crop)
Apply this product to Roundup Ready winter canola varieties from emergence to canopy closure in the fall and prior to bolting in the spring. Applications made during or after bolting may result in crop injury and yield loss. To maximize yield potential, make applications early to eliminate competing weeds.

Some weeds with multiple germination times or suppressed (stunted) weeds or weeds that have overwintered may require sequential applications of this product for control. Make second application after some regrowth has occurred and at least 60 days after a previous application of this product.

Single Application – Apply 24 to 32 fluid ounces of this product per acre in the fall. Applications in the fall must be made when weeds are small and actively growing. Use the higher rate in the specified range when weed densities are high, when weeds have overwintered, or when weeds become large and well established. Applications of greater than 16 fluid ounces per acre prior to the 6-leaf stage may result in reduced crop growth in the fall. Avoid spray overlaps. Spray overlaps may result in temporary yellowing and/or growth reduction.

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

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

Roundup Ready Corn 2

TYPES OF APPLICATIONS: Preplant, At-Planting, Preemergence, Postemergence (In-crop), Spot treatment, Preharvest, Post-harvest.

Maximum Application Rates	
Combined total per year for all applications	8 quarts per acre
The total of all Preplant, At-planting, Preemergence applications	5 quarts per acre
The total of all In-crop applications from emergence through 48 inches	3 quarts per acre
Maximum preharvest application from when the crop is physiologically mature to 7 days before harvest. See "RESTRICTIONS" under "Preharvest" in this section.	1 quart per acre

See the "PRECAUTIONS" and "RESTRICTIONS" sections under the "ROUNDUP READY CROPS" heading of this label for instructions for use of this product in Roundup Ready crops. See the "USE INFORMATION" section of this label for more information on "Annual Maximum Application Rates." Refer to individual tank mixture product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

Preplant, At-planting, Preemergence
This product may be applied alone or in a tank mixture before, during, or after planting.

TANK MIXTURES: This product may be tank mixed with the products listed below. Ensure that the specific product used is labeled for alfalfa application. Read and follow label directions for all products in the tank mixture. Apply these tank mixtures in 10 to 20 gallons of water or 10 to 60 gallons of nitrogen solution per acre.

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acetochlor, Aim, Aim EC, alachlor, Axiom, Balance PRO, Banvel, Bicep MAGNUM, Bicep II MAGNUM, Bicep Lite II MAGNUM, Bullet, Clarity, Define, Degree, Degree Xtra, Distinct, Dual II MAGNUM, Epic, Frontier, FulTime, Guardsman, Guardsman MAX, Harness, Harness Xtra, Harness Xtra 5.6L, Hornet, Keystone, Keystone LA, Lariat, Leadoff, Linex, Lorox, Marksman, metolachlor, Micro-Tech, Outlook, pendimethalin, Python, Python II, Radius, Resolve, Resource, Stalwart, Stalwart Xtra, Surpass, TopNotch

Read and follow label restrictions and use directions for all products in the tank mix.

NOTE: For maximum weed control, a postemergence (in-crop) application of this product must be applied following the use of less than labeled rates of the preemergence residual products listed above.

Postemergence (In-crop)
This product may be applied alone or in tank mixtures over the top of corn hybrids designated as Roundup Ready Corn 2 from emergence through the V8 stage (8 leaves with collars) or until corn height reaches 30 inches (free standing), whichever comes first. Drop nozzles are specified for optimum spray coverage and weed control when corn height is 24 to 30 inches. For corn heights 30 to 48 inches (free standing), apply this product only by ground application using drop nozzles aligned to avoid spraying into the whorls of the corn plants. Single in-crop applications of this product must not exceed 3 pints per acre. Sequential in-crop applications of this product from emergence through 48 inches in height must not exceed a total of 3 quarts per acre per growing season.

When applied as directed, this product controls annual grass and broadleaf weeds listed on this label. Many perennial grasses and broadleaf weeds will be controlled or suppressed with one or more applications of this product. A postemergence application of this product must be made before the weeds reach a height of 4 inches or before they become competitive with the crop. If new flushes of weeds occur, a sequential application of this product at 24 to 32 fluid ounces per acre must be made before the weeds reach a height of 4 inches.

TANK MIXTURES: This product may be tank mixed with the following products. Ensure that the specific product being used in the tank mixture is registered for application postemergence (in-crop) to corn.

acetochlor, AIM EC, alachlor, atrazine, Banvel, Basis, Basis Gold, Bullet, Clarity, Degree, Degree Xtra, Distinct, Equip, Harness, Harness Xtra, Harness Xtra 5.6L, Hornet, Marksman, Micro-Tech, Option, Resolve, Resource, 2,4-D

Read and follow label restrictions and use directions for all products in the tank mix.

Tank Mix Partner	Maximum Height Of Corn For Application
Degree Degree Xtra Harness Harness Xtra Harness Xtra 5.6L	11 inches
Bullet* Micro-Tech*	5 inches
Atrazine	12 inches

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

RESTRICTIONS: Allow a minimum of 10 days between in-crop applications of this product. Allow a minimum of 50 days between application of this product in-crop and harvest of corn forage or grain. Refer to individual tank mix product label for restrictions and precautions. Use according to the most restrictive precautionary statements for each product in the tank mixture.

Preharvest
A single preharvest application of up to 32 fluid ounces per acre of this product may be applied for annual and perennial weed control prior to crop harvest. Make application at 35 percent grain moisture or less. Ensure that maximum kernel fill is complete and the corn is physiologically mature (black layer formed).

RESTRICTIONS: Do not make a preharvest application of this product if more than a combined total of 64 fluid ounces of this product has been previously applied in over-the-top or drop nozzle applications. Allow a minimum of 7 days between a preharvest application and harvest or feeding of corn stover or grain.

Postharvest
Apply this product for weed control after corn harvest. Higher rates may be required for control of large weeds that were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used. Ensure that the specific product being used is labeled for post-harvest application to corn. Read and follow label restrictions and use directions for all products in the tank mix.

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

Roundup Ready Cotton

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

Maximum Application Rates	
Combined total per year for all applications	8 quarts per acre
The total of all Preplant, At-planting, Preemergence applications	5 quarts per acre
The total of all In-crop applications from ground cracking to layby	4 quarts per acre
Maximum preharvest application rate	2 quarts per acre
Combined total of all in-crop applications from emergence through harvest	6 quarts per acre

See the "PRECAUTIONS" and "RESTRICTIONS" sections under the "ROUNDUP READY CROPS" heading of this label for instructions for use of this product in Roundup Ready crops. See the "USE INFORMATION" section of this label for more information on "Annual Maximum Application Rates."

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

Preplant, At-Planting, Preemergence
Apply this product before, during, or after planting. Tank mixtures with other herbicides listed in this label may be used.

TANK MIXTURES: This product may be tank mixed with 2,4-D and 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 in the tank mixture is registered for application prior to the emergence of cotton.

Caparol, Direx, Dual MAGNUM, metolachlor, pendimethalin, Reflex, Staple

Read and follow label restrictions and use directions for all products in the tank mix.

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

Postemergence (In-crop)
Apply this product over the top of Roundup Ready cotton at rates up to 1 quart per acre per application from the ground cracking stage until the 4-leaf (node) stage of development (until the fifth true leaf reaches the size of a quarter). NO MORE THAN TWO OVER-THE-TOP BROADCAST APPLICATIONS MAY BE MADE FROM CROP EMERGENCE THROUGH THE 4-LEAF (NODE) STAGE OF DEVELOPMENT. SEQUENTIAL, OVER-THE-TOP, OR POST-DIRECTED APPLICATIONS OF THIS PRODUCT IN-CROP MUST BE AT LEAST 10 DAYS APART AND COTTON MUST HAVE AT LEAST TWO NODES OF INCREMENTAL GROWTH BETWEEN APPLICATIONS. Applications made after the 4-leaf (node) stage of development may result in boll loss, delayed maturity, and/or yield loss.

TANK MIXTURES: This product may be tank mixed with the following products and applied over the top of Roundup Ready cotton up to the 4-leaf stage. Ensure that the specific product being used in the tank mixture is registered for application postemergence (in-crop) to cotton.

Assure II, Dual MAGNUM**, Fusilade, metolachlor, Poast Plus, SelectMAX, Staple*

Read and follow label restrictions and use directions for all products in the tank mix.

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

Salvage Treatment: This treatment may be used after the 4-leaf stage of development and must only be used where weeds threaten to cause the loss of the crop. One quart per acre may be applied either as an over-the-top application or as a post-directed treatment sprayed higher on the cotton plants and over the weeds. NOTE: SALVAGE TREATMENTS WILL RESULT IN SIGNIFICANT BOLL LOSS, DELAYED MATURITY, AND/OR YIELD LOSS. NO MORE THAN ONE SALVAGE TREATMENT MUST BE USED PER GROWING SEASON.

RESTRICTIONS: The maximum quantity of this product that may be applied for all in-crop applications from ground cracking to layby combined is 4 quarts per acre per season. DO NOT ADD ADDITIONAL SURFACTANT OR ADDITIVES CONTAINING SURFACTANT TO THIS PRODUCT (OTHER THAN THOSE CONTAINED IN ANY TANK MIX PRODUCT) FOR OVER-THE-TOP APPLICATIONS TO ROUNDUP READY COTTON.

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

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

TANK MIXTURES: This product can be tank mixed with the following products for in-crop application using precision post-directed or hooded sprayers. Ensure that the specific product being used in the tank mixture is registered for application postemergence (in-crop) to cotton.

Aim, Caparol, Chateau, Direx, Envoke, Layby-Pro, pendimethalin, Staple*, Valor

Read and follow label restrictions and use directions for all products in the tank mix.

*Staple may cause leaf yellowing and/or leaf crinkling when applied postemergence (in-crop).

RESTRICTIONS: The maximum quantity of this product that may be applied for all in-crop applications from ground-cracking to layby combined is 4 quarts per acre per season. NO MORE THAN TWO APPLICATIONS OF THIS PRODUCT MUST BE MADE FROM THE 5-LEAF STAGE THROUGH LAYBY. SEQUENTIAL, OVER-THE-TOP, OR POST-DIRECTED APPLICATIONS OF THIS PRODUCT IN-CROP MUST BE AT LEAST 10 DAYS APART AND COTTON MUST HAVE AT LEAST TWO NODES OF INCREMENTAL GROWTH BETWEEN APPLICATIONS.

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

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

RESTRICTIONS: Allow a minimum of 7 days between application and harvest of cotton. Do not apply this product for preharvest weed control to cotton grown for seed, as a reduction in germination or vigor may occur. DO NOT ADD ADDITIONAL SURFACTANT OR ADDITIVES CONTAINING SURFACTANT TO THIS PRODUCT FOR PREHARVEST APPLICATIONS TO ROUNDUP READY COTTON.

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

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. The use of the over-the-top applications described in this section on other than Roundup Ready Flex cotton will cause crop injury and reduced yields. Do not combine the instructions in this section with those in the "Roundup Ready Cotton" 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 product. Drift of this product from applications made to Roundup Ready Flex cotton onto adjacent fields of post 4-leaf (node) Roundup Ready cotton may cause extensive injury including boll loss, delayed maturity, and/or yield loss.

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

Maximum Application Rates	
Combined total per year for all applications	8 quarts per acre
The total of all Preplant, At-planting, Preemergence applications	5 quarts per acre
The total of all In-crop applications from ground cracking to 60 percent open bolls	6 quarts per acre
Total of all In-Crop applications between layby and 60 percent open bolls	2 quarts per acre
Maximum allowed from 60 percent open bolls to 7 days prior to harvest	2 quarts per acre

See the "PRECAUTIONS" and "RESTRICTIONS" sections under the "ROUNDUP READY CROPS" heading of this label for instructions for use of this product in Roundup Ready crops. See the "USE INFORMATION" section of this label for more information on "Annual Maximum Application Rates." Refer to individual tank mixture product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

Preplant, At-Planting, Preemergence
This product may be applied before, during, or after planting.

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 in the tank mixture is registered for application prior to emergence of cotton.

Caparol, Direx, diuron, Dual MAGNUM, metolachlor, pendimethalin, Reflex, Staple

Read and follow label restrictions and use directions for all products in the tank mix.

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)
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, spray cotton early to eliminate competing weeds. Many perennial weeds will be controlled or suppressed with one or more applications of this product. In general, an initial application of 1 quart per acre on 1- to 3-inch tall annual grass and broadleaf weeds is specified. This product may be applied postemergence at rates up to 1.5 quarts per acre per application. In addition to broadcast applications, post-directed spray equipment may be used to achieve 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 in the tank mixture is registered for application postemergence (in-crop) to cotton.

Assure II, Dual MAGNUM**, Fusilade, metolachlor, Poast Plus, Select MAX, Staple*

Post-directed application to cotton: Aim, Caparol, Chateau, Direx, Envoke, Layby-Pro, pendimethalin, Staple, Valor

Read and follow label restrictions and use directions for all products in the tank mix.

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

RESTRICTIONS: The maximum rate for any single in-crop application of this product is 1.5 quarts per acre made using ground application equipment. I**n-crop application rates above 1 quart per acre made alone or with the addition of other crop chemical products containing surfactant may cause a crop response including leaf speckling or leaf necrosis**. Do not exceed a maximum rate of 1 quart per acre of this product when making applications by air. Between layby and 60 percent open bolls, the maximum combined total rate of this product that may be applied is 2 quarts per acre. The maximum combined total of all applications made from crop emergence to 60 percent open bolls must not exceed 6 quarts per acre. DO NOT ADD ADDITIONAL SURFACTANT OR ADDITIVES CONTAINING SURFACTANT TO THIS PRODUCT FOR OVER-THE-TOP APPLICATIONS TO ROUNDUP READY FLEX COTTON.

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

Preharvest
Up to 2 quarts of this product may be applied for annual and perennial weed control as a broadcast treatment prior to harvest after 60 percent boll crack. Up to 2 quarts of this product may be applied using either aerial or ground application equipment.

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

PRECAUTIONS: Preharvest application is not specified for cotton grown for seed, as a reduction in germination or vigor may occur.

RESTRICTIONS: Allow a minimum of 7 days between application and harvest. DO NOT ADD ADDITIONAL SURFACTANT OR ADDITIVES CONTAINING SURFACTANT TO THIS PRODUCT FOR OVER-THE-TOP APPLICATIONS TO ROUNDUP READY FLEX COTTON.

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

Roundup Ready Soybeans

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

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

See the "PRECAUTIONS" and "RESTRICTIONS" sections under the "ROUNDUP READY CROPS" heading of this label for instructions for use of this product in Roundup Ready crops. See the "USE INFORMATION" section of this label for more information on "Annual Maximum Application Rates." Refer to individual tank mixture product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

Preplant, At-Planting, Preemergence
This product may be applied before, during, or after planting.

TANK MIXTURES: This product may be tank mixed with 2,4-D, Banvel, 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 in the tank mixture is registered for application prior to emergence of soybeans.

Aim, Assure II, Axiom, Blanket, Boundary, Canopy, Classic, Cobra, Command, Command Xtra, Domain, Dual MAGNUM, Dual II MAGNUM, FirstRate, Flexstar, Frontier, Fusion, Gangster, INTRRO, Lexone, Linex, Lorox, metolachlor, Micro-Tech, Outlook, Pendimax, pendimethalin, Pursuit, Pursuit Plus, Python, Reflex, Resource, Scepter, Select, Select MAX, Sencor, Spartan, Squadron, Steel, Treflan, Valor, 2,4-D

Read and follow label restrictions and use directions for all products in the tank mix.

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)
This product may be used to control annual grasses and broadleaf weeds listed on this label in Roundup Ready soybeans. Applications of this product can be made from emergence (cracking) through flowering (R2 stage soybeans). R2 stage soybeans ends when a pod reaches 5 millimeters (3/16 inch) in length at one of the four uppermost nodes on the main stem with a fully developed leaf. Refer to the "ANNUAL WEEDS RATE SECTION" in this label for specified rates for specific annual weeds. In general, an initial application of 1 quart per acre on 2- to 8-inch tall weeds is specified. Weeds will generally be 2 to 8 inch tall, 2 to 5 weeks after planting. If the initial application is delayed and weeds are larger, apply a higher rate of this product. This product may be used up to 2 quarts per acre in any single in-crop application for control of annual weeds and where dense weed populations exist.

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

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

TANK MIXTURES: This product may be tank mixed with the following products and applied postemergence (in-crop) over the top of Roundup Ready soybeans. Ensure that the specific product being used in the tank mixture is registered for application postemergence (in-crop) to soybeans. Read and follow label directions of all products in the tank mixture.

Arrow, Assure II, Basagran, Classic, Cobra, Extreme, FirstRate, Flexstar, Fusilade DX, Fusion, Harmony GT XP, Poast, Poast Plus, Pursuit, Pursuit Plus, Raptor, Reflex, Select, Select MAX, Synchrony STS, Targa, Ultra Blazer.

Read and follow label restrictions and use directions for all products in the tank mix.

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

Preharvest
This product may be applied for weed control prior to harvest of soybeans after pods have set and lost all green color. Up to 1 quart per acre of this product can be applied by aerial or ground application.

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

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

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

Roundup Ready Sugar Beet

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

Maximum Application Rates	
Combined total per year for all applications	8 quarts per acre
The total of all Preplant, At-planting, Preemergence applications	5 quarts per acre
The total of all applications made from emergence to 8-leaf stage	2.5 quarts per acre
Total of all applications made between 8-leaf stage and canopy closure	2 quarts per acre

See the "PRECAUTIONS" and "RESTRICTIONS" sections under the "ROUNDUP READY CROPS" heading of this label for instructions for use of this product in Roundup Ready crops. See the "USE INFORMATION" section of this label for more information on "Annual Maximum Application Rates." Refer to individual tank mixture product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

Preplant, At-Planting, Preemergence
This product may be applied before, during, or after planting.

Postemergence (In-Crop)
This product may be applied over the top of Roundup Ready sugar beets for control of annual grasses and broadleaf weeds from emergence to 30 days prior to harvest. To maximize yield potential, spray sugar beets early to eliminate competing weeds. Up to 4 sequential applications of this product may be made with at least 10 days between applications. Refer to the "ANNUAL WEEDS RATE SECTION" in this label for rate directions for specific annual weeds. This product will control or suppress most perennial weeds. For some perennial weeds, repeat applications may be required to eliminate crop competition throughout the growing season.

RESTRICTIONS: The combined total application from crop emergence through harvest must not exceed 4.5 quarts per acre. The maximum rate for any single application from crop emergence until the 8-leaf stage is 1.5 quarts per acre. The maximum rate for any single application between the 8-leaf stage and canopy closure is 1 quart per acre. Allow a minimum of 30 days between last application and sugar beet harvest. Tank mixtures of this product with herbicides, insecticides, or fungicides may result in crop injury or reduced weed control.

NON-CROP USES AROUND THE FARMSTEAD

TYPES OF APPLICATIONS: Weed Control, Trim-and-Edge, Greenhouse/Shadehouse, Chemical Mowing, Cut Stump, Habitat Management.

Weed Control, Trim-And-Edge

This product may be used to control annual weeds, perennial weeds, and woody brush found in any part of the farmstead including around building foundations and equipment storage areas, along and in fences, in dry ditches and canals, along ditchbanks, farm roads, rangeland, rights-of-way, shelterbelts, and prior to planting landscape ornamentals. Refer to the "ANNUAL WEEDS" and "PERENNIAL WEEDS" and "WOODY BRUSH AND TREES RATE SECTIONS" in this label for treatment rates. For application through backpack sprayers, handguns, or other high-volume spray-to-wet applications, see the "Annual Weeds – Hand-Held or Backpack Equipment" section of this label for further instructions.

TANK MIXTURES: This product may be tank mixed with the following products provided that the specific product used is registered for treatment of these non-crop sites. Refer to the individual product labels for approved farmstead sites and application rates. For more information, see the "TANK MIXTURES" and "TANK MIXING PROCEDURES" sections of this label.

Arsenal	Endurance	Karmex DF	EC	Sahara	Vanquish
atrazine	Escort	Krovar I DF	Pendulum WDG	Simazine	Velpar DF
Barricade 65WG	Gallery 75DF	Outrider	Plateau	Surflan AS	Velpar L
Crossbow L	Garlon 3A	Oust	Princep DF	Surflan WDG	2,4-D
Diuron	Garlon 4	Pendimethalin	Princep 4L	Telar	
Dicamba	Goal 2XL	Pendulum 3.3	Ronstar 50 WP	Transline	

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

Greenhouse/Shadehouse

This product may be used to control weeds in and around greenhouses and shadehouses.

PRECAUTIONS, RESTRICTIONS: Desirable vegetation must not be present during application. Air circulation fans must be turned off. Do not use in residential greenhouses.

Chemical Mowing

This product will suppress perennial grasses listed in this section to serve as a substitute for mowing. Use 6 fluid ounces of this product per acre when treating Kentucky bluegrass. Use 8 fluid ounces of this product per acre when treating tall fescue, fine fescue, orchardgrass, bahiagrass, or quackgrass covers. Use 16 fluid ounces of this product per acre when treating Bermudagrass. Use 64 fluid ounces of this product per acre when treating torpedograss or paragrass. Apply treatments in 10 to 20 gallons of spray solution per acre. Chemical mowing applications may be made along farm ditches and other parts of farmsteads.

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

Cut Stump

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

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	Reed, giant	Tan oak
Eucalyptus	Pepper, brazilian	Salt-cedar	Willow
Madrone	Pine, Austrian	Sweetgum	

PRECAUTIONS: Do not make cut stump applications when the roots of desirable woody brush or trees may be grafted to the roots of the cut stump. 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 APPLICATIONS: Habitat Restoration and Maintenance, Wildlife Food Plots.

Habitat Restoration and Maintenance

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 broad-spectrum vegetation control requirements in habitat management areas. Spot treatments can be made to selectively remove unwanted plants for habitat maintenance and enhancement.

Wildlife Food Plots

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, including Roundup Ready canola, 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. For specific product instructions for Roundup Ready canola wildlife food plots, see the "ROUNDUP READY CANOLA" section of this label.

RESTRICTIONS: Do not process treated Roundup Ready canola seeds from Roundup Ready canola wildlife food plots for food. Do not graze or feed treated Roundup Ready canola from wildlife food plots to livestock. There are no rotational restrictions for planting any wildlife food species or for allowing native species to repopulate the area following applications of this product.

ANNUAL WEEDS RATE SECTION

When water carrier volumes are between 16 and 40 gallons per acre for ground applications and between 6 and 15 gallons per acre for aerial applications, the following use rates will control the annual weeds listed in the table below:

- 1 quart per acre – grass and broadleaf annual weeds less than 6 inches in height or circumference and vines less than 3 inches in length.
- 3 pints per acre – grass and broadleaf annual weeds 6 to 12 inches in height or circumference and vines 3 to 6 inches in length.
- 2 quarts per acre – grass and broadleaf annual weeds greater than 12 inches in height or circumference and vines greater than 6 inches in length.

WHEN WATER CARRIER VOLUMES ARE BETWEEN 3 AND 15 GALLONS PER ACRE FOR GROUND APPLICATIONS AND BETWEEN 3 AND 5 GALLONS PER ACRE FOR AERIAL APPLICATIONS, USE THE RATES SPECIFIED FOR INDIVIDUAL WEEDS AS FOLLOWS IN THE "ANNUAL WEEDS RATE TABLE (Alphabetically by Species)".

Apply to actively growing annual weeds. Annual weeds are generally easiest to control when they are small.

Older, mature (hardened) annual weed species may require higher rates even if they meet the size requirements.

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

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

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

This product may be used up to 64 fluid ounces per acre where heavy weed densities exist.

Table 2. ANNUAL WEEDS RATE TABLE (Alphabetically by Species)

WEED SPECIES	RATE (fluid ounces per acre)				
	16	24	32	40	48
	Maximum size (in inches)				
Ammannia, purple	3	6	12	-	18
Anoda, spurred	-	2	3	5	8
Barley	18	18+	-	-	-
Barnyardgrass	-	3	6	7	9
Bassia, fivehook	-	-	6	-	-
Beggarweed, Florida	-	5	8	-	-
Bittercress	12	20	-	-	-
Bluegrass, annual	10	-	-	-	-
Bluegrass, bulbous	6	-	-	-	-
Brome, downy[1,2]	6	12	-	-	-
Brome, Japanese	6	12	24	-	-
Browntop panicum	6	8	12	-	24
Buckwheat, wild[3]	-	1	2	-	-
Burcucumber	-	6	12	-	18
Buttercup	12	20	-	-	-
Carolina geranium	-	-	4	-	9
Carpetweed	-	6	12	-	-
Cheat[2]	6	20	-	-	-
Chervil	20	-	-	-	-
Chickweed	-	12	18	-	-
Cocklebur	12	18	24	-	36
Copperleaf, hophornbean	-	2	4	-	6
Copperleaf, Virginia	-	2	4	-	6
Coreopsis, plains	-	6	12	-	18

Table 2. **ANNUAL WEEDS RATE TABLE (Alphabetically by Species)** *(Continued)*

WEED SPECIES	RATE (fluid ounces per acre)				
	16	24	32	40	48
	Maximum size (in inches)				
Corn, volunteer	6	12	20	-	-
Corn speedwell	12	-	-	-	-
Crabgrass	3	6	12	-	-
Crowfootgrass	-	-	6	-	12
Cutleaf evening primrose	-	-	3	-	6
Devilsclaw (unicorn plant)	-	3	6	-	-
Dwarfdandelion	12	-	-	-	-
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, Carolina	10	-	-	-	-
Foxtail, green	12	-	-	-	-
Goatgrass, jointed	6	12	-	-	-
Goosegrass	-	3	6	-	12
Grain sorghum (milo)	6	12	20	-	-
Groundcherry	-	3	6	-	9
Groundsel, common	-	6	10	-	-
Hemp sesbania	-	2	4	6	8
Henbit	-	-	6	-	12
Horseweed/Marestail *(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, annual *(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
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

Table 2. **ANNUAL WEEDS RATE TABLE (Alphabetically by Species)** *(Continued)*

WEED SPECIES	RATE (fluid ounces per acre)				
	16	24	32	40	48
			Maximum size (in inches)		
Ragweed, giant*	-	6	12	-	18
Red rice	-	-	4	-	-
Rye, volunteer/cereal[2]	6	18	18+	-	-
Ryegrass species*	-	-	6	-	12
Sandbur, field	6	12	-	-	-
Sandbur, longspine	6	12	-	-	-
Shattercane	6	12	20	-	-
Shepherdspurse	6	12	-	-	-
Sicklepod	-	2	4	-	8
Signalgrass, broadleaf	-	3	6	7	9
Smartweed, ladysthumb	-	-	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	-	-	-
Swinecress	-	5	12	-	-
Teaweed/Prickly sida	-	2	4	-	6
Texas panicum	6	8	12	-	24
Thistle, Russian[5]	-	6	12	-	-
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	-	-

[1] For control of downy brome in no-till systems, use 24 fluid ounces per acre.
[2] Performance is better if application is made before this weed reaches the boot stage of growth.
[3] Use 24 fluid ounces per acre of this product to control wild buckwheat in the cotyledon to 2-leaf stage. Use 32 fluid ounces per acre to control 2- to 4-leaf wild buckwheat. For improved control of wild buckwheat over 2 inches in size, use sequential treatments of 32 fluid ounces followed by 32 fluid ounces of this product per acre.
[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.
* A glyphosate-resistant biotype has been confirmed. For additional information, refer to the "WEED RESISTANCE MANAGEMENT" section of this label. You may also visit www.weedscience.org or www.weedresistancemanagement.com for more information.

Annual Weeds – Tank Mixtures with 2,4-D, Dicamba, or Tordon 22K

Better control of certain tough weeds can be achieved by tank mixing this product with 0.25 pound of dicamba, 0.5 pound of 2,4-D, or 1 to 2 fluid ounces of Tordon 22K per acre. These other herbicides, combined with the rates of this product specified in the "ANNUAL WEEDS RATE TABLE" above, will control the following weeds up to the maximum height or length indicated: 6" – prickly lettuce, marestail/horseweed, morningglory, kochia (dicamba only), wild buckwheat (Tordon 22K only); 12" – cocklebur, lambsquarters, pigweed, Russian thistle (2,4-D only).

For better control of common ragweed, giant ragweed, Pennsylvania smartweed, or velvetleaf with a maximum height of 6 inches, tank mix this product with 0.5 pound of 2,4-D per acre.

Ensure that the specific product is registered for application at the desired site. Follow all precautions and limitations on the tank mix product's label, including application timing restrictions, soil restrictions, minimum re-cropping interval, and rotational guidelines. Some crop injury may occur if dicamba or Tordon 22K is applied within 45 days of planting.

DO NOT APPLY DICAMBA TANK MIXTURES BY AIR IN CALIFORNIA.

Annual Weeds – Hand-Held or Backpack Equipment

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

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

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

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

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

Applications of 24 to 28 fluid ounces of this product plus 1 to 2 pounds of atrazine per acre will control the following weeds: Barnyardgrass (requires 28 ounces for control), Downy brome, Green foxtail, Lambsquarters, Prickly lettuce, Tansy mustard, Pigweed, Field sandbur, Stinkgrass, Russian thistle, Volunteer wheat, Witchgrass, and Kochia (add 0.12 pound of dicamba for control).

Ensure that the specific product is registered for application at the desired site. Follow all precautions and limitations on the tank mix product's label, including application timing restrictions, soil restrictions, minimum re-cropping interval, and rotational guidelines.

PERENNIAL WEEDS RATE SECTION

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 specified stages.

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

Repeat treatments must be made prior to crop emergence.

Unless otherwise stated, allow 7 or more days after application before tillage. Best results are obtained when soil moisture is adequate for active weed growth.

Table 3. PERENNIAL WEEDS RATE TABLE (Alphabetically by Species)

WEED SPECIES	RATE (Q/A)	WATER VOLUME	HAND-HELD % SOLUTION	COMMENTS
Alfalfa	1	3-10	2%	Make applications after the last hay cutting in the fall. Allow alfalfa to regrow to a height of 6 to 8 inches or more prior to treatment. Applications must be followed with deep tillage at least 7 days after treatment but before soil freeze-up.
Alligatorweed	4	3-20	1.5%	For partial control, apply when most of the plants are in bloom. Repeat applications will be required to achieve control.
Anise (fennel)	-	-	1-2%	Apply as a spray-to-wet treatment.
Bahiagrass	3-5	3-20	2%	

(continued)

Table 3. **PERENNIAL WEEDS RATE TABLE (Alphabetically by Species)** *(Continued)*

WEED SPECIES	RATE (Q/A)	WATER VOLUME	HAND-HELD % SOLUTION	COMMENTS
Bentgrass	3-5	10-20	2%	For suppression in grass seed production areas. For ground applications only. Ensure entire crown area has resumed growth prior to a fall application. Bentgrass must have at least 3 inches of growth. Tillage prior to treatment must be avoided. Tillage 7 to 10 days after application is specified for best results.
Bermudagrass	3-5	3-20	2%	For control, apply 5 quarts of this product per acre. For partial control, apply 3 quarts per acre. Treat when Bermudagrass is actively growing and seedheads are present. Re-treatment may be necessary to achieve control.
Bermudagrass, water (knotgrass)	1-1.5	5-10	2%	Apply 3 pints of this product in 5 to 10 gallons of water per acre. Apply when water Bermudagrass is 12 to l8 inches in length. Allow 7 or more days before tilling, flushing, or flooding the field. Fall applications only: Apply 1 quart this product in 5 to 10 gallons of water per acre. Fallow fields must be tilled prior to application. Apply prior to frost on water Bermudagrass that is 12 to 18 inches in length. This product is not registered in California for use on water Bermudagrass.
Bindweed, field	0.5-5	3-20	2%	Do not treat when weeds are under drought stress, as good soil moisture is necessary for active growth. For control, apply 4 to 5 quarts of this product per acre west of the Mississippi River and 3 to 4 quarts per acre east of the Mississippi River. Apply when the weeds are at or beyond full bloom. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost. Also for control, apply 2 quarts of this product plus 0.5 pound of dicamba in 10 to 20 gallons of water per acre. Do not apply by air. For suppression on irrigated agricultural land, apply 1 to 2 quarts of this product plus 1 pound of 2,4-D in 10 to 20 gallons of water per acre with ground equipment only. Applications must be made following harvest or in fall fallow ground when the bindweed is actively growing and the majority of runners are 12 inches or more in length. Irrigate at least once to promote active bindweed growth. For suppression, apply 1 pint of this product plus 0.5 pound of 2,4-D in 3 to 10 gallons of water per acre for ground applications and 3 to 5 gallons of water per acre for aerial applications. Apply by air in fallow and reduced tillage systems only. Applications must be delayed until maximum emergence has occurred and when vines are between 6 to 18 inches in length. In California only, apply 1 to 5 quarts of this product per acre. Actual rate needed for suppression or control will vary within this range depending on local conditions. For suppression on irrigated land where annual tillage is performed, apply 1 quart of this product in 3 to10 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.

(continued)

Table 3. **PERENNIAL WEEDS RATE TABLE (Alphabetically by Species)** *(Continued)*

WEED SPECIES	RATE (Q/A)	WATER VOLUME	HAND-HELD % SOLUTION	COMMENTS
Bluegrass, Kentucky	1-2	3-40	2%	Apply 2 quarts of this product in 10 to 40 gallons of water per acre when most plants have reached boot to early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1 to 1.5 quarts of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.
Blueweed, Texas	3-5	3-40	2%	Apply 4 to 5 quarts of this product per acre west of the Mississippi River and 3 to 4 quarts per acre east of the Mississippi River. Apply when plants are at or beyond full bloom. New leaf development indicates active growth. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost.
Brackenfern	3-4	3-40	1-1.5%	Apply to fully expanded fronds that are at least 18 inches long.
Bromegrass, smooth	1-2	3-40	2%	Apply 2 quarts of this product in 10 to 40 gallons of water per acre when most plants have reached boot to early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1 to 1.5 quarts of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.
Bursage, woollyleaf	-	3-20	2%	For control, apply 2 quarts of this product plus 0.5 pound of dicamba per acre. For partial control, apply 1 quart of this product plus 1/2 pound of dicamba per acre. Apply when plants are producing new active growth which has been initiated by moisture for at least 2 weeks and when plants are at or beyond flowering.
Canarygrass, reed[2]	2-3	3-40	2%	
Cattail[2]	3-5	3-40	2%	
Clover; red or white[1]	3-5	3-20	2%	Also for control, apply 16 to 32 fluid ounces of this product plus 0.5 to 1 pound of 2,4-D in 3 to 10 gallons of water per acre.
Cogongrass	3-5	10-40	2%	Apply when cogongrass is at least 18 inches tall in late summer or fall. Due to uneven stages of growth and the dense nature of vegetation preventing good spray coverage, repeat treatments may be necessary to achieve control.
Dallisgrass[2]	3-5	3-20	2%	
Dandelion[1]	3-5	3-20	2%	Also for control, apply 1 pint of this product plus 0.5 pound of 2,4-D in 3 to 10 gallons of water per acre.
Dock, curly[1]	3-5	3-40	2%	Also for control, apply 1 to 2 pints of this product plus 0.5 to 1 pound of 2,4-D in 3 to 10 gallons of water per acre.
Dogbane, hemp	4	3-40	2%	Apply when most plants have reached the late bud to flower stage of growth. Following crop harvest or mowing, allow weeds to regrow to a mature stage prior to treatment. For best results, apply in late summer or fall. For suppression, apply 1 pint of this product plus 0.5 pound of 2,4-D in 3 to 10 gallons of water per acre for ground applications and 3 to 5 gallons of water per acre for aerial applications. Delay applications until maximum emergence of dogbane has occurred.
Fescue (except tall)[1]	3-5	3-20	2%	

(continued)

Table 3. **PERENNIAL WEEDS RATE TABLE (Alphabetically by Species)** *(Continued)*

WEED SPECIES	RATE (Q/A)	WATER VOLUME	HAND-HELD % SOLUTION	COMMENTS
Fescue, tall	1-3	3-40	2%	Apply 3 quarts of this product per acre when most plants have reached boot to early seedhead stage of development. Fall applications only: Apply 1 quart of this product in 3 to 10 gallons of water per acre. Apply to fescue in the fall when plants have 6 to 12 inches of new growth. A sequential application of 1 pint per acre of this product will improve long-term control and control seedlings germinating after fall treatments or the following spring.
Guineagrass	2-3	3-40	1%	Apply when most plants have reached at least the 7-leaf stage of growth. Ensure thorough coverage when using hand-held equipment. In Texas and ridge of Florida, use 2 quarts of this product per acre for control. In the flatwoods region of Florida, 3 quarts of this product per acre are required for control.
Horsenettle[1]	3-5	3-20	2%	
Horseradish	4	3-40	2%	Apply when most plants have reached the late bud to flower stage of growth. For best results, apply in late summer or fall.
Iceplant[1]	-	-	1.5-2%	Thorough coverage is necessary for best control.
Jerusalem artichoke[1]	3-5	3-20	2%	
Johnsongrass	0.5-3	3-40	1%	In annual cropping systems, apply 1 to 2 quarts of this product per acre. Apply 1 quart of this product in 3 to 10 gallons of water per acre. Use 2 quarts of this product when applying 10 to 40 gallons of water per acre. In non-crop areas or areas where annual tillage (no-till) is not practiced, apply 2 to 3 quarts of this product in 10 to 40 gallons of water per acre. For best results, apply when most plants have reached the boot to head stage of growth or in the fall prior to frost. Allow 7 or more days after application before tillage. Do not tank mix with residual herbicides when using 1 quart of this product per acre. For burndown of Johnsongrass, apply 1 pint of this product in 3 to 10 gallons of water per acre before the plants reach a height of 12 inches. For this use, allow at least 3 days after treatment before tillage. Spot treatment (partial control or suppression) – Apply a 1-percent solution of this product when Johnsongrass is 12 to 18 inches in height. Coverage must be uniform and complete.
Kikuyugrass	2-3	3-40	2%	Spray when most kikuyugrass is at least 8 inches in height (3- or 4-leaf stage of growth). Allow 3 or more days after application before tillage.
Knapweed	4	3-40	2%	Apply when most plants have reached the late bud to flower stage of growth. For best results, apply in late summer or fall.
Lantana	-	-	1-1.25%	Apply at or beyond the bloom stage of growth. Use the higher application rate for plants that have reached the woody stage of growth.
Lespedeza[1]	3-5	3-20	2%	
Milkweed, common	3	3-40	2%	Apply when most plants have reached the late bud to flower stage of growth.

(continued)

Table 3. **PERENNIAL WEEDS RATE TABLE (Alphabetically by Species)** *(Continued)*

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

(continued)

Table 3. **PERENNIAL WEEDS RATE TABLE (Alphabetically by Species)** *(Continued)*

WEED SPECIES	RATE (Q/A)	WATER VOLUME	HAND-HELD % SOLUTION	COMMENTS
Phragmites	3-5	10-40	1-2%	For partial control and best results, treat during late summer or fall when plants are actively growing and in full bloom. Treatment before or after this stage may result in reduced control. Due to the dense nature of this vegetation that may prevent good spray coverage or uneven stages of growth, repeat treatments may be necessary to achieve control. Visual control symptoms will be slow to develop.
Poison hemlock	-	-	1-2%	For hand-held, apply as a spray-to-wet treatment. Optimum results are obtained when plants are treated at the bud to full bloom stage of growth. Thorough coverage is necessary for best control.
Pokeweed, common	1	3-40	2%	Apply to actively growing plants up to 24 inches tall.
Quackgrass	1-3	3-40	2%	In annual cropping systems or in pastures and sods followed by deep tillage: Apply 1 quart of this product in 3 to 10 gallons of water per acre. For 10 to 40 gallons of water per acre, apply 2 quarts of this product. Do not tank mix with residual herbicides when using the 1-quart rate. Spray when quackgrass is 6 to 8 inches in height. Do not till between harvest and fall applications or in fall or spring prior to spring application. Allow 3 or more days after application before tillage. In pastures or sods, use a moldboard plow for best results. In pastures, sods, or non-crop areas where deep tillage does not follow application: Apply 2 to 3 quarts of this product in 10 to 40 gallons of water per acre when the quackgrass is greater than 8 inches tall.
Redvine	0.75-2	5-10	2%	For suppression, apply 1.5 pints of this product per acre at each of two applications 7 to 14 days apart or a single application of 2 quarts per acre. Apply specified rates in 5 to 10 gallons of water per acre. Apply in late September or early October to plants that are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.
Reed, giant	-	-	2%	Best results are obtained when applications are made in late summer to fall.
Ryegrass, perennial	1-3	3-40	1%	In annual cropping systems, apply 1 to 2 quarts of this product per acre. Apply 1 quart of this product in 3 to 10 gallons of water per acre. Use 2 quarts of this product when applying 10 to 40 gallons of water per acre. In non-crop areas or areas where annual tillage (no-till) is not practiced, apply 2 to 3 quarts of this product in 10 to 40 gallons of water per acre. For best results, apply when most plants have reached the boot to head stage of growth or in the fall prior to frost. Do not tank mix with residual herbicides when using 1 quart of this product per acre.
Smartweed, swamp[1]	3-5	3-40	2%	Also for control, apply 1 pint of this product plus 0.5 pound of 2,4-D in 3 to 10 gallons of water per acre in the late summer or fall.

(continued)

Table 3. **PERENNIAL WEEDS RATE TABLE (Alphabetically by Species)** *(Continued)*

WEED SPECIES	RATE (Q/A)	WATER VOLUME	HAND-HELD % SOLUTION	COMMENTS
Sowthistle, perennial	2-3	3-40	2%	Apply when most plants are at or beyond the bud stage of growth. After harvest, mowing, or tillage in the late summer or fall, allow at least 4 weeks for initiation of active growth and rosette development prior to the application of this product. Fall treatments must be applied before a killing frost. Allow 3 or more days after application before tillage.
Spurge, leafy	-	3-10	2%	For suppression, apply 1 pint of this product plus 0.5 pound of 2,4-D in 3 to 10 gallons of water per acre in the late summer or fall. If mowing has occurred prior to treatment, apply when most plants are 12 inches tall.
Starthistle, yellow	2	10-40	2%	Best results are obtained when applications are made during the rosette, bolting, and early flower stages.
Sweet potato, wild	-	-	2%	For partial control, apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.
Thistle, artichoke	-	-	2%	For partial control, apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.
Thistle, Canada	2-3	3-40	2%	Apply when most plants are at or beyond the bud stage of growth. After harvest, mowing, or tillage in the late summer or fall, allow at least 4 weeks for initiation of active growth and rosette development prior to the application of this product. Fall treatments must be applied before a killing frost. Allow 3 or more days after application before tillage. For suppression in the spring, apply 1 quart of this product or 1 pint of this product plus 0.5 pound of 2,4-D in 3 to 10 gallons of water per acre. Allow rosette regrowth to a minimum of 6 inches in diameter before treating. Applications can be made as long as leaves are still green and plants are actively growing at the time of application. Allow 3 or more days after application before tillage.
Timothy[2]	2-3	3-40	2%	
Torpedograss	4-5	3-40	2%	For partial control, apply when most plants are at or beyond the seedhead stage of growth. Repeat applications will be required to achieve control. Fall treatments must be applied before frost.
Trumpetcreeper	2	5-10	2%	For partial control, apply in late September or October to plants that are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.
Vaseygrass[2]	3-5	3-20	2%	
Velvetgrass[2]	3-5	3-20	2%	
Wheatgrass, western[2]	2-3	3-40	2%	

[1] Apply when most plants have reached the early bud stage of growth.
[2] Apply when most plants have reached the early heading stage of growth.

WOODY BRUSH AND TREES RATE SECTION

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.

Unless otherwise directed, apply broadcast treatments in 3 to 40 gallons of water per acre. Ensure thorough coverage when using hand-held equipment. Symptoms may not appear prior to frost or senescence with fall treatments.

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

Table 4. WOODY BRUSH AND TREES RATE TABLE (Alphabetically by species)

WEED SPECIES	RATE (QT/A)	WATER VOLUME (GPA)	HAND-HELD % SOLUTION	COMMENTS
Alder	3-4	3-40	1-1.5%	
Ash[1]	2-5	3-40	1-2%	
Aspen, quaking	2-3	3-40	1-1.5%	
Bearmat (Bearclover)[1]	2-5	3-40	1-2%	
Beech[1]	2-5	3-40	1-2%	
Birch	2-3	3-40	1-1.5%	
Blackberry	3-4	10-40	1-1.5%	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 killing frost or as long as stems are green, apply 3 to 4 quarts of this product in 10 to 40 gallons of water per acre.
Blackgum	2-5	3-40	1-2%	
Bracken	2-5	3-40	1-2%	
Broom; French, Scotch	--	--	1.5-2%	
Buckwheat,California[1,2]	--	--	1-2%	
Cascara[1]	2-5	3-40	1-2%	
Catsclaw[1]	--	--	1-1.5%	
Ceanothus[1]	2-5	3-40	1-2%	
Chamise[2]	--	--	1%	
Cherry; bitter, black, pin	2–3	3-40	1-1.5%	
Coyote brush	--	--	1.5-2%	Apply when at least 50 percent of the new leaves are fully developed.
Dogwood[1]	2-5	3-40	1-2%	
Elderberry	2-3	3-40	1-1.5%	
Elm[1]	2-5	3-40	1-2%	
Eucalyptus	--	--	2%	For control of eucalyptus resprouts, apply when resprouts are 6- to 12-feet tall. Ensure complete coverage. Avoid application to drought-stressed plants.
Florida holly (Brazilian Peppertree)[1]	2-5	3-40	1-2%	

(continued)

Table 4. **WOODY BRUSH AND TREES RATE TABLE (Alphabetically by species)** *(Continued)*

WEED SPECIES	RATE (QT/A)	WATER VOLUME (GPA)	HAND-HELD % SOLUTION	COMMENTS
Gorse[1]	2-5	3-40	1-2%	
Hasardia[1,2]	--	--	1-2%	
Hawthorn	2-3	3-40	1-1.5%	
Hazel	2-3	3-40	1-1.5%	
Hickory[1]	2-5	3-40	1-2%	
Honeysuckle	3-4	3-40	1-1.5%	
Hornbeam, American[1]	2-5	3-40	1-2%	
Kudzu	4-5	3-40	2%	Repeat applications may be required to achieve control.
Locust, black[1]	2-4	3-40	1-2%	
Madrone resprouts[1]	--	--	2%	Apply to resprouts that are 3- to 6-feet tall. Best results are obtained with spring/early summer treatments.
Manzanita[1]	2-5	3-40	1-2%	
Maple, red	2-4	3-40	1-1.5%	Apply a 1- to 1.5-percent solution when at least 50 percent of the new leaves are fully developed. For partial control, apply 2 to 4 quarts of this product per acre.
Maple, sugar	-	-	1-1.5%	Apply when at least 50 percent of the new leaves are fully developed.
Monkey flower[1,2]	-	-	1-2%	
Oak, black, white[1]	2-4	3-40	1-2%	
Oak, post	3-4	3-40	1-1.5%	
Oak, northern	-	-	1-1.5%	Apply when at least 50 percent of the new pin leaves are fully developed.
Oak; southern red	2-3	3-40	1-1.5%	
Persimmon[1]	2-5	3-40	1-2%	
Pine	2-5	3-40	1-2%	
Poison ivy/Poison oak	4-5	3-40	2%	Repeat applications may be required to achieve control. Fall treatments must be applied before leaves lose green color.
Poplar, yellow[1]	2-5	3-40	1-2%	
Redbud, eastern	2-5	3-40	1-2%	
Rose, multiflora	2	3-40	1%	Treatments must be made prior to leaf deterioration by leaf-eating insects.
Russian olive[1]	2-5	3-40	1-2%	
Sage, black[1,2]	-	-	1%	
Sage, white[1]	2-5	3-40	1-2%	
Sage brush, California[2]	-	-	1%	
Salmonberry	2-3	3-40	1-1.5%	
Salt-cedar	2-5	3-40	1-2%	
Sassafras[1]	2-5	3-40	1-2%	
Sourwood[1]	2-5	3-40	1-2%	
Sumac; poison, smooth, winged[1]	2-4	3-40	1-2%	

(continued)

Table 4. **WOODY BRUSH AND TREES RATE TABLE (Alphabetically by species)** *(Continued)*

WEED SPECIES	RATE (QT/A)	WATER VOLUME (GPA)	HAND-HELD % SOLUTION	COMMENTS
Sweetgum	2-3	3-40	1-1.5%	
Swordfern[1]	2-5	3-40	1-2%	
Tallowtree, Chinese[2]	--	--	1%	
Tan oak resprouts[1]	--	--	2%	Apply to resprouts that are less than 3- to 6-feet tall. Best results are obtained with fall applications.
Thimbleberry	2-3	3-40	1-1.5%	
Tobacco, tree[1]	--	--	1-2%	
Trumpetcreeper	2-3	3-40	1-1.5%	
Vine maple[1]	2-5	3-40	1-2%	
Virginia creeper	2-5	3-40	1-2%	
Waxmyrtle, Southern[1]	2-5	3-40	1-2%	
Willow	3-4	3-40	1-1.5%	

[1] Partial Control.
[2] Thorough coverage of foliage is necessary for best results.

INDUSTRIAL, TURF, AND ORNAMENTAL SITES

Unless otherwise specified, applications may be made to control any weeds listed in the "WEEDS CONTROLLED" section of this label. Refer to the "APPLICATION EQUIPMENT AND TECHNIQUES" section for detailed instructions on different application methods.

Non-crop Areas, Industrial Sites

Use in areas including airports, apartment complexes, commercial sites, Conservation Reserve Program (CRP) areas, ditch banks, driveways, dry ditches, dry canals, fencerows, golf courses, greenhouses, industrial sites, landscape areas, lumber yards, manufacturing sites, municipal sites, natural areas, office complexes, ornamentals, parks, parking areas, pastures, petroleum tank farms and pumping installations, plant nurseries, public areas, railroads, rangeland, rights-of-way, roadsides, shadehouses, sod or turf seed farms, storage areas, sports complexes, substations, turfgrass areas, utility sites, warehouse areas, and wildlife management areas.

Weed Control, Trim-and-Edge, Bare Ground

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

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

TANK MIXTURES: This product may be tank mixed with the following products, provided that the specific product is registered for use on such non-crop sites. Refer to these products' labels for approved non-crop sites and application rates.

2,4-D	dicamba	Goal 2XL	Outrider	Princep™ 4L	Telar™
Arsenal™	diuron	Karmex™ DF	Pendulum WDG	Princep™ DF	Transline
atrazine	Endurance™	Krovar™ I DF	Pendulum™ 3.3	Ronstar™ 50WP	Vanquish
Barricade™	Escort™	Landmark II MP	EC	Sahara™	Velpar DF
65WG	Gallery 75 DF	Milestone	pendimethalin	simazine	Velpar L
Clarity	Garlon 4	Oust	Plateau™	Surflan™ AS	
Crossbow L	Garlon™ 3A	Oust XP	Poast	Surflan WDG	

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

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

For control or partial control of the following perennial weeds, apply 1 to 2 quarts of this product plus 2 to 4 ounces of Oust or Oust XP per acre.

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

Chemical Mowing – Perennials
This product will suppress perennial grasses listed in this section to serve as a substitute for mowing. Use 8 fluid ounces of this product per acre when treating tall fescue, fine fescue, orchardgrass, quackgrass, or reed canarygrass covers. Use 6 fluid ounces of this product per acre when treating Kentucky bluegrass. Apply treatments in 10 to 40 gallons of spray solution per acre.

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

Chemical Mowing – Annuals
For growth suppression of some annual grasses such as annual ryegrass, wild barley, and wild oats growing in coarse turf on roadsides or other industrial areas, apply 4 to 5 fluid ounces of this product in 10 to 40 gallons of spray solution per acre.

Applications must be made when annual grasses are actively growing and before the seedheads are in the boot stage of development. Treatments may cause injury to the desired grasses.

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

Apply 8 to 64 fluid ounces of this product per acre. Apply the specified rates in 10 to 40 gallons of water per acre. Use only in areas where Bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated.

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

Actively Growing Bermudagrass
This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing Bermudagrass. DO NOT apply more than 16 fluid ounces of this product per acre in highly maintained turfgrass areas. DO NOT apply tank mixtures of this product plus Oust or Oust XP in highly maintained turfgrass areas. For further uses, refer to the "ROADSIDES" section of this label, which gives rates for actively growing Bermudagrass treatments. Use only in areas where some temporary injury or discoloration can be tolerated.

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

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

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

RESTRICTIONS: Do not disturb soil or underground plant parts before treatment. Tillage or renovation techniques such as vertical mowing, coring, or slicing must be delayed for 7 days after application to allow translocation into underground plant parts. If application rates total 3 quarts per acre or less, no waiting period between treatment and feeding or livestock grazing is required. If the rate was greater than 3 quarts per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

Railroads

All of the methods of application described in the "NON-CROP AREAS AND INDUSTRIAL SITES" section may be utilized along railroads.

Bare Ground, Ballast and Shoulders, Crossings, Spot Treatment
This product may be used to maintain bare ground on railroad ballast and shoulders. Repeat applications of this product may be used, as weeds emerge, to maintain bare ground. This product may be used to control tall-growing weeds to improve line-of-sight at railroad crossings and reduce the need for mowing along rights-of-way. For crossing applications, up to 80 gallons of spray solution per acre may be used.

TANK MIXTURES: This product may be tank mixed with the following products for ballast, shoulder, spot, bare ground, and crossing treatments provided that the specific product is registered for use on such non-crop sites:

Arsenal	Escort	Hyvar™ X	Oust XP	Spike™ 80 DF	Velpar DF
atrazine	Escort XP	Hyvar X-L	Outrider	Telar DF	Velpar L
dicamba	Garlon 3A	Krovar I DF	Sahara DG	Transline	2,4-D
diuron	Garlon 4	Oust	simazine	Vanquish	

Brush Control
This product may be used to control woody brush and trees on railroad rights-of-way. Apply 4 to 10 quarts of this product per acre as a broadcast spray using boom-type or boomless nozzles. Up to 80 gallons of spray solution per acre maybe used. Apply a 0.75- to 2-percent solution of this product when using high-volume spray-to-wet applications. Apply a 5- to 10-percent solution of this product when using low-volume directed sprays for spot treatment.

TANK MIXTURES: This product may be mixed with the products listed above in this section for enhanced control of woody brush and trees along railroads, provided that the specific product is registered for use on such non-crop sites.

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

Bahiagrass	Bluestem, silver	Fescue, tall	Johnsongrass	Trumpetcreeper	Vaseygrass

This product may be tank mixed with Oust or Oust XP. If tank mixed, use no more than 1 to 3 pints of this product with 1 to 2 ounces of Oust or Oust XP per acre. Use the lower rates of each product to control annual weeds less than 6 inches in height (or runner length) that are listed in this label and the Oust or Oust XP label. Use the higher rates as annual weeds increase in size and approach the flower or seedhead stages. These rates will also provide partial control of the following perennial weeds:

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

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

Roadsides
All of the methods of application described in the "NON-CROP AREAS AND INDUSTRIAL SITES" section may be utilized along roadsides.

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

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

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

TANK MIXTURES: This product may be tank mixed with the following products for shoulder, guardrail, spot, and bare ground treatments:

atrazine	Endurance	Landmark II	Oust	WDG	50WP	Vanquish
Clarity	Escort	MP	Outrider	Plateau	Sahara	2,4-D
Crossbow L	Escort XP	Landmark	Pendulum	Princep DF	simazine	
dicamba	Gallery 75DF	MP	3.3 EC	Princep 4L	Surflan	
diuron	Krovar I DF	Landmark XP	Pendulum	Ronstar	Telar	

See the "MIXING" section of this label for instructions for tank mixing.

Release of Bermudagrass or Bahiagrass

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

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

TANK MIXTURES: This product may also be tank mixed with Outrider, Oust, or Oust XP for residual control. These tank mixtures may delay greenup.

Apply 8 to 64 fluid ounces of this product in a tank mix with 0.75 to 1.3 ounces of Outrider per acre.

Read and follow all label directions for Outrider.

Apply 8 to 64 fluid ounces of this product per acre alone or in a tank mixture with 0.25 to 1 ounce per acre of Oust or Oust XP in 10 to 40 gallons of water per acre. Use only in areas where Bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated. To avoid delays in greenup and minimize injury, add no more than 1 ounce of Oust or Oust XP per acre on Bermudagrass and no more than 0.5 ounce of Oust or Oust XP per acre on bahiagrass and avoid treatments when these grasses are in a semi-dormant condition.

Actively Growing Bermudagrass
This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing Bermudagrass. Apply 1 to 3 pints of this product in 10 to 40 gallons of water per acre. Use the lower rate when treating annual weeds below 6 inches in height (or runner length). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation. These rates will also provide partial control of the following perennial species:

Bahiagrass	Bluestem, silver	Fescue, tall	Johnsongrass	Trumpetcreeper	Vaseygrass

TANK MIXTURES: This product may be tank mixed with Outrider for control or partial control of Johnsongrass and other weeds listed in the Outrider label. Use 9 to 32 fluid ounces of this product with 0.75 to 1.3 ounces of Outrider per acre. Use the higher rates of both products for control of perennial weeds or annual weeds greater than 6 inches in height.

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

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

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

Actively Growing Bahiagrass
For suppression of vegetative growth and seedhead inhibition of bahiagrass for approximately 45 days, apply 6 fluid ounces of this product in 10 to 40 gallons of water per acre. Apply 1 to 2 weeks after full greenup or after mowing to a uniform height of 3 to 4 inches. This application must be made prior to seedhead emergence.

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

TANK MIXTURES: This product may be tank mixed with Outrider for control or partial control of Johnsongrass and other weeds listed in the Outrider label. Use 6 fluid ounces of this product with 0.75 to 2 ounces of Outrider per acre. Use the higher rates of both products for control of perennial weeds or annual weeds greater than 6 inches in height. Use only on well-established bahiagrass.

A tank mixture of this product plus Oust or Oust XP may be used. Apply 6 fluid ounces of this product plus 0.25 ounce of Oust or Oust XP per acre 1 to 2 weeks following an initial spring mowing. Make only one application per year.

Forestry Site Preparation

This product is specified for the control or partial control of woody brush, trees, and herbaceous weeds in forestry. This product is also specified for use in preparing or establishing wildlife openings within these sites and maintaining logging roads.

This product is specified for use in site preparation prior to planting any tree species including Christmas trees, eucalyptus, hybrid tree cultivars, and silvicultural nursery sites.

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

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

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

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.

Any specified rate of this product may be used in a tank mix with the following products for forestry site preparation.

Arsenal Applicators' Concentrate	Escort or Escort XP	Garlon 4A	Oust or Oust XP
Chopper	Garlon 3A	Landmark XP	Westar

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

Do not apply this product as an over-the-top broadcast spray for forestry conifer or hardwood release unless otherwise specified on this label or in separate supplemental labeling for this product.

Pastures

This product may be applied to any pasture grass *(Gramineae* family) including bahiagrass, Bermudagrass, bluegrass, brome, fescue, guineagrass, kikuyugrass, orchardgrass, pangola grass, ryegrass, timothy, and wheatgrass. Application can be made as a spot treatment, wiper application, preplant, preemergence, pasture renovation, or postemergent broadcast.

Preplant, Preemergence, Pasture Renovation
This product may be applied for weed control prior to planting or emergence of forage grasses. This product may also be applied to control perennial pasture species listed on this label prior to replanting.

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

Spot Treatment, Wiper Application
This product may be applied in pastures as a spot treatment or over the top of desirable grasses using wiper applicators to control tall weeds. Applications may be repeated in the same area at 30-day intervals.

For spot treatments or wiper application methods using rates of 3 quarts of this product per acre or less, the entire field or any portion of it may be treated. When spot treatments or wiper application are made using rates above 3 quarts of this product per acre, no more than 10 percent of the total pasture may be treated at any one time. To achieve maximum performance, remove domestic livestock before application and wait 7 days after application before grazing livestock or harvesting for feed.

Postemergent Weed Control (Broadcast Treatments)
This product may be applied to pastures to suppress competitive growth and seed production of annual weeds and undesirable vegetation in pastures. For selective applications with broadcast spray equipment, apply 12 to 16 fluid ounces of this product per acre in early spring before desirable perennial grasses break dormancy and initiate green growth. Late fall applications can be made after desirable perennial grasses have reached dormancy.

Some stunting of perennial grasses will occur if broadcast applications are made when plants are not dormant. Use of higher application rates will cause stand reductions. No waiting period is required between application and grazing or harvesting for feed. Do not apply more than 3 quarts of this product per acre per year onto pasture grasses except for renovation uses as described previously in this section.

Rangelands

This product will control or suppress many annual weeds growing in perennial cool- and warm-season grass rangelands, pastures, and industrial sites. Preventing weed seed production is critical to the successful control of annual grassy weeds invading these perennial grass sites. Follow-up applications in sequential years should eliminate most of the viable seeds. Grazing of treated areas must be delayed to encourage growth of desirable perennials. Allowing desirable perennials to flower and reseed in the treated area will encourage successful transition.

Bromus: This product may be used to control or suppress downy brome *(Bromus tectorum),* Japanese brome *(Bromus japonicus),* soft chess *(Bromus mollis),* cheatgrass *(Bromus secalinus),* cereal rye, and jointed goatgrass found in rangeland pastures and industrial sites. Apply 8 to 16 fluid ounces of this product per acre on a broadcast basis.

For best results, treatment must coincide with early seedhead emergence of the most mature plants. Delaying the application until this growth stage will maximize the emergence of other weedy grass flushes. Applications must be made to the same site each year until seed banks are depleted and the desirable perennial grasses can become re-established on the site.

Medusahead: To control or suppress medusahead, apply 16 fluid ounces of this product per acre at the 3-leaf stage when plants are actively growing. Delaying applications beyond this stage will result in reduced or unacceptable control. Repeat applications in subsequent years may be necessary to eliminate the seedbank before re-establishing desirable perennial grasses. Applications may be made in the fall or spring.

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

Spot Treatment, Wiper Application
This product may be applied in rangeland, pastures, or industrial sites as a spot treatment, or over the top of desirable grasses using wiper applicators to control tall weeds. Applications may be repeated in the same area at 30-day intervals.

For spot treatments or wiper application methods using rates of 3 quarts of this product per acre or less, the entire site or any portion of it may be treated. When spot treatments or wiper applications are made using rates above 3 quarts of this product per acre, no more than 10 percent of the total site may be treated at any one time. To achieve maximum performance, remove domestic livestock before application and wait 7 days after application before grazing livestock or harvesting for feed.

Conservation Reserve Program (CRP)

This product may be used for renovation (rotating out of CRP), site preparation, postemergence weed control in dormant CRP grasses, or wiper application on CRP land.

Renovation (Rotating out of CRP), Site Preparation
This product may be used to prepare CRP land for crop production. Refer to Federal, State, or local use guides for CRP renovation directions.

Postemergence Weed Control in Dormant CRP Grasses, Wiper Application
Apply this product to suppress competitive growth and seed production of undesirable vegetation on CRP land. Applications may be made using wiper applicators to control tall weeds or as a broadcast or spot treatment to dormant CRP grasses. For selective applications with broadcast spray equipment, apply 8 to 12 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.

Some stunting of CRP perennial grasses will occur if broadcast applications are made when plants are not dormant. No waiting period is required between application and grazing or harvesting for feed. Do not apply more than 3 quarts per acre per year onto CRP land.

Habitat Management

Habitat Restoration and Management
This product may be used to control exotic and other undesirable vegetation in habitat management and natural areas including rangeland and wildlife refuges. Applications can be made to allow recovery of native plant species, prior to planting desirable native species, and for similar broad-spectrum vegetation control requirements. Spot treatments can be made to selectively remove unwanted plants for habitat management and enhancement.

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

Hollow Stem Injection
This product may be applied through hand-held injection devices that deliver specified amounts of this product into targeted hollow-stem plants growing in any non-crop site specified on this label.

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

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

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

Giant Hogweed, *Hercleum mantegazzianum*
Inject one leaf cane per plant 12 inches above the root crown with 5 mL of a 5% v/v solution of this product.

Poison Hemlock, *Conium maculatum*
Inject one leaf cane per plant 10 to 12 inches above the root crown with 5 mL of a 5% v/v solution of this product.

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

Canada Thistle, *Cirsium arvense*
Cut 8 to 9 of the tallest plants at bud stage in a clump with clippers. Use a cavity needle that is pushed into the stem center and then slowly removed as 0.5 mL per stem of this product is injected into the stem.

Note: The combined total for all treatments must not exceed 10.6 quarts of this product per acre. At 5 mL per stem, 7 quarts should treat approximately 1300 stems per acre.

Ornamentals, Nurseries (Plants and Trees), and Christmas Trees

This product may be used for weed control prior to planting or around established ornamentals or any woody tree, shrub, or vine species including arborvitae, azalea, boxwood, crabapple, eucalyptus, euonymus, fir, Douglas fir, jojoba, hollies, lilac, magnolia, maple, oak, poplar, privet, pine, spruce, or yew in any production site.

UNLESS OTHERWISE DIRECTED, THIS PRODUCT IS NOT TO BE USED AS AN OVER-THE-TOP BROADCAST SPRAY IN ORNAMENTALS AND CHRISTMAS TREES. Care must be taken to avoid contact of spray, drift, or mist with foliage or green bark of desirable species.

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

TYPES OF APPLICATIONS: Site Preparation, Post-directed, Trim-and-edge, Wiper Application

Site Preparation
This product may be used prior to planting any tree, shrub, or vine in an ornamental, nursery, or production setting including Christmas tree species.

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

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

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

Silvicultural Sites and Rights-of-Way

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

When applied as directed for "NON-CROP USES" under conditions described, this product controls undesirable vegetation listed on this label.

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

Do not exceed 10.6 quarts of this product per acre per year.

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

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

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

Postdirected Spray: In established silvicultural sites, use as a spray on the foliage of undesirable vegetation. Avoid contact of spray, drift, or mist with foliage or green bark of desirable species.

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

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

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

Injection and Frill (Woody Brush and Trees)

This product may be used to control woody brush and trees by injection or frill applications. Apply this product using suitable equipment that must penetrate into the living tissue. Apply the equivalent of 0.04 fluid ounce (1 mL) of this product per each 2 to 3 inches of trunk diameter at breast height (DBH). This is best achieved by applying a 50- to 100-percent concentration of this product either to a continuous frill around the tree or as cuts evenly spaced around the tree below all branches. As tree diameter increases in size, better results are achieved by applying diluted material to a continuous frill or more closely spaced cuttings. Avoid application techniques that allow runoff to occur from frilled or cut areas in species that exude sap freely. In species such as this, make the frill or cuts at an oblique angle to produce a cupping effect and use a 100-percent concentration of this product. For best results, application must be made during periods of active growth and after full leaf expansion. This product will control many species, some of which are listed below:

Control	Partial Control
Oak	Black gum
Poplar	Dogwood
Sweetgum	Hickory
Sycamore	Maple, red

Utility Sites

In utilities, this product is specified for use along electrical power, pipeline and telephone rights-of-way, and in other sites associated with these rights-of-way such as substations, roadsides, railroads, or similar rights-of-way that run in conjunction with utilities.

This product may be used in utility sites and substations for bare ground, trim-and-edge around objects, spot treatment of unwanted vegetation, and to eliminate unwanted weeds growing in established shrub beds or ornamental plantings. This product may be used prior to planting a utility site to ornamentals, flowers, turfgrass (sod or seed), or beginning construction projects.

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

This product is also specified for use in preparing or establishing wildlife openings within these sites, maintaining access roads, and for side trimming along utility rights-of-way.

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

Bare Ground, Trim-and-Edge

This product may be used in utility sites and substations for bare ground, trim-and-edge around objects, spot treatment of unwanted vegetation, and to eliminate unwanted weeds growing in established shrub beds or ornamental plantings. This product may be used prior to planting a utility site to ornamentals, flowers, turfgrass (sod or seed), or beginning construction projects.

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

TANK MIXTURES: This product may be tank mixed with the following products provided that the specific product used is registered for application on these sites. Refer to the individual product's labels for approved sites and application rates.

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

Ensure that Garlon 3A is thoroughly mixed with water according to label directions before adding this product. Have spray mixture agitating at the time this product is added to avoid spray incompatibility problems. For side trimming treatments, it is specified that this product be used alone or in a tank mixture with Garlon 4.

Grass Seed or Sod Production

This product may be used in grass seed and sod production for preplant, at-planting, preemergence, removal of established stands, renovation, site preparation, shielded spraying, wiper application, spot treatment, and creating rows in annual ryegrass.

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

This product controls most existing vegetation for purposes of renovating turf or forage grass seed areas or for establishing turfgrass grown for sod. It may also be used to destroy remaining undesired grass vegetation when production fields are converted to alternate species or crops. Make applications before, during, or after planting, or for renovation purposes. For maximum control of existing vegetation, delay planting to determine if any regrowth from escaped underground plant parts occurs. Where existing vegetation is growing under mowed turfgrass management, apply this product after omitting at least one regular mowing to allow sufficient growth for good interception of the herbicide spray. Where repeat treatments are necessary, sufficient regrowth must be attained prior to application. For warm-season grasses such as Bermudagrass, summer or fall applications provide best control. Broadcast equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested. Application rates up to 5 quarts per acre may be used to totally remove established stands of tough-to-kill grass species.

Do not disturb soil or underground plant parts before treatment. Tillage or renovation techniques such as vertical mowing, coring, or slicing must be delayed for 7 days after application to allow proper translocation into underground plant parts. If application rates total 3 quarts per acre or less, no waiting period between treatment and feeding or livestock grazing is required. If the rate is greater than 3 quarts per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting. Applications must be made prior to crop emergence in order to avoid crop injury.

Shielded Sprayers

Apply 1 to 3 quarts of this product in 10 to 20 gallons of water per acre to control weeds between grass seed rows. Uniform planting in straight rows aids in shielded sprayer applications. Best results are obtained when the grass seed crop is small enough to easily pass by the protective shields.

Contact of this product in any manner with desirable vegetation may result in discoloration, stunting, or destruction. Such damage shall be the sole responsibility of the applicator.

Wiper Application

This product may be applied over the top of desirable grasses using wiper applicators for the control of tall weeds.

Contact of this product in any manner with desirable vegetation may result in discoloration, stunting, or destruction. To the extent consistent with applicable law, such damage shall be the sole responsibility of the applicator.

Spot Treatment

Apply a 1.5-percent solution of this product using hand-held spray equipment to control weeds within established vegetation prior to heading of grasses grown for seed. Hand-held equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested.

The crop sprayed in the treated area will be killed. Take care not to spray or allow spray to drift outside the target area in order to avoid unwanted crop destruction.

Creating Rows in Annual Ryegrass

Apply 1 to 2 pints of this product per acre. Best results are obtained when applications are made before the ryegrass reaches 6 inches in height. Use the higher rate within the specified range when ryegrass is greater than 6 inches in height.

Set nozzle heights to allow the establishment of the desired row spacing. Use of low-pressure nozzles or drop nozzles designed to target the application over a narrow band are specified.

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

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

WEEDS CONTROLLED

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

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

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

Annual Weeds

Use 1 quart per acre if weeds are less than 6 inches in height or runner length and 1.5 quarts to 4 quarts per acre if weeds are over 6 inches in height or runner length or when weeds are growing under stressed conditions. Use the higher rate for tough-to-control species regardless of the weed size at application. Treat tough-to-control weeds early when they are relatively small. This product may be tank mixed provided the tank mix product is registered for use on the target site. Refer to the individual product labels for approved sites and application rates. For spray-to-wet applications, apply a 0.5-percent solution of this product to weeds less than 6 inches in height or runner length. For annual weeds over 6 inches tall or for smaller weeds growing under stressed conditions, use a 1- to 2-percent solution. Use the higher rate for tough-to-control species or for weeds over 24 inches tall.

Apply prior to seedhead formation in grass or bud formation in broadleaf weeds.

For low-volume directed-spray applications, use a 4- to 7-percent solution of this product. Spray 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. To ensure adequate spray coverage, spray both sides of large or tall weeds when foliage is thick and dense or where there are multiple sprouts.

WEED SPECIES

Anoda, spurred
Barley*
Barnyardgrass*
Bittercress*
Bassia, fivehook
Black nightshade*
Bluegrass, annual*
Bluegrass, bulbous*
Brome, downy*
Brome, Japanese*
Browntop panicum*
Buttercup*
Carolina foxtail*
Carolina geranium
Castor bean
Cheatgrass*
Cheeseweed *(Malva parviflora)*
Chervil*
Chickweed*
Cocklebur*
Copperleaf, hophornbean
Corn*
Corn speedwell*
Crabgrass*
Dwarfdandelion*
Eastern mannagrass*
Eclipta*
Fall panicum*
Falsedandelion*
Falseflax, smallseed*
Fiddleneck
Field pennycress*
Filaree
Fleabane, annual*
Fleabane, hairy *(Conyza bonariensis)**
Fleabane, rough*
Florida pusley
Foxtail*
Goatgrass, jointed*
Goosegrass
Grain sorghum (milo)*
Groundsel, common*
Hemp sesbania
Henbit
Horseweed/Marestail *(Conyza canadensis)*
Itchgrass*
Johnsongrass, seedling
Junglerice
Knotweed
Kochia
Lambsquarters*
Little barley*
London rocket*
Mayweed
Medusahead*
Momingglory *(Ipomoea* spp.)
Mustard, blue*
Mustard, tansy*
Mustard, tumble*
Mustard, wild*
Oats
Pigweed*
Plains/Tickseed coreopsis*
Prickly lettuce*
Puncturevine
Purslane, common
Ragweed, common*
Ragweed, giant
Red rice
Russian thistle
Rye*
Ryegrass*
Sandbur, field*
Shattercane*
Shepherdspurse*
Sicklepod
Signalgrass, broadleaf*
Smartweed, ladysthumb*
Smartweed, Pennsylvania*
Sowthistle, annual
Spanishneedles
Speedwell, purslane*
Sprangletop*
Spurge, annual
Spurge, prostrate*
Spurge, spotted*
Spurry, umbrella*
Starthistle, yellow
Stinkgrass*
Sunflower*
Teaweed/Prickly sida
Texas panicum*
Velvetleaf
Virginia copperleaf
Virginia pepperweed*
Wheat*
Wild oats*
Witchgrass*
Woolly cupgrass*
Yellow rocket

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

Perennial Weeds

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

Ensure thorough coverage when using spray-to-wet treatments with hand-held equipment. For best results, use a 1.5-percent solution on harder-to-control perennials such as Bermudagrass, dock, field bindweed, hemp dogbane, milkweed, and Canada thistle.

For low-volume directed-spray applications, use a 5- to 10-percent solution of this product. Spray 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. To ensure adequate spray coverage, spray both sides of large or tall weeds when foliage is thick and dense or where there are multiple sprouts.

Allow 7 or more days after application before tillage.

WEED SPECIES	Rate (QT/A)	Hand-Held % Solution
Alfalfa*	1	2
Alligatorweed*	4	1.5
Anise (fennel)	2-4	1-2
Bahiagrass	3-5	2
Beachgrass, European *(Ammophila arenas)*	--	5
Bentgrass*	1.5	2
Bermudagrass	5	2
Bermudagrass, water (knotgrass)	1.5	2
Bindweed, field	4-5	2
Bluegrass, Kentucky	2	2
Blueweed, Texas	4-5	2
Brackenfern	3-4	1-1.5
Bromegrass, smooth	2	2
Bursage, woollyleaf	--	2
Canarygrass, reed	2-3	2
Cattail	3-5	2
Clover; red, white	3-5	2
Cogongrass	3-5	2
Dallisgrass	3-5	2
Dandelion	3-5	2
Dock, curly	3-5	2
Dogbane, hemp	4	2
Fescue (except tall)	3-5	2
Fescue, tall	1-3	2
German ivy	2-4	1-2
Guineagrass	3	1
Horsenettle	3-5	2
Horseradish	4	2
Iceplant	2	1.5-2
Jerusalem artichoke	3-5	2

WEED SPECIES	Rate (QT/A)	Hand-Held % Solution
Johnsongrass	2-3	1
Kikuyugrass	2-3	2
Knapweed	4	2
Lantana	--	1-1.25
Lespedeza	3-5	2
Milkweed, common	3	2
Muhly, wirestem	2	2
Mullein, common	3-5	2
Napiergrass	3-5	2
Nightshade, silverleaf	2	2
Nutsedge; purple, yellow	3	1-2
Orchardgrass	2	2
Pampasgrass	3-5	1.5-2
Paragrass	3-5	2
Pepperweed, perennial	4	2
Phragmites*	3-5	1-2
Poison hemlock	2-4	1-2
Quackgrass	2-3	2
Redvine*	2	2
Reed, giant	4-5	2
Ryegrass, perennial	2	1
Smartweed, swamp	3	2
Spurge, leafy*	-	2
Sweet potato, wild*	-	2
Thistle, artichoke	2	1-2
Thistle, Canada	2	2
Timothy	2	2
Torpedograss*	4	2
Trumpetcreeper*	2	2
Vaseygrass	3	2
Velvetgrass	3	2
Wheatgrass, western	2	2

*Partial control

Woody Brush and Trees

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

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

For best results when using hand-held equipment, use a 1.5-percent solution on harder-to-control woody brush and trees. For low-volume directed-spray applications, apply a 5- to 10-percent solution of this product. Spray 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. To ensure adequate spray coverage, spray both sides of large or tall woody brush and trees, when foliage is thick and dense, or where there are multiple spouts.

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

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

WEED SPECIES	Broadcast Rate (QT/A)	Hand-Held Spray-to-Wet % Solution
Alder	3-4	1-1.5
Ash*	2-5	1-2
Aspen, quaking	2-3	1-1.5
Bearclover (Bearmat)*	2-5	1-2
Beech*	2-5	1-2
Birch	2	1
Blackberry	3-4	1-1.5
Blackgum	2-5	1-2
Bracken	2-5	1-2
Broom; French, Scotch	2-5	1.5-2
Buckwheat, California*	2-4	1-2
Cascara*	2-5	1-2
Catsclaw*	-	1-1.5
Ceanothus*	2-5	1-2
Chamise*	2-5	1
Cherry; bitter, black, pin	2-3	1-1.5
Coyote brush	3-4	1.5-2
Deerweed	2-5	1
Dogwood*	2-5	1-2
Elderberry	2	1
Elm*	2-5	1-2
Eucalyptus	-	2
Gorse*	2-5	1-2
Hasardia*	2-4	1-2
Hawthorn	2-3	1-1.5
Hazel	2	1
Hickory*	2-5	1-2
Honeysuckle	3-4	1-1.5
Hornbeam, American*	2-5	1-2
Kudzu	4	2
Locust, black*	2-4	1-2
Madrone resprouts*	-	2
Manzanita*	2-5	1-2
Maple, red	2-4	1-1.5
Maple, sugar	--	1-1.5
Monkey flower*	2-4	1-2
Oak; black, white*	2-4	1-2
Oak, post	3-4	1-1.5
Oak; northern, pin	2-4	1-1.5
Oak, Scrub*	2-4	1-1.5
Oak; southern red	2-3	1-1.5
Peppertree, Brazilian (Florida holly)*	2-5	1-2
Persimmon*	2-5	1-2
Pine	2-5	1-2
Poison ivy	4-5	2
Poison oak	4-5	2
Poplar, yellow*	2-5	1-2
Redbud, eastern	2-5	1-2
Rose, multiflora	2	1
Russian olive*	2-5	1-2
Sage, black	2-4	1
Sage, white*	2-4	1-2
Sage brush, California	2-4	1
Salmonberry	2	1
Saltcedar*	2-5	1-2
Sassafras*	2-5	1-2
Sourwood*	2-5	1-2
Sumac; laurel, poison, smooth, sugarbush, winged*	2-4	1-2
Sweetgum	2-3	1-1.5
Swordfern*	2-5	1-2
Tallowtree, Chinese	-	1
Tan oak resprouts*	-	2
Thimbleberry	2	1
Tobacco, tree*	2-4	1-2
Toyon*	-	2
Trumpetcreeper	2-3	1-1.5
Vine maple*	2-5	1-2
Virginia creeper	2-5	1-2
Waxmyrtle, southern*	2-5	1-2
Willow	3	1
Yerbasenta*	-	2

*Partial control

OTHER USES

NOTE: READ THE ENTIRE LABEL FOR TOMAHAWK 4 BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SECTION ENTITLED "OTHER USES."

A	FOR USE IN DORMANT ALFALFA
B	FOR THE CONTROL OF ANNUAL WEEDS IN COASTAL BERMUDAGRASS PASTURES PRIOR TO SPRING GROWTH OR IMMEDIATELY AFTER FIRST CUTTING
C	FOR DISTRIBUTION AND USE ONLY WITHIN SOUTH DAKOTA. FOR NON-SELECTIVE CONTROL OF LISTED ANNUAL WEEDS IN SMALL GRAIN CROPPING SYSTEMS
D	FOR CONTROL AND MANAGEMENT OF GLYPHOSATE-RESISTANT HORSEWEED/MARESTAIL *(Conyza canadensis)* IN COTTON, CORN, AND SOYBEANS
E	HIGHER-RATE POSTEMERGENCE USE DIRECTIONS FOR WEED CONTROL IN ROUNDUP READY CANOLA
F	FOR LIMITATIONS ON AERIAL APPLICATION IN CALIFORNIA ONLY, INCLUDING FRESNO COUNTY
G	FOR AERIAL APPLICATION IN ARKANSAS ONLY
H	FOR CONTROLLING BARNYARDGRASS *(ECHINOCHLOA CRUS-GALLI)* IN RICE USING RENOVATION TREATMENTS IN CALIFORNIA ONLY
I	FOR WEED CONTROL APPLICATIONS IN SEED PRODUCTION OF ALFALFA WITH THE ROUNDUP READY GENE
J	FOR APPLICATIONS TO ROUNDUP READY FLEX COTTON IN THE STATE OF ARIZONA ONLY
K	BROADCAST APPLICATIONS IN CHRISTMAS TREE PLANTATIONS
L	FOR USE FOR SELECTIVE WEED CONTROL ON TOMAHAWK 4 TOLERANT PURE GOLD TALL FESCUE AND AURORA GOLD FINE FESCUE SELECTIONS
M	TOMAHAWK 4 HERBICIDE AND TANK MIXTURES FOR NON-CROP AREAS
N	FOR GROUND AND AERIAL APPLICATION TO BRUSH AND CHAPARRAL IN CALIFORNIA ONLY
O	TOMAHAWK 4 HERBICIDE FOR CONIFER RELEASE
P	TO RESTRICT USE AS A PRE-PLANT BURN-DOWN TREATMENT ON THOSE AGRICULTURAL CROPS OTHER THAN FORESTLAND IN THE STATE OF MISSISSIPPI

A. FOR USE IN DORMANT ALFALFA

DIRECTIONS FOR USE

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

Apply 8 to 12 fluid ounces per acre of this product. Apply in the spring to alfalfa that is dormant.

Applications must be made after spring temperatures have warmed enough to encourage resumption of weed growth but prior to initiation of trifoliate leaf expansion of the alfalfa. Applications made after expansion of the first trifoliate leaf of the alfalfa will cause growth reduction and reduced crop yield.

Do not use ammonium sulfate when spraying dormant alfalfa with TOMAHAWK 4.

Do not use this product where a slight yield reduction in the first cutting of alfalfa cannot be tolerated. Do not make more than one application per year.

Allow 36 hours after application before grazing livestock or harvesting.

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

Application of this product is limited to persons who have attended a training program. Application of this product can cause crop injury. Any crop injury is the sole responsibility of the applicator.

B. FOR THE CONTROL OF ANNUAL WEEDS IN COASTAL BERMUDAGRASS PASTURES PRIOR TO SPRING GROWTH OR IMMEDIATELY AFTER FIRST CUTTING

DIRECTIONS FOR USE

This product maybe applied at 16 fluid ounces per acre to control the weeds listed below and most other winter annual grass and broadleaf weeds in established coastal Bermudagrass pastures.

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

TIMING OF APPLICATION

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

Remove domestic livestock from the pasture before making the application. Wait 60 days after making this application before grazing or harvesting the treated area.

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

Remove domestic livestock from the pasture before making the application. Wait 28 days after making this application before grazing or harvesting the treated area.

NOTE: ONLY ONE APPLICATION PER YEAR MAY BE MADE TO ANY ONE FIELD. A SPRING APPLICATION PRIOR TO GROWTH AND AN APPLICATION FOLLOWING THE FIRST CUTTING MAY NOT BE MADE ON THE FIELD DURING THE SAME YEAR.

C. FOR DISTRIBUTION AND USE ONLY WITHIN SOUTH DAKOTA. FOR NON-SELECTIVE CONTROL OF LISTED ANNUAL WEEDS IN SMALL GRAIN CROPPING SYSTEMS

DIRECTIONS FOR USE

Refer to the TOMAHAWK 4 label for rates and weeds controlled.

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

ATTENTION

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

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

NOTE: To prevent injury to adjacent desirable vegetation, appropriate buffer zones must be maintained.

Adjust boom height on ground equipment to prevent streaked, overlapped, or uneven applications. Coarse sprays are less likely to drift; therefore, do not use nozzles or nozzle configurations that dispense spray as fine spray droplets.

In aerial applications, do not angle nozzles forward into the airstream and do not increase spray volume by increasing nozzle pressure.

Ensure uniform application. Use appropriate marking devices when applying herbicides by air.

Avoid spraying when weeds are subject to moisture stress, when dust is on foliage, or when straw canopy covers the weeds.

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

D. FOR CONTROL AND MANAGEMENT OF GLYPHOSATE-RESISTANT HORSEWEED/MARESTAIL *(Conyza canadensis)* IN CROP AND NON-CROP AREAS

DIRECTIONS FOR USE

For ground applications, use 10 to 20 gallons of water per acre. For aerial applications, use 3 to 15 gallons of water per acre. For tank mix directions, read and carefully observe the cautionary statements and all other information appearing on the product labels, supplemental labeling, or fact sheets published separately for all herbicides used.

Cotton:

Preplant:
For control of horseweed, apply this product (32 fluid ounces per acre) in a tank mix with Clarity® (8 fluid ounces per acre). This application must be made 21 to 35 days before planting and before horseweed reaches 6 inches in height. In order to avoid crop injury, a minimum interval of 21 days during which there is at least 1 inch of cumulative rainfall must be observed between Clarity application and planting of cotton.

2,4-D may be included in the tank mixture with this product. Refer to the 2,4-D product label for the time intervals that are required between application and planting and other geographic use restrictions.

Post-directed (Roundup Ready Cotton and Roundup Ready Flex Cotton varieties only):
Management of early season weed competition and the development of a crop height differential between cotton and horseweed is often achieved by a combination of preplant burndown and postemergence over-the-top and/or directed applications of this product. These measures enhance the development of a height differential that is necessary to successfully make post-directed treatments. In-crop post-directed applications of MSMA (2 pounds active ingredient per acre) tank mixed with diuron (0.5 to 0.75 pounds active ingredient per acre) must be made when the temperature is 80°F or higher.

Soybeans:

Preplant:
It is strongly encouraged that horseweed be controlled prior to planting. Apply a tank mixture of this product (32 fluid ounces per acre) with 2,4-D (0.5 pounds active ingredient per acre) before horseweed exceeds 6 inches in height. See the 2,4-D product label for time intervals that are required between application and planting.

In-crop (Roundup Ready Soybean varieties only):
This treatment must be used as a salvage treatment only for a horseweed infestation that was not controlled prior to planting. At the time of treatment, horseweed must not exceed 6 inches in height. Apply a tank mixture of this product (32 fluid ounces per acre) with FirstRate® (0.3 ounces per acre). Application must be made between full emergence of the first trifoliate leaf and 50% flowering stage of soybeans.

Corn:

Preplant, At-Planting, Preemergence:
Apply a tank mixture of this product (32 fluid ounces per acre) plus 2,4-D (0.5 pounds active ingredient of per acre) before horseweed exceeds 6 inches in height. See the 2,4-D product label for time intervals that are required between application and planting.

Dicamba may be included in the tank mixture with this product. Refer to the dicamba product label for the time intervals that are required between application and planting and other geographic use restrictions.

Atrazine (1 to 2 pounds active ingredient per acre) may be included in the tank mixture to provide residual control. Refer to the atrazine product label for specific use instructions.

In-crop (Roundup Ready Corn hybrids only):
Apply a tank mixture of this product (32 fluid ounces per acre) plus Clarity (8 to 16 fluid ounces per acre) or 2,4-D (0.5 to 1.0 pounds active ingredient per acre) between corn emergence and the 5-leaf stage of growth (approximately 8 inches tall).

Dicamba may be included in the tank mixture with this product. Refer to the dicamba product label for the time intervals that are required between application and planting and other geographic use restrictions.

(continued)

Tree and Vine Crops:

Orchards (Pome Fruit, Stone Fruit, and Tree Nuts)
Apply 2 quarts of this product plus 2,4-D (18 fluid ounces per acre Dri-Clean® or 2 pints per acre Orchard Master® CA) before marestail exceeds 6 inches in height. Apply using a carrier volume of 15 gallons per acre. Follow labeling for the 2,4-D product with regard to directions for use, precautionary statements, and applicable schedules. Further local restrictions may apply.

Vine crops (grapes only)
Apply 2 quarts of this product per acre plus 2,4-D (18 fluid ounces per acre Dri-Clean) before marestail exceeds 6 inches in height. Apply using a carrier volume of 15 gallons per acre. Follow Dri-Clean labeling in regard to directions for use, precautionary statements, and applicable schedules. Further local restrictions may apply to applications of these products. Also, residual herbicides such as diuron may provide additional preemergence control.

Non-crop Areas:

Apply a tank mixture of this product (1 quart per acre) before horseweed exceeds 6 inches in height. Control may be enhanced by making applications when horseweed is still in the rosette stage of growth. This product may be tank mixed with the following products provided that the specific product is registered for use on the target site. Refer to these product labels for approved sites and application rates. Read and carefully observe the restrictions and precautionary statements and all other information appearing on the labels of all herbicides used. Use according to the most restrictive precautionary statements for each product in the mixture.

- 2,4-D
- Crossbow L
- dicamba
- Gallery 75 DF
- Krovar I DF
- Landmark II MP
- Landmark MP
- Milestone
- Overdrive
- Telar DF
- Transline
- Vanquish
- Velpar DF

E. HIGHER-RATE POSTEMERGENCE USE DIRECTIONS FOR WEED CONTROL IN ROUNDUP READY CANOLA

DIRECTIONS FOR USE

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

DO NOT USE THIS PRODUCT ON CANOLA WITH A ROUNDUP READY GENE PLANTED IN THE FOLLOWING STATES: ALABAMA, DELAWARE, FLORIDA, GEORGIA, KENTUCKY, MARYLAND, NEW JERSEY, NORTH CAROLINA, SOUTH CAROLINA, TENNESSEE, VIRGINIA, AND WEST VIRGINIA.

Maximum Allowable Combined Application Quantities Per	
The total of all Preplant, At-planting, Preemergence applications	2 quarts per acre
The total in-crop application from emergence to 6-leaf stage	2 quarts per acre

Preplant, At-planting Preemergence
This product may be applied before, during, or after planting.

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

Weeds Controlled: For specific rates of application and instructions, refer to the "ANNUAL WEEDS" and "PERENNIAL WEEDS RATE SECTIONS" in this label.

Single Application – Apply 16 to 32 fluid ounces per acre no later than the 6-leaf stage for the control of annual weeds. Avoid overlapping applications that may result in temporary yellowing, delayed flowering, and/or growth reduction. Similar injury may result when applications of more than 16 fluid ounces per acre are applied after the 4-leaf stage.

Sequential Application – Apply 32 fluid ounces per acre to 1- to 3-leaf canola followed by a sequential application at a minimum interval of 10 days, but no later than the 6-leaf stage. Sequential applications are specified for early emerging annual weeds and perennial weeds such as Canada thistle and quackgrass or when controlling weeds with multiple application times.

RESTRICTIONS: No more than two over-the-top broadcast applications may be made from crop emergence through the 6-leaf stage of development and the total in-crop application must not exceed 64 fluid ounces per acre. Allow a minimum of 60 days between last application and canola harvest.

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

F. FOR LIMITATIONS ON AERIAL APPLICATION IN CALIFORNIA ONLY, INCLUDING FRESNO COUNTY, CALIFORNIA

DIRECTIONS FOR USE

All labeled treatments may be made by aerial equipment where appropriate, provided that the applicator complies with the precautions and restrictions specified on this section of labeling and in all other sections of the product label booklet. Refer to Aerial Equipment in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of the product label for additional information. Refer to the individual use site section of the product label or to other supplemental labeling for specific use instructions.

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

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

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

When tank mixing this product with 2,4-D, only 2,4-D amine formulations may be used for aerial applications in California. Tank mixtures with 2,4-D amine formulations may be applied by air in California for fallow and reduced tillage systems, and alfalfa and pasture renovation applications only. This product, when tank mixed with dicamba, may not be applied by air in California.

ADDITIONAL INFORMATION FOR FRESNO COUNTY, CALIFORNIA
The following information applies only from February 15 through March 31 within the following boundaries of Fresno County, California:

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

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

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

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

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

G. FOR AERIAL APPLICATION IN ARKANSAS ONLY

DIRECTIONS FOR USE

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

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

Use sufficient carrier volume and appropriate equipment set up to form droplets large enough to avoid drift potential. Coarse droplets in the 300 to 500 (VMD) micron range are specified.

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

The distance of the outermost nozzles on the boom must not exceed 75 percent of the length of the wingspan or rotor. In many cases, reducing this distance to 65 percent of the length of the wingspan or rotor will improve drift control without affecting the swath width.

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

Do not apply this product when winds are in excess of 10 mph.

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

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

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

H. FOR CONTROLLING BARNYARDGRASS *(ECHINOCHLOA CRUS-GALLI)* IN RICE USING RENOVATION TREATMENTS IN CALIFORNIA ONLY

DIRECTIONS FOR USE

Renovation Treatment

This product may be applied as a renovation treatment in rice crops to control barnyardgrass infestations using ground broadcast spray or hand-held equipment. Renovation is defined as herbicide treatment that will produce crop and weed destruction in an entire field or contiguous area treated within a field. Follow the application methods and specified treatment rates in the label booklet for TOMAHAWK 4 herbicide.

PRECAUTIONS, RESTRICTIONS: Crop sprayed in treated area will be killed. Take care not to spray or allow spray to drift outside the target area in order to avoid unwanted crop destruction. The rice straw and stubble from the treated area, including a 25-foot buffer zone on all sides, shall not be used for grazing, animal bedding, or any feed purposes.

Aerial applications are not permitted for rice renovation using this section of the label.

I. FOR WEED CONTROL APPLICATIONS IN SEED PRODUCTION OF ROUNDUP READY ALFALFA

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

See "USE INFORMATION" and "MIXING" sections of the label booklet for TOMAHAWK 4 for essential product performance information.

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

See the "ROUNDUP READY CROPS" section of the TOMAHAWK 4 label booklet for precautionary instructions for use in Roundup Ready crops. DO NOT combine the instructions in this section of the label with other directions listed in the "PASTURE GRASSES, FORAGE LEGUMES, AND RANGELANDS" section of the TOMAHAWK 4 label booklet intended for alfalfa varieties that do not contain a glyphosate-tolerant gene.

DIRECTIONS FOR USE

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

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

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

DO NOT EXCEED 2 QUARTS OF THIS PRODUCT PER ACRE WHEN MAKING APPLICATIONS BY AIR. FOR AERIAL APPLICATION IN CALIFORNIA, REFER TO THE FEDERAL LABEL FOR AERIAL APPLICATION IN THAT STATE. AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS WHICH DO NOT CONTAIN THE ROUNDUP READY GENE.

Do not apply during low-level inversion conditions, when winds are gusty, or under any other conditions that favor drift. Drift may cause damage to any vegetation contacted to which treatment is not intended. To prevent injury to adjacent desirable vegetation, appropriate buffer zones must be maintained.

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

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

TYPES OF APPLICATIONS: Preplant, At-planting, Preemergence, Postemergence, and Post-harvest of seed

Maximum Application Rates	
Combined total per year for all applications	8 quarts per acre
Total Preplant, At-planting, and Preemergence applications	2 quarts per acre
Total in-crop application rate from emergence through the late vegetative stage	6 quarts per acre
Spot-treatment during early bud stage through seed harvest (See the "Spot Treatment after late vegetative stage" section and the "PRECAUTIONS AND RESTRICTIONS" section of this label for complete instructions)	Apply spray-to-wet; do not apply to the point of runoff

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

(continued)

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

Due to the biology and breeding constraints of alfalfa, up to 10% of the seedlings are susceptible and will not survive or thrive after the first application of this product. A single application of at least 1 quart per acre of this product must be applied at or before the 3- to 4-trifoliate growth stage to eliminate the effects of stand gaps created by the loss of non-Roundup Ready plants.

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

Post-harvest applications: Following harvest of Roundup Ready alfalfa seed, the stand may be managed for forage and hay production. Refer to the Roundup Ready alfalfa section of this label booklet for rates and timing of applications for forage and hay production.

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

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

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

PRECAUTIONS AND RESTRICTIONS: Do not make over-the-top broadcast applications of this product between the initiation of alfalfa budding and the harvest of Roundup Ready alfalfa seed. The use of harvested Roundup Ready alfalfa seed is not suitable for and is not specified for production of alfalfa sprouts.

Read the "LIMIT OF WARRANTY OR LIABILITY" in this label booklet before using. For (in-crop) over the top uses on Roundup Ready crop varieties, crop safety and weed control performance are not warranted by United Suppliers, Inc. when this product is used in conjunction with "brown bag" or "bin run" seed saved from previous year's production and replanted. These terms apply to this section of the labeling and if these terms are not acceptable, return the product unopened at once.

J. FOR APPLICATIONS TO ROUNDUP READY FLEX COTTON IN THE STATE OF ARIZONA ONLY

DIRECTIONS FOR USE

USE INFORMATION

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

NOTE: The instructions provided in this section of the label are specific to and must only be used with varieties designated as Roundup Ready Flex cotton. DO NOT combine the instructions in this section of the label with those in the "Roundup Ready Cotton" or "Roundup Ready Flex Cotton" sections found in the label booklet for TOMAHAWK 4, or with any other Roundup Ready cotton or Roundup Ready Flex cotton instructions on labeling for this or other glyphosate-containing product. See "Maximum Use Rate" in the "USE INFORMATION" section of the label booklet for TOMAHAWK 4 for additional information.

ROUNDUP READY FLEX COTTON VARIETIES MUST BE PURCHASED FROM AN AUTHORIZED LICENSED SEED SUPPLIER. THE DESIGNATION, "ROUNDUP READY" INDICATES THE COTTON VARIETY CONTAINS A PATENTED PROPRIETARY TRAIT.

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

Maximum Allowable Combined Application Quantities Per Season	
Combined total per year for all applications	8 quarts per acre
Calculate the combined rate to be used for all preplant, in-crop, and preharvest applications to ensure that the total does not exceed the maximum allowed rate per acre per year shown above.	
Preplant, At-Planting, Preemergence applications	5 quarts per acre
Total in-crop applications from ground cracking to 60% percent open bolls	6 quarts per acre
Maximum allowed from 60 percent bolls open to 7 days prior to harvest	2 fluid ounces per acre

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

Preplant, At-Planting, Preemergence

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

Postemergence (In-Crop)

When applied in accordance with this label, TOMAHAWK 4 will control labeled annual grasses and broadleaf weeds in Roundup Ready Flex cotton. To maximize yield potential, spray cotton early to eliminate competing weeds. Many perennial weeds will be controlled or suppressed with one or more applications of this product. In general, an initial application of 1 quart per acre on 1- to 3-inch tall annual grass and broadleaf weeds is specified. This product may be applied by ground application equipment at rates up to 2 quarts per acre per application postemergence to Roundup Ready Flex cotton. In addition to broadcast applications, post-directed equipment may be used to achieve weed coverage.

NOTE: For specific rates of application and instructions, refer to the "ANNUAL" and "PERENNIAL WEEDS RATE TABLES" in this label booklet.

PRECAUTIONS, RESTRICTIONS: The maximum rate for any single in-crop application of this product is 2 quarts per acre made using ground application equipment. **In-crop application rates above 1 quart per acre made alone, or with the addition of other crop chemical products containing surfactant, may cause a crop response, including leaf speckling or leaf necrosis**. Do not exceed a maximum rate of 3 pints per acre of this product when making applications by air. Between layby and 60 percent open bolls, the maximum combined total rate of this product that may be applied is 2 quarts per acre. The maximum combined total of all applications made from crop emergence to 60 percent open bolls must not exceed 6 quarts per acre.

Preharvest

This product may be applied for preharvest annual and perennial weed control as a broadcast treatment to Roundup Ready Flex cotton after 60 percent boll crack. Up to 2 quarts of this product may be applied using either aerial or ground spray equipment. NOTE: This product will not enhance the performance of harvest aids when applied to Roundup Ready Flex cotton.

PRECAUTIONS, RESTRICTIONS: Allow a minimum of 7 days between application and harvest of Roundup Ready Flex cotton. Do not apply this product over the top beyond first bloom to cotton grown for seed.

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.

K. BROADCAST APPLICATIONS IN CHRISTMAS TREE PLANTATIONS.

DIRECTIONS FOR USE

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

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

This application is approved for the following Christmas tree species:
Douglas fir *(Pseudotsuga menziesii)*
Fir species *(Abies* spp.)
Spruce species *(Picea* spp.)

Applications may be made only after trees have completed at least a full growing season since planting or transplanting. Do not make applications within 1 full year prior to tree harvest.

Applications may only be made in the fall after the formation of final conifer resting buds. Final resting buds must be fully hardened and in the dormant stage. Applications made at any other time may result in unacceptable Christmas tree injury.

Avoid spray pattern overlap, as injury may occur.

Apply 1 quart of this product per acre in 5 to 30 gallons of water per acre.

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

This product may be used at rates from 1 to 2 quarts per acre in some areas. Consult your local company representative or TOMAHAWK 4 supplier for specific use instructions if you require rates greater than 1 quart per acre.

Drift control additives may increase Christmas tree injury and their use is not specified.

The use of other herbicides tank mixed with this product is not specified, since severe Christmas tree injury may result.

L. FOR USE FOR SELECTIVE WEED CONTROL ON TOMAHAWK 4-TOLERANT PURE GOLD TALL FESCUE AND AURORA GOLD FINE FESCUE SELECTIONS

TOMAHAWK 4-Tolerant Tall Fescue Selections For Seed Production
Use this product on TOMAHAWK 4-tolerant tall and fine fescue grown for seed production only.

This product may be applied at rates of 4 to16 fluid ounces per acre as a postemergence spray on TOMAHAWK 4-tolerant tall fescue selections. See the label for application instructions, application rates, weeds controlled, and proper growth stage of weeds.

When applied postemergence, this product will control or suppress the following weeds: annual bluegrass, mustards, downy brome, cheatgrass, chickweed, pennycress, fleabane, shepherdspurse, sowthistle, wild oat, dandelion, quackgrass, and Canada thistle. See the TOMAHAWK 4 label booklet for a complete list of weeds controlled or suppressed.

NOTE: The specified rate for this use will limit the level of control of certain species of weeds.

NOTE: Some crop discoloration and yellowing may occur at higher rates of application with TOMAHAWK 4-tolerant tall and fine fescue selections. Reduction in stand of these selections may occur under stress conditions.

Timing Of Applications
Applications can be made 6 weeks after germination and to established crops after growth resumes in the fall until onset of dormancy and in the spring after dormancy break until 60 days prior to harvest.

Avoid spraying during or within two weeks after periods when air temperatures fall below 25°F.

Remove domestic livestock from the seed production field prior to application. Wait 60 days after making this application before grazing or harvesting the treated area.

NOTE: Only two applications per crop growth cycle may be made to any one site. If two applications are required, only one fall and one spring application may be made during one 12-month cycle.

M. TOMAHAWK 4 HERBICIDE AND TANK MIXTURES FOR NON-CROP AREAS

Do not allow spray mixtures of this herbicide to mist, drip, drift, or splash onto desirable vegetation since injury or destruction may occur. Do not apply when wind or other conditions favor drift.

See the "WEEDS CONTROLLED" section of this label booklet for application rates. For difficult-to-control species, where dense stands occur, or where conditions for control are not ideal, 5 to 10 quarts per acre of this product may be used for improved results.

TANK MIXTURES

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

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

Tank mix Product	Rate per Acre
Arsenal*	0.5 to 4 pints
Banvel	1 to 4 pints
2,4-D	0.5 to 1 pound
Garlon™ 3A	1 to 6 pints
Garlon 4	1 to 6 pints
Diuron	4 to 8 pounds
Diuron + 2,4-D	4 to 8 pounds + 0.5 to 1 pound
Diuron + Garlon 3A	4 to 10 pounds + 1 to 2 pints
Diuron + Garlon 4	4 to 10 pounds + 1 to 2 pints
Hyvar™ X	4 to 8 pounds
Hyvar X + 2,4-D	4 to 8 pounds + 0.5 to 1 pound
Hyvar X + Garlon 3A	4 to 8 pounds + 1 to 2 pints
Hyvar X + Garlon 4	4 to 8 pounds + 1 to 2 pints
Krovar™ 1 DF	4 to 6 pounds
Krovar 1 DF + 2,4-D	4 to 6 pounds + 0.5 to 1 pound
Krovar 1 DF + Garlon 3A	4 to 6 pounds + 1 to 2 pints
Krovar 1 DF + Garlon 4	4 to 6 pounds + 1 to 2 pints
Oust™	2 to 6 ounces
Oust + 2,4-D	2 to 6 ounces + 0.5 to 1 pound
Oust + Garlon 3A	2 to 6 ounces + 1 to 2 pints
Oust + Garlon 4	2 to 6 ounces + 1 to 2 pints
Spike™ 80W	2 to 5 pounds
Spike 80W + 2,4-D	2 to 5 pounds + 0.5 to 1 pound
Spike 80W + Garlon 3A	2 to 5 pounds + 1 to 2 pints
Spike 80W + Garlon 4	2 to 5 pounds + 1 to 2 pints

*Arsenal is not approved for use in the state of California.

Refer to the individual product labels for specific non-crop sites, rates, carrier volumes, and precautionary statements.

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

Maintain good agitation at all times during the mixing process. Ensure that the tank mix products are well mixed with the spray solution before adding this product.

Mix only the quantity of spray solution that can be used during the same day. Tank mixtures allowed to stand overnight may result in reduced weed control.

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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.

When used in combination as specified on this label, the liability of United Suppliers, Inc. shall in no manner extend to any damage, loss, or injury not solely and directly caused by the inclusion of this product in such combination use.

Read "LIMIT OF WARRANTY AND LIABILITY" in the label booklet before using this product. Those terms apply to this section of labeling and, if those terms are not acceptable, return the product unopened at once.

N. FOR GROUND AND AERIAL APPLICATIONS TO BRUSH AND CHAPARRAL IN CALIFORNIA ONLY

DIRECTIONS FOR USE

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

Nonionic surfactants which are labeled for use with herbicides may be used to improve wetting of foliage. Do not reduce rates of TOMAHAWK 4 when adding surfactant. Read and carefully observe surfactant rates, cautionary statements, and other information appearing on the surfactant label.

TIMING OF APPLICATION: Apply this product as a broadcast spray when plants are actively growing for partial control of undesirable vegetation listed on this label. Best results are obtained when application is made in the spring to early summer when brush species are at a high moisture content and flowering.

This product may be used as specified for:

- Aid to burning treatment to establish and maintain fuel breaks
- Establishing fire perimeters and black lines
- Aid to prescribed burning
- Along fire roads and rights-of-way

APPLICATION RATES: Apply 2 quarts of this product per acre for partial control of the following emerged brush and chaparral species:

Ceanothus *Ceanothus* spp.	**Sage** *Salvia* spp.
Chamise *Adenostoma fasciculatum*	**Scrub oak** *Quercus dumosa*

Ground applications must be applied in 3 to 40 gallons of total spray solution per acre.

Aerial applications (helicopter only) must be applied in 3 to 15 gallons of total spray solution per acre. Avoid direct application to any body of water.

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

For aerial application of this product, please see the label directions for aerial application in California.

DIRECTIONS FOR USE

AERIAL APPLICATION
This product may be applied using aerial spray equipment for conifer release treatments. See the "APPLICATION EQUIPMENT and TECHNIQUES" part of the "MIXING, ADDITIVES and APPLICATION INSTRUCTIONS" section of the label booklet for TOMAHAWK 4 herbicide for information on how to properly spray this product by air.

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

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

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

For release of the following conifer species:

Douglas Fir *Pseudotsuga menziesii*	**Hemlock** *Tsuga* spp.	**Spruce** *Picea* spp.
Fir *Abies* spp.	**Pines*** *Pinus* spp.	

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

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

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

For release of the following conifer species:

Loblolly pine *Pinus taeda*	**Eastern white pine** *Pinus strobus*	**Slash pine** *Pinus elliottii*

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

Ash *Fraxinus* spp.	**Hawthorn** *Crataegus* spp.	**Oak, post** *Quercus stellata*	**Poplar, yellow** *Liriodendron tulipfera*	**Sumac, smooth** *Rhus glabra*
Cherry, black *Prunus serotina*	**Locust, black** *Robina pseudoacacia*	**Oak, southern red** *Quercus falcata*	**Sassafras** *Sassafras albidum*	**Sumac, winged** *Rhus copallina*
Cherry, pin *Prunus pensylvanica*	**Maple, red** *Acer rubra*	**Oak, white** *Quercus alba*	**Sourwood** *Oxydendrum arboreum*	**Sweetgum** *Liquidambar styraciflua*
Elm *Ulmus* spp.	**Oak, black** Quercus velutina	**Persimmon** *Diospyros* spp.	**Sumac, poison** *Rhus vernix*	

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

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TOMAHAWK 4 HERBICIDE PLUS OUST TANK MIXTURES FOR CONIFER RELEASE FROM HERBACEOUS WEEDS

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

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

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

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

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

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

Bahiagrass *Paspalum notatum*	**Dogfennel** *Eupatorium capilliforium*	**Poorjoe**** *Diodia teres*	**Vervain, blue** *Verbena hastata*
Broomsedge *Andropogon virginicus*	**Fescue, tall** *Festuca arundinacea*	**Trumpetcreeper*** *Campsis radicans*	
Dock, curly *Rumex crispus*	**Johnsongrass**** *Sorghum halepense*	**Vaseygrass** *Paspalum urvillei*	

*Suppression at the higher rates only.
**Control at the higher rates.

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

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

P. TO RESTRICT USES AS A PRE-PLANT BURN-DOWN TREATMENT ON ALL AGRICULTURAL CROPS OTHER THAN FORESTLAND IN THE STATE OF MISSISSIPPI

Aerial Application Restrictions
Aerial application is prohibited in Zone I, south of Highway 8 in the counties listed below, from March 15 through April 30, except by permit from an authorized employee of the Mississippi Department of Agriculture and Commerce, Bureau of Plant Industry (Ph. 1-888-257-1285).

Aerial application is prohibited in Zone II, north of Highway 8 in the counties listed below, from March 25 through April 30, except by permit from an authorized employee of the Mississippi Department of Agriculture and Commerce, Bureau of Plant Industry (Ph. 1-888-257-1285).

The Bureau of Plant Industry may at anytime, based on current planting and environmental conditions, modify the above restrictions for either zone or county therein.

Zone I: South of Highway 8 in the counties of Bolivar, Sunflower, Leflore, and Grenada plus the entire counties of Carroll, Holmes, Humphreys, Washington, Sharkey, Issaquena, Yazoo, and Warren.

Zone II: North of Highway 8 in the counties of Bolivar, Sunflower, Leflore and Grenada plus the entire counties of Tallahatchie, Tate, Quitman, Coahoma, Tunica, Panola, and Desoto.

LIMIT OF WARRANTY AND LIABILITY

United Suppliers, Inc. warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes set forth in the Complete Directions for Use label booklet ("Directions") when used in accordance with those Directions under the conditions described therein. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, NO OTHER EXPRESS WARRANTY OR IMPLIED WARRANTY OF FITNESS FOR PARTICULAR PURPOSE OR MERCHANTABILITY IS MADE. This warranty is also subject to the conditions and limitations stated herein.

Buyer and all users shall promptly notify United Suppliers, Inc. of any claims whether based in contract, negligence, strict liability, other tort or otherwise.

To the extent permitted by applicable law, buyer and all users are responsible for all loss or damage from use or handling which results from conditions beyond the control of United Suppliers, Inc., including, but not limited to, incompatibility with products other than those set forth in the Directions, application to or contact with desirable vegetation, failure of this product to control weed biotypes which develop resistance to glyphosate, unusual weather, weather conditions which are outside the range considered normal at the application site and for the time period when the product is applied, as well as weather conditions which are outside the application ranges set forth in the Directions, application in any manner not explicitly set forth in the Directions, moisture conditions outside the moisture range specified in the Directions, or the presence of products other than those set forth in the Directions in or on the soil, crop or treated vegetation.

United Suppliers, Inc. does not warrant any product reformulated or repackaged from this product except in accordance with United Suppliers, Inc.'s stewardship requirements and with express written permission from United Suppliers, Inc.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE LIMIT OF THE LIABILITY OF UNITED SUPPLIERS, INC. OR ANY OTHER SELLER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT (INCLUDING CLAIMS BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY, OTHER TORT OR OTHERWISE) SHALL BE THE PURCHASE PRICE PAID BY THE USER OR BUYER FOR THE QUANTITY OF THIS PRODUCT INVOLVED, OR, AT THE ELECTION OF UNITED SUPPLIERS, INC. OR ANY OTHER SELLER, THE REPLACEMENT OF SUCH QUANTITY, OR, IF NOT ACQUIRED BY PURCHASE, REPLACEMENT OF SUCH QUANTITY. TO THE FULLEST EXTENT PERMITTED BY LAW, IN NO EVENT SHALL UNITED SUPPLIERS, INC. OR ANY OTHER SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES.

Upon opening and using this product, buyer and all users are deemed to have accepted the terms of this LIMIT OF WARRANTY AND LIABILITY which may not be varied by any verbal or written agreement. If terms are not acceptable, return at once unopened.

Arsenal is a trademark of American Cyanamid Company.
Banvel is a trademark of Sandoz Crop Protection Corporation.
Garlon and Spike are trademarks of Dow AgroSciences LLC.
Hyvar, Krovar, and Oust are trademarks of E. I. duPont de Nemours and Company.
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