4787-23 1-26-2001 1/67

Please read instructions on reverse before completing form. Form Approved. OMB No. 2070-0060. Approval expires 05-31-98

EPA	United States Environmental Protection Agency Washington, DC 20460	☐ Registration ☐ Amendment ☒ Other: **NOTIFICATION per PRN 98-10**	OPP Identifier Number XXXXXX

Application for Pesticide - Section 1

1. Company/Product Number	2. EPA Product Manager	3. Proposed Classification
4787-23	**Jim Tompkins**	
4. Company/Product (Name) **Glyfos X-TRA**	PM# **Herbicide Branch**	☒ None ☐ Restricted

5. Name and Address of Applicant *(Include ZIP Code)*

Cheminova Agro A/S
P.O. Box 9
DK 7620
Lemvig, Denmark
☐ *Check if this is a new address*

Authorized Agent:
Cheminova, Inc.
1700 Route 23
Wayne, NJ 07470

6. **Expedited Review**. In accordance with FIFRA Section 3(c)(3)(b)(I), my product is similar or identical in composition and labeling to:

EPA Reg. No._____

Product Name _____

Section – II

NOTIFICATION

☐ Amendment - Explain below.
☐ Resubmission in response to Agency letter dated _____
☒ Notification - Explain below.
☐ Final printed labels in response to Agency letter dated _____
☐ "Me Too" Application
☐ Other - Explain below

JAN 26 2001

Explanation: Use additional page(s) if necessary. (For Section I and Section II.)

Notification of minor label changes per PR Notice 98-10: This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.6, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA.

Section – III

1. Material This Product Will Be Packaged In:

Child-Resistant Packaging	Unit Packaging	Water Soluble Packaging	2. Type of Container
☐ Yes*	☐ Yes	☐ Yes	☐ Metal
☐ No	☐ No	☐ No	☐ Plastic
Certification must be submitted	If "Yes" Unit Packaging wgt. / No. per container	If "Yes" Package wgt. / No. per container	☐ Glass ☐ Paper ☐ Other (Specify)

3. Location of Net Contents Information	4. Size(s) Retail Container	5. Location of Label Directions
☐ Label ☐ Container		☐ On Label ☐ On labeling accompanying product

6. Manner in Which Label is Affixed to Product ☐ Lithograph ☐ Paper glued ☐ Stenciled ☐ Other: _____

Section - IV

1. Contact Point *(Complete items directly below for identification of individual to be contacted, if necessary, to process this application)*

Name	Title	Telephone No. (Include Area Code)
Kari E. Mavian	**Regulatory Affairs Manager, Cheminova Inc.; Agent for Cheminova A/S**	**973-305-6600 x233**

Certification

I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

6. Date Application Received (Stamped)

2. Signature	3. Title
Kari E Mavian	**Regulatory Affairs Manager, Cheminova Inc.; Agent for Cheminova A/S**
4. Typed Name **Kari E. Mavian**	5. Date **January 16, 2001**

2/67

NOTIFICATION

JAN 26 2001

Glyfos® X-TRA
Herbicide

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

ACTIVE INGREDIENT:

*Glyphosate (N–(phosphonomethyl) glycine) in the form of its isopropylamine salt	**41.0%**
INERT INGREDIENTS:	**59.0%**
TOTAL:	**100%**

* 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

WARNING AVISO

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.)

IN CASE OF A MEDICAL EMERGENCY INVOLVING THIS PRODUCT, CALL TOLL FREE, DAY OR NIGHT 1-800-228-5635, Ext. 153

Read the entire label before using this product.
Use only according to label instructions.
Read "DISCLAIMER" before buying or using.
If terms are not acceptable, return product unopened without delay.

SEE BOOKLET FOR ADDITIONAL PRECAUTIONARY STATEMENTS AND USE DIRECTIONS

EPA Reg. No. 4787-23 EPA Est. No. 39578-TX-1

NET CONTENTS: 1, 2.5 or 30 Gallons and Bulk

Manufactured for:
Cheminova A/S
P.O. Box 9
Lemvig, Denmark

Authorized Representative
Cheminova, Inc.
1700 Route 23
Wayne, NJ 07470

®Glyfos is a registered trademark of Cheminova
PRODUCT OF DENMARK

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WARNING! AVISO!

Causes substantial but temporary eye injury. Harmful if inhaled or absorbed through skin. Do not get in eyes, on skin, or on clothing. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash clothing before re-use.

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. Call a Poison Control Center or doctor for treatment advice.
IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. 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 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.

Have the product container or label with you when calling a Poison Control Center or doctor, or when going for treatment. You may also contact 1-800-228-5635, x153 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, use detergent and hot water. Keep and wash PPE separately from other laundry.

Engineering controls statement: When handlers use closed system, 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:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if contaminated. 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 disposing of equipment washwaters.

PHYSICAL OR CHEMICAL HAZARDS

Spray solutions of this product should be mixed, stored and applied using only stainless steel, aluminum,

fiberglass, plastic or plastic-lined steel containers.

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

DIRECTIONS FOR USE

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

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

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water, is: coveralls, waterproof gloves, shoes plus socks, and protective eyewear.

Non-Agricultural Use Requirements

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

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

FOR MORE INFORMATION, CALL TOLL-FREE
1-800-548-6113

STORAGE AND DISPOSAL

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

DISPOSAL: Wastes resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, State or local procedures.

Emptied container retains vapor and product residue. Observe all labeled safeguards until container is destroyed.

FOR BULK CONTAINERS: Triple rinse emptied bulk container. Then offer for recycling or reconditioning, or dispose of in a manner approved by State and local authorities.

FOR MINI-BULK REFILLABLE CONTAINERS: Do not reuse container, except for refill in accordance with a valid Cheminova Repackaging or Toll Repackaging Agreement. If not refilled or returned to an authorized repackaging facility, triple rinse container, then puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

FOR ALL OTHER NON-RETURNABLE / REFILLABLE CONTAINERS: Do not reuse container. Triple rinse container, then puncture and dispose of in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

GENERAL INFORMATION

Product Description:
This product is a post-emergent, systemic herbicide with no soil residue activity. It is generally non-selective and gives broad spectrum control of many annual weeds, perennial weeds, woody brush and trees. It is formulated as a water-soluble liquid. No additional surfactant, additives containing surfactant, buffering agents or pH adjusting agents are needed or recommended. It may be applied through most standard industrial or field-type sprayers after dilution and thorough mixing with water or other carriers according to label instructions. Do not add surfactants, additives containing surfactants, buffering agents or pH adjusting agents to the spray solution when **Glyfos X-TRA** is the only pesticide used. Ammonium Sulfate may be used. See the **MIXING DIRECTIONS** section of this label for instructions.

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

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

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

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

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

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

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

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

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

When this product comes in contact with soil, it is bound to soil particles. Under recommended use situations, once this product is bound to soil particles, it is not available for plant uptake and will not harm off-site vegetation where roots grow into the treated area or if soil is transported off-site. The strong affinity of this product to soil particles prevents this product from leaching out of the soil profile and entering ground water.

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

Volatility:
Glyfos X-TRA is non-volatile. Therefore, it cannot move as a vapor after application to affect nearby vegetation.

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

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

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 recommended in this labeling. Mixing this product with herbicides or other materials not recommended on this label may result in reduced performance.

Annual Maximum Use Rate:
Except as otherwise specified in the crop section of this label, the combined total of all treatments must not exceed 8 quarts of this product per acre per year.*

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

* The annual maximum use rate includes other glyphosate containing products.

ATTENTION

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

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

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

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

MIXING DIRECTIONS

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

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

Mixing with Water:

This product mixes readily with water. Mix spray solutions of this product as follows:

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

Tank Mixing Procedure:

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

Mix labeled tank mixtures of this product as follows:

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

Maintain good agitation at all times until the contents of the tank are sprayed. If the spray mixture is

allowed to settle, thorough agitation is required to resuspend the mixture before spraying is resumed. Keep a by-pass line on or near the bottom of the tank to minimize foaming. Screen size in nozzle or line strainers should be no finer than 50 mesh.
Refer to the **Tank Mixing** section of **GENERAL INFORMATION** for additional precautions.

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

Spray Solution

Desired Volume	Amount of Glyfos X-TRA					
	1/2 %	**1 %**	**1 1/2 %**	**2 %**	**5 %**	**10 %**
1 Gal	2/3 oz	1 1/3 oz	2 oz	2 2/3 oz	6 1/2 oz	13 oz
25 Gal	1 pt	1 qt	1 1/2 qt	2 qt	5 qt	10 qt
100 Gal	2 qt	1 gal	1 1/2 gal	2 gal	5 gal	10 gal
2 tablespoons = 1 fluid ounce						

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

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

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

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

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

APPLICATION EQUIPMENT AND TECHNIQUES

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

Aerial - Fixed Wing and Helicopter

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

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

* THIS PRODUCT IS NOT REGISTERED IN CALIFORNIA OR ARIZONA FOR USE IN MISTBLOWERS.

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

Injection Systems - Aerial or ground injection sprayers.

Controlled Droplet Applicators (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 DESIRED VOLUMES.

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

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

For aerial application in California and Fresno County California, refer to Supplemental Labeling for aerial application in these areas for specific instructions, restrictions and requirements.

THIS PRODUCT PLUS BANVEL® OR 2,4-D TANK MIXTURES MAY NOT BE APPLIED BY AIR IN CALIFORNIA.

Avoid direct application to any body of water.

Avoid drift - do not apply during low-level inversion conditions, when winds are gusty or under any other condition which favors drift. Drift may cause damage to any other vegetation contacted to which treatment is not intended. To prevent injury to adjacent desirable vegetation, appropriate buffer zones must be maintained.

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

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

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

AERIAL SPRAY DRIFT MANAGEMENT
DRIFT MAY CAUSE DAMAGE TO ANY OTHER VEGETATION CONTACTED TO WHICH TREATMENT IS NOT INTENDED. TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION,

APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.
Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions. The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses or to applications using dry formulations.

1. The distance of the outer most nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.

2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees. Where states have more stringent regulations, they should be observed.

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

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 (see Wind, Temperature and Humidity, and Temperature Inversion sections of this label).

Controlling Droplet Size
Volume - Use high flow rate nozzles to apply the highest practical spray volume.
Nozzles with higher rated flows produce larger droplets.

Pressure - Use the lower spray pressures recommended 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 pressure.

Number of Nozzles - Use the minimum number of nozzles that 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 - Applications should 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 exposure of droplets to evaporation and wind.

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

Wind

Drift potential is lowest between wind speeds of 2-10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. Note: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect 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 Inversion
Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a connected cloud (under low wind conditions) indicates an inversion, while smoke that move upwards and rapidly dissipates indicates good vertical air mixing.

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

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

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

For control of weeds listed in the **ANNUAL WEEDS RATE TABLES**. apply a 0.5% 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% solution.

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

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

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

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

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

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

AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION.

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

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

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

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

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

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

Do not use wiper equipment when weeds are wet.

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

Do not add surfactant to the herbicide solution.

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

For porous-plastic applicators: Solutions ranging from 33 to 100% of this product in water may be used in porous-plastic wiper applicators.

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

Corn, volunteer*	Sicklepod
Panicum, Texas	Spanishneedles

Rye, common	Starbur, bristly
Shattercane	

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

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

* Except volunteer Roundup Ready® Corn.

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

CDA EQUIPMENT
The rate of this product applied per acre by vehicle-mounted CDA equipment must not be less than the amount recommended in this label when applied by conventional broadcast equipment. For vehicle-mounted CDA equipment, apply 3 to 15 gallons of water per acre.

For the control of annual weeds with hand-held CDA units, apply a 20% 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% solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 0.75 mph (2 to 4 quarts per acre).

Controlled droplet application equipment produces a spray pattern that is not easily visible. Extreme care must be exercised to avoid spray or drift contacting the foliage or any other green tissue of desirable vegetation, as damage or destruction may result.

CROPS

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

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

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

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

When applying this product prior to transplanting crops into plastic mulch, residues must be removed from the plastic by at least 0.5 inch of water applied at one time via sprinkler irrigation or single natural rainfall event.
The maximum use rates stated throughout this product's labeling apply to this product combined with the use of all other herbicides containing glyphosate or sulfosate as the active ingredient, whether applied as mixtures or separately. Calculate the application rates and ensure that the total use of this and other glyphosate or sulfosate containing products does not exceed stated maximum use rate.

ALFALFA, CLOVER, AND OTHER FORAGE LEGUMES
Labeled crops: Alfalfa, clover, kudzu, lespedeza, lupin, sainfoin, trefoil, velvet bean, vetch, crown vetch, milk vetch.
Types of applications: Preplant, pre-emergence, at-planting, spot treatment, wiper applications, renovation, preharvest.

Preplant, Pre-emergence, and At-planting
Use instructions: This product may be applied before, during or after planting alfalfa and clover. Applications must be made prior to emergence of the crop.
Precautions, restrictions: Remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

Preharvest (alfalfa only)
Use instructions: This product may be used in declining alfalfa stands or any stand of alfalfa where crop destruction is acceptable. This application will severely injure or destroy the stand of alfalfa. This product will control annual and perennial weeds, including quackgrass, when applied prior to the harvest of the alfalfa. The treated crop and weeds can be harvested and fed to the livestock after 36 hours. Allow a minimum of 36 hours between application and harvest. Applications may be made at any time of the year. Make only one application to an existing stand of alfalfa per year. For control of quackgrass apply in the spring, late summer or fall when quackgrass is actively growing. Treatments for quackgrass must be followed by deep tillage for complete control.
Precautions, restrictions: Do not apply more than 1 quart of this product per acre as a preharvest treatment. Do not use for alfalfa grown for seed, as a reduction in germination or vigor may occur.

Spot Treatment or Wiper Applications (alfalfa and clover only)
Use instructions: This product may be applied as a spot treatment in alfalfa or clover. This product may be applied with wiper applicators to control or suppress the weeds listed under **WIPER APPLICATORS** in the **SELECTIVE EQUIPMENT** section of this label. Applications may be made in the same area at 30-day intervals.
Precautions, restrictions: For spot treatment and wiper applications, apply in areas where the movement of domestic livestock can be controlled. No more than one-tenth of an acre should be treated at one time. Remove domestic livestock before application and wait 14 days after application before grazing livestock or harvesting.

Renovation
Use instructions: This product may be applied as a broadcast spray to existing stands of alfalfa, clover, and other labeled forage legumes. Labeled crops may be planted into the treated area.
Precautions, restrictions: Remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

ASPARAGUS
Types of applications: Preplant, pre-emergence, spot treatment, postharvest.

Preplant, Pre-emergence
Use instructions: This product may be applied prior to the emergence of asparagus.
Precautions, restrictions: Do not apply within a week before the first spears emerge.

Spot Treatment
Use instructions: This product may be applied immediately after cutting, but prior to the emergence of new spears.
Precautions, restrictions: Do not treat more than 10 percent of the total field area to be harvested. Do not harvest within 5 days of treatment.

Postharvest
Use instructions: This product may be applied after the last harvest and all spears have been removed. If

spears are allowed to regrow, delay application until ferns have developed. Delayed treatments should be applied as a directed or shielded spray in order to avoid contact of the spray with ferns, stems or spears.
Precautions, restrictions: Direct contact of the spray with the asparagus may result in serious crop injury. Select and use recommended types of spray equipment for post-emergence postharvest applications. A directed spray is any application where the spray pattern is aligned in such a way as to avoid direct contact of the spray with the crop. A shielded spray is any application where a physical barrier is positioned and maintained between the spray and the crop to prevent contact of spray with the crop.

CEREAL CROPS
Labeled crops: Barley, buckwheat, millet (pearl, proso), oats, rice, rye, teosinte, triticale, wheat (all), wild rice.
Types of applications: Preplant, pre-emergence, at-planting, spot treatment (except rice), postharvest, preharvest (wheat only), wiper applicators (wheat only)

Do not treat rice fields or levees when field contains flood water.

Preplant, Pre-emergence and At-planting
Use instructions: This product may be applied before, during or after planting of cereal crops. Applications must be made prior to emergence of the crop.

Spot Treatment (except rice)
Use instructions: This product may be applied as a spot treatment in cereal crops. Apply this product before heading in small grains.
Precautions, restrictions: Do not treat more than 10% of the total field area to be harvested. The crop receiving spray in the treated area will be killed. Take care to avoid drift or spray outside the target area for the same reason.

Postharvest
Use instructions: This product may be applied after harvest of cereal crops. Higher rates may be required for control of large weeds that were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.
Precautions, restrictions: For any crop not listed on this label, applications must be made at least 30 days prior to planting the next crop. Do not harvest or feed treated vegetation for 8 weeks following application.

Preharvest (wheat only)
Use instructions: This product provides weed control when applied prior to the harvest of wheat. Apply after the hard-dough stage of grain (30% or less grain moisture) and at least 7 days prior to harvest. Wheat stubble may be grazed immediately after harvest.
This product may be applied using either aerial or ground spray equipment. For ground applications, apply this product in 10 to 20 gallons of water per acre. For aerial applications, apply this product in 3 to 10 gallons of water per acre.
Precautions, restrictions: Do not apply more than 1 quart of this product per acre. Do not apply to wheat grown for seed, as a reduction in germination or vigor may occur.

Wiper Applications (wheat only)
Use instructions: Wiper applications may be used in wheat. To control common rye or cereal rye, apply after the weeds have headed and achieved maximum growth, when the rye is at least 6 inches above the wheat crop.
Precautions, restrictions: Allow at least 35 days between application and harvest. Do not use roller applications.

CITRUS CROPS
Labeled crops: Calamondin, chironja, citron, citrus hybrids, grapefruit, kumquat, lemon, lime, mandarin (tangerine), orange (all), pummelo, tangelo, tangor.
Types of applications: General weed control, middles (between rows of trees), strips (in row of trees), selective equipment

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

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

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

Perennial Weeds

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

Weed Species		Glyfos X-TRA Rate per Acre			
		1 QT	2 QT	3 QT	5 QT
Bermudagrass		B	-	PC	C
Guineagrass	Texas & Florida Ridge	B	C	C	C
	Florida Flatwoods	-	B	C	C
Paragrass		B	C	C	C
Torpedograss		S	-	PC	C

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

CONSERVATION RESERVE PROGRAM (CRP)
Types of applications: Renovation (rotating out of CRP), site preparation, dormant, wiper.

Rotating out of CRP, Site Preparation
Use instructions: This product may be used to prepare CRP land for crop production.

Dormant, Wiper
Use instructions: This product may be used to suppress competitive growth and seed production of undesirable vegetation in CRP acres. Such applications may be made with wiper application equipment or as a broadcast or spot treatment to dormant CRP grasses. For selective applications with broadcast spray equipment, apply 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 grasses have reached dormancy.
Precautions, restrictions: Some stunting of CRP perennial grasses will occur if broadcast applications are made when plants are not dormant.

CORN
Types of corn: Field corn, seed corn, sweet corn and popcorn.
Types of applications: Preplant, pre-emergence, at-planting, spot treatment, postharvest.

Preplant, Pre-emergence and At-planting
Use instructions: This product may be applied before, during or after planting corn. Applications must be made prior to emergence of the crop.

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

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

ATRAZINE	EXTRAZINE®	LOROX®
BANVEL	FRONTIER®	MARKSMAN®
BICEP®	GUARDSMAN®	MICRO-TECH®
BICEP II	HARNESS®	PARTNER®
BLADEX®/CYANAZINE	HARNESS XTRA	PROWL®
BROADSTRIKE™	HARNESS XTRA 5.6L	SIMAZINE
BULLET®	LARIAT®	SURPASS™
DUAL™	LASSO®/ALACHLOR	SURPASS 100
DUAL II	LINEX™	TOPNOTCH™

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

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

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

THE TANK MIX RECOMMENDATIONS IN THIS SECTION ARE NOT REGISTERED IN CALIFORNIA.

Spot Treatment
Use instructions: For spot treatments, apply this product prior to silking of corn.
Precautions, restrictions: Do not treat more than 10 percent of total field area to be harvested. The crop receiving spray in the treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

Postharvest
Use instructions: This product may be applied after harvest of corn. Higher rates may be required for control of large weeds which were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.
Precautions, restrictions: Do not harvest or feed treated vegetation for 8 weeks following application.

COTTON
Types of applications: Preplant, pre-emergence, at-planting, hooded sprayer, selective equipment, spot treatment, preharvest.

Preplant, Pre-emergence, and At-planting
Use instructions: This product may be applied before, during or after planting cotton. Applications must be made prior to emergence of the crop.

Hooded Sprayer, Selective Equipment
Use instructions: This product may be applied through hooded sprayers, recirculating sprayers, shielded

applicators or wiper applicators in cotton. Allow at least 7 days between application and harvest.
Precautions, restrictions: See the **SELECTIVE EQUIPMENT** part of the **APPLICATION EQUIPMENT AND TECHNIQUES** section of this label for information on proper use and calibration of this equipment.

Spot Treatment
Use instructions: For spot treatment, apply this product prior to boll opening of cotton.
Precautions, restrictions: Do not treat more than 10% of the total field area to be harvested. The crop receiving the spray in the treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

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

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

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

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

Precautions, restrictions: Do not feed or graze treated cotton forage or hay following preharvest applications. DO NOT APPLY MORE THAN 1 QUART OF THIS PRODUCT PER ACRE BY AIR. Do not apply more than 2 quarts of this product per acre by ground. Do not apply to cotton grown for seed. as a reduction in germination or vigor may occur.

FALLOW SYSTEMS
Types of applications: Chemical fallow, pre-plant fallow beds, aid-to-tillage.

Chemical Fallow
Use instructions: This product may be applied during the fallow period prior to planting or emergence of any crop listed on this label, applications must be made at least 30 days prior to planting. This product may be used as a substitute for tillage to control annual weeds in fallow fields. Also, broadcast or spot treatments will control or suppress many perennial weeds in fallow fields. Ground or aerial application equipment may be used. Tank mixtures with 2,4-D and dicamba may be used.

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

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

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

In addition, 12 fluid ounces of this product plus 2 to 3 ounces of Goal™ 2XL per acre will control the following weeds with the maximum height or length indicated: 3" - common cheeseweed, chickweed, groundsel; 6" - London rocket, shepherd's purse.

16 fluid ounces of this product plus 2 to 3 ounces of Goal 2XL per acre will control the following weeds with the maximum height or length indicated: 6" - common cheeseweed, groundsel, marestail *(Conyza canadensis)*, 12" - chickweed, London rocket, shepherd's purse.

Aid-to-Tillage
Use instructions: This product may be used in conjunction with tillage practices in fallow systems or preplant to labeled crops to control downy brome, cheat, volunteer wheat, tansy mustard and foxtail. Apply 8 fluid ounces of this product in 3 to 10 gallons of water per acre. Make applications before weeds are 6 inches in height. Application must be followed by conventional tillage practices no later than 15 days after treatment and before regrowth occurs. Allow at least 1 day after application before tillage.
Precautions, restrictions: Tank mixtures with residual herbicides may result in reduced performance.

GRAIN SORGHUM (MILO)
Type of applications: Preplant, pre-emergence, at-planting, spot treatment, wiper applications, postharvest.

Preplant, Pre-emergence, At-planting
Use instructions: This product may be applied before, during or after planting grain sorghum. Applications must be made prior to emergence of the crop.

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

Precautions, restrictions: For spot treatment. do not treat more than 10% of the total field area to be harvested. The crop receiving spray in treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

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

Postharvest
Use instructions: This product may be applied after harvest of grain sorghum. 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.

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.

Precautions, restrictions: Do not harvest or feed treated vegetation for 8 weeks following application.

GRASS SEED PRODUCTION
Types of applications: Preplant, renovation. site preparation

Use instructions: Applications may be made prior to planting or renovation of turf or forage grass areas grown for seed production. For maximum control of existing vegetation, delay planting to determine if any regrowth from escaped underground plant parts occurs. Where repeat treatments are necessary, sufficient regrowth must be attained prior to application. For warm-season grasses, such as bermudagrass, summer or fall applications provide best control.
Precautions, restrictions: Do not disturb soil or underground plant parts before treatment. Tillage or renovation techniques such as vertical mowing, coring or slicing should be delayed for 7 days after application to allow proper translocation into underground plant parts.
Do not feed or graze treated areas for 8 weeks following application.

HERBS
Types of herbs: Peppermint, spearmint

Use instructions: This product may be used as a spot treatment in spearmint and peppermint. Apply as a spray-to-wet treatment with hand-held equipment, such as backpack and knapsack sprayers, pump-up pressure sprayers, handguns, hand wands or any other hand-held or motorized spray equipment used to direct the spray solution on to a limited area.
Precautions, restrictions: Allow at least 7 days between application and harvest. Further applications may be made in the same area at 30 day intervals. No more than one-tenth of any acre should be treated at one time. The crop receiving spray in the treated area will be killed. Take care to avoid drift or spray outside the target area for this reason.

PASTURES
Types of pastures: Bahiagrass, bermudagrass, bluegrass, brome, fescue, orchardgrass, ryegrass, timothy, wheatgrass, alfalfa and clover.
Types of applications: Spot treatment, wiper application, preplant, pre-emergence, pasture renovation.

Spot Treatment and Wiper Application
Use instructions: This product may be applied as a spot treatment or with wiper applicators in pastures. Applications may be made in the same area at 30 day intervals.
Precautions, restrictions: For spot treatment and wiper applications, apply in areas where the movement of domestic livestock can be controlled. No more than one-tenth of any acre should be treated at one time. Remove domestic livestock before application and wait 14 days after application before grazing livestock or harvesting.

Preplant, Pre-emergence and Pasture Renovation
Use instructions: This product may be applied prior to planting or emergence of forage grasses and legumes. In addition, this product may be used to control perennial pasture species listed on this label prior to re-planting.
Precautions, restrictions: Remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

PEANUTS
Types of applications: Preplant, pre-emergence, at-planting.

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

SMALL FRUITS AND BERRIES
Labeled crops: Blackberry, blueberry, boysenberry, cranberry, currant, dewberry, elderberry, gooseberry, huckleberry, loganberry, olallieberry, raspberry (black, red), youngberry
Types of applications: Preplant, pre-emergence, directed spray (except cranberry), wiper application.

Use instructions: This product may be applied as a preplant or pre-emergence broadcast application or as a wiper application for crops listed in this section. Directed sprays may be applied to any crop except cranberries. For wick or wiper applicators, mix 1 gallon of this product in 4 gallons of water to prepare a 20% solution. In severe infestations, reduce equipment ground speed to ensure that adequate amounts of this product are wiped on the weeds. A second application in the opposite direction may be beneficial.
Precautions, restrictions: Do not permit herbicide solution to contact desirable vegetation, including green shoots, canes and foliage. Allow a minimum of 30 days between last application and harvest of cranberries. For other small fruits and berries, allow a minimum of 14 days between last application and harvest.

SOYBEANS
Types of applications: Preplant, pre-emergence, at-planting, spot treatment, preharvest, selective equipment, hooded sprayers.

Preplant, Pre-emergence and At-planting
Use instructions: This product may be applied before, during or after planting soybeans. Applications must be made prior to emergence of the crop.

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

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

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

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

PRECAUTIONS, RESTRICTIONS: THE TANK MIX RECOMMENDATIONS IN THIS SECTION ARE NOT REGISTERED IN CALIFORNIA

Spot Treatment
Use instructions: For spot treatments, apply this product prior to initial pod set in soybeans.
Precautions, restrictions: Do not treat more than 10% of the total field area to be harvested. The crop receiving spray in the treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

Preharvest
Use instructions: This product provides weed control when applied prior to harvest of soybeans.

Apply at rates given in the annual, perennial and woody brush and trees rate tables. This product may be applied using either aerial or ground spray equipment. For ground applications, apply this product in 10 to 20 gallons of water per acre. For aerial applications, apply this product in 3 to10 gallons of water per acre.

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

Precautions, restrictions: Do not graze or harvest treated crop for livestock feed within 25 days of last preharvest application. DO NOT APPLY MORE THAN 6 QUARTS PER ACRE OF THIS PRODUCT FOR PREHARVEST APPLICATIONS. DO NOT APPLY MORE THAN 1 QUART PER ACRE OF THIS PRODUCT BY AIR. Do not apply to soybeans grown for seed as a reduction in germination or vigor may occur.

Selective Equipment
Use instructions: This product may be applied through recirculating sprayers, shielded applicators, hooded sprayers, wiper applicators or sponge bars in soybeans. Allow at least 7 days between application and harvest.
Precautions, restrictions: See the **SELECTIVE EQUIPMENT** part of the **APPLICATION EQUIPMENT AND TECHNIQUES** section of this label for information on proper use and calibration of this equipment.

SUGARCANE
Types of applications: Preplant, pre-emergence, spot treatment, fallow, hooded sprayers.

Preplant, Pre-emergence
Use instructions: This product may be applied in or around sugarcane fields or in fields prior to the emergence of plant cane.
Precautions, restrictions: Do not apply to vegetation in or around ditches, canals or ponds containing water to be used for irrigation.

Spot Treatment
Use instructions: This product may be applied as a spot treatment in sugarcane. For control of volunteer or diseased sugarcane, make a 1% solution of this product in water and spray to wet foliage of vegetation to be controlled. Volunteer or diseased sugarcane should have at least 7 new leaves.
Precautions, restrictions: Avoid spray contact with healthy cane plants since severe damage or destruction may result. Do not feed or graze treated sugarcane foliage following application.

Fallow Treatments
Use instructions: This product may be used as a replacement for tillage in fields that are lying fallow between sugarcane crops. This product may also be used to remove 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.

Hooded Sprayers
Use instructions: This product may be used through hooded sprayers for weed control between rows of sugarcane. A hooded sprayer is a type of shielded applicator. The spray pattern is completely enclosed on the top and all 4 sides by a hood, thereby shielding the crop from the spray solution.

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

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

Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting the crop. Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage. **SUCH DAMAGE SHALL BE THE SOLE RESPONSIBILITY OF THE APPLICATOR.**

Precautions, restrictions: Do not allow treated weeds to come in contact with the crop. Droplets, mist, foam or splatter of the herbicide solution settling on the crop may result in discoloration, stunting or

destruction.

SUNFLOWERS
Types of applications: Preplant, pre-emergence.

Use instructions: This product may be applied before, during or after planting sunflowers. Applications must be made prior to the emergence of the crop.
Precautions, restrictions: Do not apply more than 1 quart of this product per acre for sunflowers. Make only one preplant or pre-emergent application per year. Do not feed or graze sunflower forage following application of this product.

TREE, NUT AND VINE CROPS (GENERAL)
Types of applications: General weed control, middles (between rows of trees), strips (in row of trees), selective equipment (except kiwi), perennial grass suppression.

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

This product may be applied in middles, strips or for general weed control in established citrus groves, tree fruit and tree nut orchards and vineyards. Apply 1 pint to 5 quarts per acre. Repeat applications may be made up to a maximum of 10.6 quarts per acre per year. This product may also be used for site preparation prior to transplanting these crops. Allow a minimum of 3 days between application and transplanting. Applications may be made with boom equipment, CDA, shielded sprayers, hand-held and high-volume wands, lances, orchard guns or with wiper applicator equipment, except as directed.

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

A tank mixture of this product plus Goal 2XL may be used for annual weeds in middles between rows of citrus crops, tree fruits, tree nuts and vine crops. This mixture is recommended when weeds are stressed or growing in dense populations. 16 to 32 oz/A of this product plus 3 to 12 oz/A of Goal 2XL will control annual weeds with a maximum height or diameter of 6 inches, including crabgrass, hairy fleabane *(Conyza bonariensis)*, common groundsel, junglerice, common lambsquarters, redroot pigweed, London rocket, common ryegrass, shepherd's purse, annual sowthistle, common cheeseweed (malva), filaree (suppression), horseweed/marestail *(Conyza canadensis)*, stinging nettle and common purslane (suppression). 12 to 32 oz/A of this product plus 3 to 12 oz/A of Goal 2XL will control common cheeseweed (malva) with a maximum height or diameter of 3 inches.

Strips (in rows)
Use instructions: This product may be applied in rows of tree or vine crops and may also be tank mixed with the following products:

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

Do not apply these tank mixtures in Puerto Rico.

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

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

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

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

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

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

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

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

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

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

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

GENERAL PRECAUTIONS/RESTRICTIONS: For all uses in this section.

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

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

TREE FRUITS
Labeled crops: Apple, apricot, cherry (sweet, sour), crabapple, loquat, mayhaw, nectarine, olive, peach, pear, plum/prune (all), quince
Types of applications: General weed control, middles (between rows of trees), strips (in row of trees), selective equipment.

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

THE FOLLOWING DIRECTIONS ARE SPECIFIC TO TREE FRUITS.

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

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

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

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

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

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

TREE NUTS
Labeled crops: Almond, beechnut, Brazil nut, butternut, cashew, chestnut, chinquapin, filbert (hazelnut), hickory nut, macadamia, pecan, pistachio, walnut (black, English).
Types of applications: General weed control, middles (between rows of trees), strips (in row of trees), selective equipment

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

Precautions, restrictions: Allow a minimum of 3 days between last application and harvest of tree nuts.

TROPICAL CROPS
Labeled crops: Atemoya, avocado, banana, Barbados cherry (acerola), breadfruit, canistel, carambola, cherimoya, cocoa beans, coconuts, coffee, dates, figs, guava, jaboticaba, jackfruit, longan, lychee, mango, marmaladebox (genip), papaya, passion fruit, persimmon, pineapple, plantain, pomegranate, sapodilla, sapote (black, marmey, white), soursop, sugar apple, tamarind, tea.

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

Precautions, restrictions: Allow a minimum of 14 days between last application and harvest of acerola, atemoya, avocado, breadfruit, canistel, carambola, cherimoya, cocoa beans, coconuts, dates, figs, genip, jaboticaba, jackfruit, longan, lychee, mango, mayhaw, passion fruit, persimmon, pomegranate, sapodilla, sapote, soursop, sugar apple, tamarind and tea.

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

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

Do not feed or graze treated pineapple forage following application.

VEGETABLE CROPS
Labeled crops: Amaranth, arugula, artichoke (Jerusalem), beans (all), beet greens, garden beets, broccoli (all), Brussels sprouts, cabbage (all), cabbage (Chinese), cantaloupe, cardoon, cavalo broccolo, carrot, cauliflower, casaba melon, celery, celery (Chinese), celeriac, celtuce, chard (Swiss), chayote, chervil, chick peas, chicory, chrysanthemum, collards, corn salad, crenshaw melon, cress, cucumber, dandelion, dock (sorrel), eggplant, endive, fennel (Florence), garlic, gherkin, ginseng, gourds, ground cherry, guar, honeydew melon, honey ball melon, horseradish, kale, kohlrabi, leek, lentils, lettuce, mango melon, melons (all), mizuna, muskmelon, mustard greens, okra, onion, oriental radish, parsley, parsnips, peas (all), pepinos, pepper (all), Persian melon, potato (Irish), pumpkin, purslane, radish, rape greens, rhubarb, rutabaga, salsify, shallot, spinach (all), mustard spinach, squash (summer, winter), sugar beets, sweet potato, tomatillo, tomato, turnip, watercress, watermelon, yams.

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

Precautions, restrictions: When applying this product prior to transplanting crops into plastic mulch, care must be taken to remove residues of this product from the plastic prior to transplanting. Residues must be removed by a single 0.5 inch natural rainfall event or by applying at least 0.5 inch of water via a sprinkler system.

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

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

VINE CROPS
Labeled crops: Grapes (raisin, table, wine), kiwi fruit.
Types of applications: General weed control, middles (between rows), strips (in rows), selective equipment.

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

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

In the Northeast and Great Lakes regions, applications must be made prior to the end of bloom stage of grapes to avoid injury, or make applications with shielded sprayers or wiper equipment.

Precautions, restrictions: Allow a minimum of 14 days between last application and harvest.

FARMSTEADS
Types of applications: General non-selective weed control, trim-and-edge, chemical mowing, cut stumps, habitat management.

General Non-selective Weed Control, Trim-and-edge
Use instructions: This product may be used to control annual weeds, perennial weeds and woody brush that are found in any part of the farmstead, including building foundations, along and in fences, in dry ditches and canals, along ditch banks, farm roads, shelterbelts, prior to landscape plantings and equipment storage areas.

This product may be tank mixed with the following products. Refer to these product labels for approved farmstead sites and application rates. For annual weeds, use 1 quart per acre of this product when weeds are less than 6 inches tall and 1.5 quarts per acre when weeds are greater than 6 inches tall. For perennial weeds, apply 2 to 5 quarts per acre in these tank mixes. For tank mixtures with these products through backpack sprayers, handguns or other high-volume spray-to-wet applications, see the **HAND-HELD AND HIGH-VOLUME EQUIPMENT** section of this label for recommended rates.

BANVEL	SIMAZINE 80W
DIURON	SURFLAN 75W
PRINCEP CALIBER 90	SURFLAN AS
SIMAZINE	2,4-D
SIMAZINE 4L	

BANVEL AND 2,4-D MIXTURES MAY NOT BE APPLIED BY AIR IN CALIFORNIA.

Chemical Mowing
Use instructions: This product will suppress perennial grasses listed in this section to serve as a substitute for mowing. Apply this product at a rate of 6 to 8 fluid ounces per acre. Use 8 fluid ounces of this product per acre when treating tall fescue, fine fescue, orchardgrass or quackgrass covers. Use 6 fluid ounces of this product per acre when treating Kentucky bluegrass. Apply treatments in 10 to 20 gallons of spray solution per acre. Chemical mowing applications may be made along farm ditches and other parts of farmsteads.
Precautions, restrictions: Use only in areas where some temporary injury or discoloration of perennial grasses can be tolerated.

ROUNDUP READY CROPS

CORN
CHEMINOVA RECOMMENDS USE OF THIS PRODUCT FOR POST-EMERGENCE APPLICATION ONLY ON CORN HYBRIDS DESIGNATED AS CONTAINING THE ROUNDUP READY GENE.

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

Roundup Ready varieties must be purchased from an authorized seed supplier. Crop safety and weed control performance are not warranted when this product is used in conjunction with seed from unauthorized sources or seed saved from the previous year's production and replanted.

The Roundup Ready designation indicates that the corn hybrid contains a patented gene which provides tolerance to certain glyphosate-containing herbicides, including **Glyfos X-TRA**.

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

Application Instructions
This product may be applied post-emergence to Roundup Ready corn from emergence through the V8 stage (8 leaves with collars) or until corn height reaches 30 inches, whichever comes first. Single in-crop applications of this product are not to exceed 1 quart per acre. Sequential in-crop applications of any glyphosate containing product through the V-8 stage or 30 inches must not exceed 2 quarts per acre per growing season.

Pre-harvest Interval
Allow a minimum of 50 days between application of this product and harvest of corn forage and 7 days between application and harvest of corn grain. Allow a minimum of 10 days between in-crop applications of this product. **Do not graze, harvest or feed corn forage or silage following sequential in-crop applications of this product on Roundup Ready corn.**

Maximum Allowable Yearly Rates (See Footnote 1)
Pre-plant: The maximum amount of **Glyfos X-TRA** that can be applied prior to crop emergence is 5 quarts per acre.

In-crop: Maximum combined total of single or multiple in-crop applications of any glyphosate product from emergence through the V-8 stage or 30 inches is 2 quarts per acre. The maximum rate for any single in-crop application is 2 quarts per acre.

Pre-harvest: Maximum amount of **Glyfos X-TRA** that can be applied after maximum kernel fill is

complete and the crop is physiologically mature (black layer formation) until 7 days before harvest is 1 quart per acre.

Cropping season: Combined total for the year for all applications of **Glyfos X-TRA** may not exceed 8 quarts per acre.

When used as directed, this product will control annual grasses and broadleaf weeds listed on the **Glyfos X-TRA** label in Roundup Ready corn. Many perennial grasses and broadleaf weeds will be controlled or suppressed with one or more applications of this product. Applications should be made to actively growing weeds before they reach the maximum size listed in the weeds rate tables.

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

ATTENTION: AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS WHICH DO NOT CONTAIN THE ROUNDUP READY GENE.
THOROUGHLY CLEAN THE SPRAY TANK, AND ALL LINES AND FILTERS TO ELIMINATE POTENTIAL CONTAMINATION FROM OTHER HERBICIDES PRIOR TO MIXING AND APPLYING THIS PRODUCT.

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

Aerial Application
Use the recommended rates of this product in 3 to 15 gallons of spray solution per acre. Do not exceed 1 quart of this product per acre.

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

AERIAL APPLICATION ON ROUNDUP READY CORN MAY BE MADE ONLY IN THE FOLLOWING STATES:
Alabama
Arkansas
Colorado
Florida
Georgia
Kansas
Louisiana
Mississippi
Missouri (Bootheel only)
Nebraska
North Carolina
North Dakota
Oklahoma
South Carolina
South Dakota
Tennessee
Texas

Weed Control Recommendations
Apply 24 to 32 fluid ounces of **Glyfos X-TRA** herbicide per acre for control of labeled grasses and broadleaf weeds in conventional and no-till corn production systems. Refer to the weeds rate tables for

rate recommendations for specific annual weeds. **Glyfos X-TRA** applied up to 1 quart per acre will control or suppress the growth of perennial weeds such as:

bermuda grass	Canada thistle	common milkweed
field bindweed	hemp dogbane	horsenettle
nutsedge	quackgrass	rhizome johnsongrass
redvine	trumpetcreeper	swamp smartweed
wirestem muhly		

For additional information on perennial weeds, see the **PERENNIAL WEEDS RATE TABLE**.

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

Post-emergence Only Weed Control
This product may be applied alone as a post-emergence in-crop application to provide control of emerged weeds listed on the label. The post-emergence application of this product should be made before the weeds reach a height and/or density that the weeds become competitive with the crop. If new flushes of weeds occur, a sequential application of this product at 24 to 32 fluid ounces per acre will control the listed grasses and broadleaf leaves. This product may be applied post-emergence to Roundup Ready corn from emergence to the V-8 stage or until corn height reaches 30 inches (free standing), whichever comes first.

This product may be applied in tank mixtures with a labeled rate of Harness, Harness Xtra, Harness Xtra 5.6L, Micro-Tech, Bullet, Partner, Permit® or Atrazine. Refer to the specific product label and observe all precautions and limitations on the label for all products used in tank mixtures, including application timing restrictions, soil restrictions, minimum re-cropping interval and rotational guidelines, the more restrictive requirements apply. Tank mixtures with other products may result in increased potential for crop injury and/or weed antagonism. Refer to the table below for height limitation for tank mix partner.

Tank Mix Partner	Max. Height of Corn for Application
Harness	11 inches
Harness Xtra	11 inches
Harness Xtra 5.6L	11 inches
Bullet	5 inches
Micro-Tech	5 inches
Partner	5 inches
Permit	24 inches
Atrazine	12 inches

Bullet, Micro-Tech and Partner are not registered products for use as a post-emergence application in Texas.

Ammonium Sulfate
Ammonium Sulfate may be mixed with this product for applications to Roundup Ready corn. Refer to the **MIXING DIRECTIONS** section of this label for ammonium sulfate use instructions.

COTTON
CHEMINOVA RECOMMENDS THIS PRODUCT FOR USE ONLY OVER-THE-TOP OF, OR DIRECTED ONTO, IMPROVED COTTON VARIETIES THAT ARE DESIGNATED AS COTTON WITH THE ROUNDUP READY GENE. **SEVERE INJURY OR DEATH OF COTTON WILL RESULT IF ANY COTTON VARIETIES NOT PROPERLY DESIGNATED AS HAVING THE ROUNDUP READY GENE ARE SPRAYED WITH THIS PRODUCT.** AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, FRUIT OF CROPS, OR ANY DESIRABLE PLANTS AND TREES, OTHER THAN CROPS WITH THE ROUNDUP READY GENE, SINCE SEVERE INJURY OR DESTRUCTION WILL RESULT. ROUNDUP READY COTTON VARIETIES MUST BE PURCHASED FROM AN AUTHORIZED LICENSED SEED SUPPLIER. THE DESIGNATION ROUNDUP READY, INDICATES THE COTTON CONTAINS A PATENTED PROPRIETARY TRAIT.

Application Instructions
This product will control many troublesome weeds with over-the-top, post-directed, hooded sprayer, or preharvest applications in Roundup Ready cotton.

Maximum Allowable Yearly Rates of Glyfos X-TRA (See Footnote 1)

1.	Combined total per year for all applications	8 quarts per acre
2.	Preplant, pre-emergence applications	5 quarts per acre
3.	Total in-crop applications from cracking to layby	4 quarts per acre
4.	Maximum preharvest application rate	2 quarts per acre

For Ground Applications
With broadcast equipment, apply **Glyfos X-TRA** in 5 to 20 gallons of spray solution per acre. Carefully select proper nozzle and spray pressure to avoid spraying a fine mist. For best results with ground application equipment, use flat fan nozzles. Check for even distribution of spray droplets.

For Aerial Applications
Apply **Glyfos X-TRA** in 3 to 15 gallons of spray solution per acre.

DO NOT EXCEED A MAXIMUM RATE OF 1 QUART PER ACRE OF THIS PRODUCT WHEN MAKING APPLICATIONS BY AIR. AVOID DRIFT, EXTREME CARE MUST BE 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 which favor drift. Drift may cause damage to any vegetation contacted to which treatment is not intended. To prevent injury to adjacent desirable vegetation, appropriate buffer zones must be maintained.

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

Spray equipment preparation: It is important that sprayer and mixing equipment be clean and free of pesticide residue before making applications of **Glyfos X-TRA** to Roundup Ready Cotton. Follow the cleaning procedures specified on the label of the product(s) previously used. Cotton is very sensitive to many herbicides at extremely low concentrations and care should be taken to thoroughly clean all equipment prior to use, of this product.

In addition to uses listed in weeds rate tables, the following applications can be made:

Over-the-top applications: This product may be applied by aerial or ground application equipment post-emergence to Roundup Ready cotton from the ground cracking stage until the four leaf (node) stage of development (until the fifth true leaf reaches the size of a quarter). Over-the-top applications made after the four leaf (node) stage of development may result in boll loss, delayed maturity and/or yield loss. Any single over-the-top broadcast application should not exceed 1 quart per acre. No more than two over-the-top broadcast applications may be made from crop emergence through the four leaf (node) stage of development. Sequential over-the-top applications of any glyphosate product must be at least 10 days

apart and cotton must have at least two nodes of incremental growth between applications.

NOTE: Always plant into a weed free seedbed. In no-till and stale seedbed systems always burn down existing weeds before cotton emerges. Apply a preplant burndown treatment of 16 to 48 fluid ounces per acre of **Glyfos X-TRA**.

Post-directed or hooded applications: This product may be applied using precision post-directed or hooded sprayers to Roundup Ready cotton through layby. At this stage, post-directed equipment should be used which directs the spray to the base of the cotton plants. Contact of the spray with the cotton leaves should be avoided to the maximum extent possible. To minimize spray onto the leaves of the cotton plants, place nozzles in a low position directing a horizontal spray pattern under the cotton leaves to contact the weeds in the row, and maintain low spray pressure (less than 30 psi). For best results, make applications while weeds are small (less than 3 inches). Any single post-directed application should not exceed 1 quart per acre of **Glyfos X-TRA**. No more than two applications should be made from the fifth leaf stage through layby. Sequential in-crop applications of any glyphosate product must be at least 10 days apart and cotton must have at least two nodes of incremental growth between applications.

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

Salvage treatment: This treatment may be used after the four leaf stage of development and should 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 should be used per growing season.**

Weeds controlled: For specific rates of application and instructions for control of various annual and perennial weeds, refer to weeds rate tables. **Glyfos X-TRA** herbicide applied at 1 quart per acre will burn down or suppress the growth of the following perennial weeds and reduce crop competition:

yellow and purple nutsedge	rhizome johnsongrass
common bermuda grass	silverleaf nightshade
trumpet creeper	redvine

Fall pre-harvest applications may be required for control of these perennial weeds.

Tank mixtures with other herbicides may result in reduced weed control or crop injury and are not recommended for over-the-top applications with **Glyfos X-TRA.**

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

Pre-harvest applications: Glyfos X-TRA may be applied for pre-harvest annual and perennial weed control as a broadcast treatment to Roundup Ready cotton after 20% boll crack. Allow a minimum of 7 days between application and harvest. For specific recommendations refer to the **COTTON** section of this label.

NOTE: Glyfos X-TRA will not enhance the performance of harvest aids when applied to Roundup Ready cotton. DO NOT APPLY **Glyfos X-TRA** PREHARVEST TO CROPS GROWN FOR SEED.

SOYBEANS
NOTE: THIS PRODUCT IS **NOT FOR USE ON** SOYBEANS IN CALIFORNIA.

CHEMINOVA RECOMMENDS USE OF THIS PRODUCT FOR POST-EMERGENCE APPLICATION ONLY ON SOYBEAN VARIETIES WHICH HAVE THE ROUNDUP READY GENE.

Applying this product to soybean varieties which are not designated as Roundup Ready will result in severe crop injury and yield loss. Avoid contact with foliage, green stems, or fruit of crops or any desirable plants that do not contain the Roundup Ready gene, since severe injury will result.
Roundup Ready varieties must be purchased from an authorized seed supplier. Crop safety and weed control performance are not warranted when this product is used in conjunction with seed from unauthorized sources or seed saved from previous year's production and replanted.
The Roundup Ready designation indicates that the soybean contains a patented gene which provides tolerance to certain glyphosate-containing herbicides including **Glyfos X-TRA** Herbicide.
Information on Roundup Ready soybeans is available from your seed supplier.

Application Instructions
This product may be applied post-emergence to Roundup Ready soybeans from the cracking stage through the full flowering stage.

Pre-harvest interval: Allow a minimum of 14 days between application and harvest of soybeans.

Maximum Allowable Yearly Rates (See Footnote 1)
Pre-plant: Maximum amount of **Glyfos X-TRA** which can be applied prior to crop emergence is 5 quarts per acre.

In-crop: Maximum combined total of single or multiple in-crop applications of this product from cracking to flowering is 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 which can be applied during flowering is 2 quarts per acre.

Pre-harvest: Maximum amount of this product which can be applied after loss of green color in soybean pods until 14 days before harvest is 1 quart per acre. The maximum for any single in-crop application is 1 quart per acre. The maximum combined total of this product which can be applied during flowering is 3 quarts per acre.

Cropping season: Combined total for the year for all applications of this product may not exceed 8 quarts per acre (see Footnote 1).

When used as directed, this product will control annual grasses and broadleaf weeds listed on the **Glyfos X-TRA** label in Roundup Ready soybeans. There are no rotational crop restrictions following applications of this product.

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

Aerial Application
Use the recommended rates of this product in 3 to 15 gallons of water per acre. Do not exceed 1 quart of this product per acre. DO NOT APPLY DURING LOW-LEVEL INVERSION CONDITIONS, WHEN WINDS ARE GUSTY, OR UNDER ANY OTHER CONDITIONS WHICH FAVOR DRIFT. DRIFT MAY CAUSE DAMAGE TO ANY VEGETATION CONTACTED TO WHICH TREATMENT IS NOT INTENDED. TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.

AERIAL APPLICATION ON ROUNDUP READY SOYBEANS MAY BE MADE ONLY IN THE FOLLOWING STATES:

Alabama
Colorado
Florida
Georgia

Kansas
Louisiana
Mississippi
Missouri (Bootheel only)
Nebraska
North Dakota
North Carolina
Oklahoma
South Carolina
South Dakota
Tennessee
Texas
Virginia
Wyoming

Rates for Annual Weeds
The following recommended rates will provide control of annual grasses and broadleaf weeds listed on this label in conventional and no-till soybean production systems. Refer to the **ANNUAL WEEDS RATE TABLES** for rate recommendations for specific annual weeds.
Tank mixtures with other herbicides are not recommended due to the potential for crop injury and/or weed antagonism, and due to rotational crop restrictions of the tank mixed partner.

This product may be used at a rate of up to 64 fluid ounces (2 quarts) per acre in any single application for control of annual weeds, where heavy weed densities exist. The maximum combined total of this product which can be applied during flowering is 2 quarts per acre.

NOTE: The following recommendations are based on a clean start at planting by using a burn-down application or tillage to control existing weeds before soybean emergence. In stale seedbed or no-till systems, a pre-plant burn-down treatment of 1/2 to 2 quarts (16 to 64 fluid ounces) per acre of this product may be applied to control existing weeds prior to crop emergence.

Midwest/Mid-Atlantic Recommendations
Narrow-row or drilled soybeans: A single in-crop application of this product will provide effective control of labeled weeds. For best results an initial application of 1 quart (32 fluid ounces) per acre on 4 to 8 inch weeds is recommended. Weeds will generally be 4 to 8 inches tall 3 to 5 weeks after planting. If the initial application is delayed, and weeds are 8 to 18 inches tall, use 1 1/2 quarts (48 fluid ounces) per acre for best results.

Under adverse conditions such as drought, hail, wind damage, or a poor soybean stand that slows or delays canopy closure, a sequential application of this product at 24 to 32 fluid ounces per acre may be necessary to control late flushes of weeds. The combined total applications of this product made in-crop is not to exceed 96 fluid ounces per acre.

Wide-row soybeans: An in-crop application of this product will provide effective control of the initial stand of labeled weeds. For best results, an initial application of 1 quart (32 fluid ounces) per acre on 4 to 8 inch weeds is recommended. Weeds will generally be 4 to 8 inches tall 3 to 5 weeks after planting. If new flushes of weeds occur they can be controlled by sequential applications of this product. Combined yearly total of this product must not exceed 96 fluid ounces per acre.

Initial Treatment and Sequential (if needed) Applications

Weed Height (inches)	Rate (fl. oz. per acre)
4 - 8	32
8 - 18	48

Sequential Application (if needed)

Weed Height (inches)	Rate (fl. oz. per acre)
1 - 3	16

3 - 6	24
6 - 12	32

Morningglory, ladysthumb, groundcherry, and Pennsylvania smartweed: apply 32 fluid ounces (1 quart) per acre to weeds 3 to 6 inches tall.

Giant ragweed: apply 32 fluid ounces per acre when the weed is 8 to 12 inches tall to avoid the need for sequential application.

Some weeds such as black nightshade, wooly cupgrass, shattercane. wild proso millet, burcucumber, and giant ragweed with multiple germination times may require a sequential application of this product. Suppressed or stunted weeds may also require sequential application. Sequential applications should be made after some regrowth has occurred. Use a minimum of 16 fluid ounces per acre of this product for sequential applications. The combined yearly total of this product must not exceed 96 fluid ounces per acre.

Southeast Recommendations

Narrow-row, drilled, or wide-row soybeans: A single in-crop application of this product will provide effective control of the initial stand of labeled weeds. For best results, an initial application of 32 fluid ounces (1 quart) per acre on 3 to 6 inch weeds is recommended. Weeds will generally be 3 to 6 inches tall 2 to 3 weeks after planting.

Initial Treatment

Weed Height (inches)	Rate (fl. oz. per acre)
3 - 6	32
6 - 12	48

Under adverse growing conditions such as drought, hail, wind damage. or a poor stand of soybeans that slows or delays canopy closure, a sequential application of this product at 16 to 32 fluid ounces per acre may be necessary to control late flushes of weeds. The combined yearly total of this product must not exceed 96 fluid ounces per acre.

Sequential Application (if needed)

Weed Height (inches)	Rate (fl. oz. per acre)
2 - 3	16
3 - 6	24
6 - 12	32

Florida pusley, hemp sesbania, and spurred anoda: Apply 32 fluid ounces (1 quart) per acre to weeds 2 to 4 inches tall for the initial application. Apply 32 fluid ounces (1 quart) per acre when these weeds are 3 to 6 inches tall if a sequential application is needed.

For morningglory, black nightshade, groundcherry, and Pennsylvania smartweed, apply the following rates for the initial application:

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

Some weeds such as black nightshade, broadleaf signalgrass, Texas panicum, burcucumber, and sicklepod with multiple germination times may require a sequential application of this product. Suppressed or stunted weeds may also require sequential application. Sequential applications should be made after some regrowth has occurred. Use a minimum of 16 fluid ounces per acre of this product for sequential applications. The combined total of all in-crop applications of this product postemergence must not exceed 96 fluid ounces per acre.

Delta/ Mid-south Recommendations

Narrow-row, drilled or wide-row soybeans: A single in-crop application of this product will provide effective control of the initial stand of labeled weeds. New flushes of weeds can be controlled by sequential applications of this product. Combined yearly total of this product is not to exceed 96 fluid ounces per acre. For best results, an initial application of 32 fluid ounces (1 quart) per acre on 2 to 4 inch weeds is recommended. Weeds will generally be 2 to 4 inches tall 2 to 3 weeks after planting.

Initial Treatment

Weed Height (inches)	Rate (fl. oz. per acre)
2 - 4	32
5 - 12	48

Sequential Application

Weed Height (inches)	Rate (fl. oz. per acre)
2 - 3	16
3 - 6	24
6 - 12	32

Hemp sesbania and spurred anoda: apply a sequential treatment of 32 fluid ounces (1 quart) per acre on weeds 3 to 6 inches tall if required.

Some weeds such as black nightshade, broadleaf signalgrass, Texas panicum, burcucumber, and sicklepod, with multiple germination times may require a sequential application of this product. Suppressed or stunted weeds may also require sequential application. Sequential applications should be made after some regrowth has occurred. Use a minimum of 16 fluid ounces per acre of this product for sequential applications. The combined total applications postemergence of this product must not exceed 96 fluid ounces per acre (see footnote 1).

Perennial Weeds Rate Recommendations

A 32 to 64 fluid ounces (1 to 2 quarts) per acre rate (single or sequential applications) of this product will control or suppress perennial weeds such as: Bermudagrass, Canada thistle, common milkweed, field bindweed, hemp dogbane, horsenettle, marestail (horseweed), nutsedge, quackgrass, rhizome johnsongrass, redvine, trumpetcreeper, swamp smartweed, and wirestem muhly. For additional information on perennial weeds, see the **PERENNIAL WEEDS RATE TABLE**. For some perennial weeds, repeat application may be required to eliminate crop competition throughout the growing season.

Ammonum Sulfate

Ammonium sulfate may be mixed with this product for applications to Roundup Ready soybeans. Refer to the **MIXING DIRECTIONS** section of this label for ammonium sulfate use instructions.

[1] The yearly maximum allowable amount of **Glyfos X-TRA** that can be applied also includes other glyphosate-containing products, such as Roundup Ultra.

NON-CROP USES

See **GENERAL INFORMATION**, **MIXING INSTRUCTIONS** and **APPLICATION EQUIPMENT AND TECHNIQUES** sections of this label for essential product performance information and the following **NON-CROP USES** sections for specific recommended uses.

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

Repeat treatments may be necessary to control weeds regenerating from underground parts or seeds. Where repeat applications are necessary, do not exceed 10.6 quarts of this product per acre per year. This product does not provide residual weed control. For subsequent weed control, follow a label-approved herbicide program.

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

all herbicides used.

INDUSTRIAL, RECREATIONAL AND PUBLIC AREAS
When applied as directed for **NON-CROP USES**, under conditions described, this product controls annual and perennial weeds listed on this label growing in areas such as airports, ditch banks, dry ditches, dry canals, fencerows, golf courses, highways, industrial plant sites, lumberyards, parking areas, parks, petroleum tank farms and pumping installations, pipelines, power and telephone rights-of-way, railroads, roadsides, schools, storage areas, utility substations, other public areas and similar industrial or noncrop areas.

For specific rates of application and instructions for control of various annual and perennial weeds and woody brush and trees, see the weeds rates tables.
This product may be applied with recirculating sprayers, shielded applicators, or wiper applicators in any noncrop site specified on this label. See the **SELECTIVE EQUIPMENT** part of **APPLICATION EQUIPMENT AND TECHNIQUES** section of this label for information on proper use and calibration of this equipment.

Tank Mixtures for Industrial Sites and Forestry Site Preparations
Glyfos X-TRA plus OUST®
Use on industrial sites including airports, industrial plants, lumberyards, petroleum tank farms, pumping stations, pipelines, railroads, roadsides, storage areas or other similar sites where bare ground is desired. This tank mixture may also be used as a site preparation treatment for sites to be planted to jack pine, loblolly pine, red pine, slash pine and Virginia pine.
When applied as directed for **NON-CROP USES** under the conditions described, this product plus Oust provides control of annual weeds listed in this product label and in the Oust label, and control or partial control of the perennial weeds listed below.
Apply 1 to 2 quarts of this product with 2 to 4 ounces of Oust in 10 to 40 gallons of spray solution per acre as a broadcast spray to actively growing weeds.
This mixture may be applied by aerial equipment in site prep operations. When applied by air, use the recommended rates in 5 to 15 gallons of spray solution per acre.

THIS PRODUCT PLUS OUST TANK MIXTURES MAY NOT BE APPLIED BY AIR IN CALIFORNIA.

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

Bahiagrass *Paspalum notatum*	**Dogfennel** *Eupatorium capilliforium*	**Quackgrass** *Agropyron repens*
Bermudagrass* *Cynodon dactylon*	**Fescue, tall** *Festuca arundinacea*	**Trumpetcreeper*** *Campsis radicans*
Broomsedge *Andropogon virginicus*	**Johnsongrass**** *Sorghum halepense*	**Vaseygrass** *Paspalum urvillei*
Dock, curly *Rumex crispus*	**Poorjoe**** *Diodia teres*	**Vervain, blue** *Verbena hastata*

* Suppression at higher rates only. ** Control at the lower rates.

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

Tank Mixtures - Non-crop Sites
When applied as a tank mixture, this product provides control of the emerged annual weeds and partial control of the emerged perennial weeds listed in this label. When applied as a tank mixture, the following residual herbicides will provide preemergence control of the weeds listed in the individual product labels.

Glyfos X-TRA plus DIURON
Glyfos X-TRA plus KROVAR I
Glyfos X-TRA plus KROVAR II
Glyfos X-TRA plus RONSTAR™ 50WP
Glyfos X-TRA plus SIMAZINE, PRINCEP CALIBER 90
Glyfos X-TRA plus SIMAZINE 4L
Glyfos X-TRA plus SIMAZINE 80W
Glyfos X-TRA plus SURFLAN 75W
Glyfos X-TRA plus SURFLAN AS

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

Control of Emerged Weeds
NOTE: For backpack sprayer and handgun applications, see the **HAND-HELD AND HIGH-VOLUME EQUIPMENT** section for recommended rates.

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

Perennial weeds: For partial control of perennial weeds using tank mixtures, apply 2 to 5 quarts per acre of this product. Follow the recommendations in the **PERENNIAL WEEDS RATE TABLE** for stage of growth and rate of application for specific perennial weeds.

Preemergence Weed Control
For preemergence weed control, refer to the individual product labels for specific non-crop sites, rates, carrier volumes and precautionary statements.
Mix only the quantity of spray solution that can be used during the same day. Do not allow these tank mixtures to stand overnight as this may result in reduced weed control.
Apply these tank mixtures through conventional broadcast equipment only.

Farm Ditches
This product will suppress perennial grasses along farm ditches. Apply this product at a rate of 6 to 8 fluid ounces per acre. Use 8 fluid ounces per acre when treating tall (coarse) fescue, fine fescue, orchardgrass or quackgrass covers. For best suppression of these species, add ammonium sulfate at a rate of 1.7 pounds per 10 gallons of spray solution. Use 6 fluid ounces per acre without ammonium sulfate when treating Kentucky bluegrass.
Apply treatments in 10 to 20 gallons of spray solution per acre to actively growing perennial grass covers. For best spray distribution and coverage, use flat fan nozzles.
Where broadleaf weed control or suppression is desired, tank mix this product with the appropriate, labeled broadleaf weed herbicide.

HABITAT MANAGEMENT
This product is recommended for the restoration and/or maintenance of native habitats and in wildlife management areas. Apply as recommended in the **NON-CROP USES** section of this label.

Habitat Restoration and Maintenance
When applied as directed, exotic and other undesirable vegetation may be controlled in habitat management areas. Applications can be made to allow recovery of native plant species, prior to planting desirable native species, and for similar broadspectrum vegetation control requirements in habitat management areas. Spot treatments can be made to selectively remove unwanted plants for habitat maintenance and enhancement. For spot treatments, care should be exercised to keep spray off of desirable plants.

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

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

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

When applied as instructed for the conditions described for **NON-CROP USES**, this product controls undesirable vegetation listed on this label prior to planting, within and around greenhouses and shadehouses, and as a postdirected spray around established ornamentals and Christmas trees.
For specific rates of application and instructions for control of various annual and perennial weeds, see the appropriate weeds rate table.
Where repeat applications are necessary, do not exceed 10.6 quarts of this product per year.

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

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

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

Arborvitae
Thuja spp.

Azalea
Rhododendron spp.

Boxwood
Buxus spp.

Crabapple
Malus spp.

Euonymus
Euonymus spp.

Fir
Abies spp.
Pseudotsuga spp.

Jojoba
Simmondsia chinensis

Hollies
Ilex spp.

Lilac
Syringa spp.

Magnolia
Magnolia spp.

Maple
Acer spp.

Oak
Quercus spp.

Privet
Ligustrum spp.

Pine
Pinus spp.

Spruce
Picea spp.

Yew
Taxus spp.

SILVICULTURAL SITES AND RIGHTS-OF-WAY
NOTE: NOT RECOMMENDED 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. This product also suppresses or controls undesirable vegetation listed on this label when applied at recommended rates for release of established coniferous species listed on this label.
For specific rates of application and instructions for control of various brush, annual and perennial weeds, see the appropriate weeds rate table. For specific rates of application for release of listed coniferous species, see the **Conifer Release** part of this section of this label.
Where repeat applications are necessary, do not exceed 10.6 quarts of this product per acre per year.

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

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

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

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

These distances should be increased if conditions favoring drift exist.
*Aquatic sites include all lakes, ponds and streams used for significant domestic purposes or angling.

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

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

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

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 this label.

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 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 in early autumn. Applications made prior to September 1 or when conditions are conducive to rapid growth of conifers will create the potential for increased injury in the form of tip and/or needle burn. Injury may decrease with later applications. Some autumn colors are acceptable at the 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.*	**Elm** *Ulmus spp.*	***Oak:*** **black** *Quercus velutina* **post** *Quercus stellata* **southern red** *Quercus falcata* **white** *Quercus alba*
Cherry: **black** *Prunus serotina* **pin** *Prunus pensylvanica*	**Hawthorn** *Crataegus spp.* **Locust, black** *Robina pseudoacacia*	
Maple, red *Acre rubra*	***Sumac:*** **poison** *Rhus vernix* **smooth** *Rhus glabra* **winged** *Rhus copallina*	**Sassafras** *Sassafras albidum*
Persimmon *Diospyros spp.*		**Sourwood** *Oxydendrum arboreum*
Poplar, yellow *Liriodendron tulipfera*		**Sweetgum** *Liquidambar styraciflua*

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

Glyfos X-TRA 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 this product label and in the Oust label, and partial control of the perennial weeds listed below.
Apply 16 to 24 fluid ounces of this product with 2 to 4 ounces of Oust in 10 to 30 gallons of spray solution per acre. Make application to actively growing weeds 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 recommended rate in 5 to 15 gallons of spray solution per acre.
For control of annual weeds below 12 inches in height (or runner length on annual vines), use the lower rates of both products. Use 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*	**Fescue, tall** *Festuca arundinacea*	**Trumpetcreeper**** *Campsis radicans*
Broomsedge *Andropogon virginicus*	**Johnsongrass*** *Sorghum halepense*	**Vaseygrass** *Paspalum urvillei*

Dock, curly *Rumex crispus*	**Poorjoe*** *Diodia teres*	**Vervain, blue** *Verbena hastata*
Dogfennel *Eupatorium capilliforium*	* Control at higher rates. ** Suppression at higher rates only.	

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.

NOTE TO USER
This product must not be used in areas where adverse impact on federally designated endangered/threatened plant or aquatic species is likely.
Prior to making applications, the user of this product must determine no such species are located in or immediately adjacent to the area to be treated.

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

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

Alder *Alnus spp.*	**Oak** *Quercus spp.*	**Sweetgum** *Liquidambar densiflorus*
Eucalyptus *Eucalyptus spp.*	**Reed, giant** *Arundo donax*	**Tanoak** *Lithocarpus densiflorus*
Madrone *Arbutus menziesii*	**Saltcedar** *Tamarisk spp.*	**Willow** *Salix spp.*

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

Injection and Frill Applications
Woody vegetation may be controlled by injection or frill application of this product. Apply this product using suitable equipment that must penetrate into living tissue. Apply the equivalent of 1 ml of this product per each 2 to 3 inches of trunk diameter (DBH). This is best achieved by applying a 50 to 100 percent concentration of this material either to a continuous frill around the tree or as cuts evenly spaced around the tree below all branches. As tree diameter increases in size, better results are achieved by applying diluted material to a continuous frill or more closely spaced cuttings. Avoid application techniques that allow runoff to occur from frill or cut areas in species that exude sap freely after frills or cutting. In species such as this, make frill or cuts at an oblique angle so as to produce a cupping effect and use undiluted material. For best results, application should be made during periods of active growth and after full leaf expansion.

This treatment WILL CONTROL the following woody species:

Oak *Quercus spp.*	**Sweetgum** *Liquidambar styraciflua*	**Sycamore** *Platanus occidentalis*
Poplar		

Populus spp.

This treatment WILL SUPPRESS the following woody species:

Black gum *Nyssa sylvatica*	**Hickory** *Carya spp.*	**Maple, red** *Acer rubrum*
Dogwood *Cornus spp.*		

TURFGRASSES AND GRASSES FOR SEED PRODUCTION

Preplant and Renovation
When applied as directed for **NON-CROP USES**, under conditions described, this product controls most existing vegetation prior to the planting or renovation of either turfgrasses or grass seed production areas. For specific rates of application and instructions for control of various annual and perennial weeds, and woody brush and trees, see the weeds rate tables.
For maximum control of existing vegetation, delay planting to determine if any regrowth from escaped underground plant parts occurs. Where repeat treatments are necessary, sufficient regrowth must be attained prior to application. For warm-season grasses, such as bermudagrass, summer or fall applications provide best control.
DO NOT DISTURB SOIL OR UNDERGROUND PLANT PARTS BEFORE TREATMENT. Tillage or renovation techniques such as vertical mowing, coring or slicing should be delayed for 7 days after application to allow proper translocation into underground plant parts.

Turfgrasses: Where existing vegetation is growing in a field or unmowed situation, apply this product to actively growing weeds at the stages of growth listed in the weeds rate tables of this label.
Where existing vegetation is growing under mowed turfgrass management, apply this product after omitting at least one regular mowing to allow sufficient growth for good interception of the spray.
Desirable turfgrasses may be planted following the above procedures.

Grasses for seed production: Apply this product to actively growing weeds at the stages of growth recommended in the weeds rate tables prior to planting or renovation of turf or forage grass areas grown for seed production.
DO NOT feed or graze treated areas within 8 weeks after application.

Annual Weed Control in Dormant Bermudagrass and Bahiagrass Turf
When applied as directed for **NON-CROP USES** under the conditions described, this product will provide control or suppression of many winter annual weeds and tall fescue for effective release of dormant bermudagrass and bahiagrass turf. Refer to the rate table for **Weeds Controlled or Suppressed with Glyfos X-TRA Alone** under the **RELEASE OF BERMUDAGRASS OR BAHIAGRASS** section of this label for recommended rates and volumes on the species to be suppressed or controlled. Treat only when turf is dormant and prior to spring greenup. Spot treatments or broadcast applications of this product in excess of 16 fluid ounces per acre may result in injury or delayed greenup in highly maintained turfgrass areas; i.e., golf courses, lawns, etc. DO NOT APPLY TANK MIXTURES of this product plus Oust in highly maintained turfgrass areas.

RELEASE OF BERMUDAGRASS OR BAHIAGRASS
NOTE: Use only in areas where bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated. Use tank mixtures of this product plus Oust only on railroads, highways, utility plant sites, or other right-of-way areas.
When applied as directed for **NON-CROP USES** under the conditions described, this product will provide control or suppression of many winter annual weeds and tall fescue for effective release of dormant bermudagrass or bahiagrass. This product may be tank-mixed with Oust as recommended for residual control. Make applications to dormant bermudagrass or bahiagrass. Tank mixtures of this product plus Oust may delay greenup. To avoid delays in greenup and minimize injury, do not add more than 0.5 ounce per acre on bahiagrass, or treat when these grasses are in semi-dormant condition.
For best results on winter annuals, treat when plants are in an early growth stage (below 6 inches in height) after most have germinated. For best results on tall fescue, treat when fescue is in or beyond the

4- to 6-leaf stage.

Weeds Controlled

Rate recommendations for control or suppression of winter annuals and tall fescue are listed below: Apply the recommended rates of this product alone or as a tank mixture in 10 to 25 gallons of water per acre.

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

Weeds Controlled or Suppressed with Glyfos X-TRA Alone*

Note: C = Control
S = Suppression

Weed Species	Glyfos X-TRA Fluid oz/acre					
	8	12	16	24	32	64
Barley, little *Hordeum pusilium*	S	C	C	C	C	C
Bedstraw, catchweed *Galium aparine*	S	C	C	C	C	C
Bluegrass, annual *Poa annua*	S	C	C	C	C	C
Chervil *Chaerophyllum tainturieri*	S	C	C	C	C	C
Chickweed, common *Stellaria media*	S	C	C	C	C	C
Clover, crimson *Trifolium incarnatum*	•	S	S	C	C	C
Clover, large hop *Trifolium campestre*	•	S	S	C	C	C
Fescue, tall *Festuca arundinaceae*	•	•	•	•	S	S
Geranium, Carolina *Geranium carolinianum*	•	•	S	S	C	C
Henbit *Lamium amplexicaule*	•	S	C	C	C	C
Ryegrass, Italian *Lolium mutiflorum*	•	•	S	C	C	C
Speedwell, corn *Veronica arvensis*	S	C	C	C	C	C
Vetch, common *Vicia sativa*	•	•	S	C	C	C

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

Weeds Controlled or Suppressed with Glyfos X-TRA Plus OUST*

Note: C = Control
S = Suppression

Weed Species	Glyfos X-TRA (fl. oz/a) + Oust (oz/a)						
	8 + 1/4	12 + 1/4	12 + 1/2	16 + 1/4	16 + 1/2	12 + 1	16 + 1
Barley, little *Hordeum pusilium*	C	C	C	C	C	C	C
Bedstraw, catchweed *Galium aparine*	C	C	C	C	C	C	C
Bluegrass, annual *Poa annua*	S	C	C	C	C	C	C
Chervil *Chaerophyllum tainturieri*	C	C	C	C	C	C	C
Chickweed, common *Stellaria media*	S	C	C	C	C	C	C
Clover, crimson *Trifolium incarnatum*	S	S	S	S	C	C	C
Clover, large hop *Trifolium campestre*	•	•	S	S	S	C	C
Fescue, tall *Festuca arundinaceae*	•	•	•	•	•	S	S
Geranium, Carolina *Geranium carolinianum*	•	S	S	C	C	C	C
Henbit *Lamium amplexicaule*	•	S	C	C	C	C	C
Ryegrass, Italian *Lolium mutiflorum*	•	S	S	C	C	C	C
Speedwell, corn *Veronica arvensis*	S	C	C	C	C	C	C
Vetch, common *Vicia sativa*	C	C	C	C	C	C	C

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

Release of Actively Growing Bermudagrass

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

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

Use the higher rate of this product for partial control of the following perennial species. Use the lower rates for suppression of growth. For best results, see the **PERENNIAL WEEDS RATE TABLE** of this label for proper stage of growth.

Bahiagrass *Paspalum notatum*

Bluestem, silver *Andropogon saccharoides*

Fescue, tall *Festuca arundinacea*

Johnsongrass* *Sorghum halepense*

Trumpetcreeper** *Campsis radicans*

Vaseygrass *Paspalum urvillei*

* Control at higher rates. ** Suppression at higher rates only.

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

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

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

Bahiagrass *Paspalum notatum*	**Dogfennel** *Eupatorium capilliforium*	**Trumpetcreeper*** *Campsis radicans*
Bluestem, silver *Andropogon saccharoides*	**Fescue, tall** *Festuca arundinacea*	**Vaseygrass** *Paspalum urvillei*
Broomsedge *Andropogon virginicus*	**Johnsongrass*** *Sorghum halepense*	**Vervain, blue** *Verbena hastata*
Dock, curly *Rumex crispus*	**Poorjoe**** *Diodia teres*	* Suppression at higher rates only. ** Control at the higher rates.

Use only on well-established bermudagrass. Bermudagrass injury may result from the treatment but regrowth will occur under moist conditions. Repeat applications in the same season are not recommended, since severe injury may result.
Read and carefully observe all cautionary statements and all other information appearing on the labels of all herbicides used.

COOL SEASON TURF GROWTH REGULATION
When applied as directed, this product will suppress growth and seedhead development of listed turf species in industrial areas.
This product is recommended for management of coarse turf on roadside rights-of-way or other industrial areas. Do not use on high-quality turf or other areas where turf color changes cannot be tolerated. Slight turf discoloration may occur but turf will regreen and regrow under moist conditions as effects of this product will wear off.
Apply 4 to 6 fluid ounces of this product per acre alone or in a recommended tank mixture. Spray volumes of 10 to 40 gallons per acre are recommended.
This product can be used for growth and seedhead suppression of:

Tall Fescue **Smooth Brome**

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

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

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

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

Tank mixtures plus 2,4-D Amine: For additional weed control benefits, up to 1 pound active ingredient per acre of 2,4-D amine may be added to the following tank mixtures. Consult the label for 2,4-D amine for weeds controlled.

Tall Fescue

Glyfos X-TRA plus Telar®: For suppression of tall fescue growth and seedheads, and control or partial control of some annual weeds, apply this tank mixture after greenup and prior to boot-to-seedhead stage of development. Use up to 0.5 ounce of Telar per acre.
This tank mixture can also be applied after mowing or removal of tall fescue seedheads for turf growth suppression. Make only one of the above applications per growing season.

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

Glyfos X-TRA plus Escort®: This tank mixture can be applied after mowing or removal of tall fescue seedheads for turf growth suppression and control or partial control of some annual weeds. Use up to 1/3 ounce of Escort per acre.
NOTE: THIS PRODUCT IS NOT REGISTERED FOR USE WITH ESCORT IN CALIFORNIA.

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

BAHIAGRASS SEEDHEAD AND VEGETATIVE SUPPRESSION
When applied as directed in the indicated non-crop areas (roadsides, airports, golf course roughs, and plant sites), this product will provide significant inhibition of seedhead emergence and will suppress vegetative growth for a period of approximately 45 days with single applications and approximately 120 days with sequential applications.
Apply this product 1 to 2 weeks after full greenup of bahiagrass or after bahiagrass has been mowed to a uniform height of 3 to 4 inches. Applications must be made prior to seedhead emergence. Apply 6 fluid ounces per acre of this product in 10 to 25 gallons of water per acre.
Sequential applications of this product may be made at approximately 45 day intervals to extend the period of seedhead and vegetative growth suppression. For continued seedhead suppression, sequential applications must be made prior to seedhead emergence. Apply no more than 2 sequential applications per year. As a first sequential application, apply 4 fluid ounces of this product per acre. A second sequential application of 2 to 4 fluid ounces per acre may be made approximately 45 days after the last application.
A tank mixture of this product plus Oust **may be applied only on roadsides** for seedhead inhibition and vegetative suppression. Apply 6 fluid ounces per acre of this product plus 0.25 ounce per acre of Oust 1 to 2 weeks following an initial spring mowing. When using this product plus Oust for suppression of bahiagrass, make only 1 application per year.

ANNUAL WEEDS RATE TABLES
Water carrier volumes of 3 to 10 gallons per acre for ground applications and 3 to 5 gallons per acre for aerial applications are recommended.
Apply to actively growing annual weeds.
Do not tank mix with soil residual herbicides when using these rates unless otherwise specified.
For weeds that have been mowed, grazed or cut, allow regrowth to occur prior to treatment.
For those rates less than 48 fluid ounces per acre, this product may be used up to 48 fluid ounces per acre where heavy weed densities exist.

Refer to the following tables for location of the regions listed in the annual weed rate charts below.

Geographic Location Tables

NORTHERN REGIONS (Entire state unless specified)
Connecticut
Illinois (North of I-70)
Indiana (North of Highway 50)
Iowa
Kansas (Northeast Corner, East of Highway 77, North of I-70)
Maine
Massachusetts
Michigan
Minnesota
Missouri (North of I-70)
Nebraska (East of I-28)
New Hampshire
New Jersey
New York
North Dakota (East of I-83)
Ohio
Pennsylvania
Rhode Island
South Dakota(East of I-83)
Vermont
Wisconsin

SOUTHERN REGIONS (Entire state unless specified)	
Alabama	
Arkansas	
Delaware	
Florida	
Georgia	
Illinois	(South of I-70)
Indiana	(South of Highway 50)
Kansas	(Southeast Corner, South of I-70 and East of Highway 77)
Kentucky	
Louisiana	
Maryland	
Mississippi	
Missouri	(South of I-70)
North Carolina	
Oklahoma	(East of I-35)
South Carolina	
Tennessee	
Texas	(East of I-35)
Virginia	
West Virginia	
* Also Refers to Use in:	Hawaii Puerto Rico

WESTERN REGIONS (Entire state unless specified)	
Alaska	
Arizona	
California	
Colorado	
Idaho	
Kansas	(West of highway 77)
Montana	
Nebraska	(West of I-28)
Nevada	
New Mexico	
North Dakota	(West of I-83)
Oklahoma	(West of I-35)
Oregon	
South Dakota	(West of I-83)
Texas	(West of I-35)
Utah	
Washington	
Wyoming	

Annual Weeds Rate Table, North and South Regions

Weeds Species	Regional Differential (if applicable)	Glyfos X-TRA Rate - Fluid Ounces per Acre					
		12	16	24	32	40	48
		Maximum Height/Length					
Annoda, spurred		-	1"	2"	3"	5"	8"
Barley		-	18"	18" +	-	-	-
Barnyardgrass	South North	- -	3" -	5" 6"	7" 12"	9" -	12" -
Bittercress		-	12"	20"	-	-	-
Bluegrass, annual		-	10"	-	-	-	-
Brassica, fivehook		-	-	-	6"	-	-
Brome, downy		6"	-	-	-	-	-
Brome, Japanese		-	6"	-	24"	-	-
Browntop panicum		-	6"	8"	12"	-	24"
Burcucumber		-	-	6"	12"	-	-
Buttercup		-	12"	20"	-	-	-
Carolina foxtail		-	20"	-	-	-	-
Carolina geranium		-	-	-	4"	-	9"
Carpetweed		-	-	6"	12"	-	-
Cheat		-	6"	20"	-	-	-
Chervil		-	20"	-	-	-	-
Chickweed		-	12"	18"	-	-	-
Cocklebur		-	12"	18"	24"	-	-
Copperleaf, hophornbeam		-	1"	2"	3"	4"	6"
Copperleaf, Virginia		-	1"	2"	3"	4"	6"
Corn		-	12"	20"	-	-	-
Corn speedwell		-	12"	-	-	-	-
Crabgrass		-	12"	18"	-	-	-
Cutleaf, evening primrose		-	-	-	3"	-	6"
Dwarfdandelion		-	20"	-	-	-	-
Eastern mannagrass		-	8"	12"	-	-	-

Eclipta		-	4"	8"	12"	-	-
Fall panicum	South	-	4"	6"	8"	12"	24"
	North	-	6"	12"	18"	-	-
Falsedandelion		-	20"	-	-	-	-
Falseflax, small seed		-	12"	-	-	-	-
Fiddleneck		-	-	-	6"	-	12"
Field pennycress		-	6"	12"	-	-	-
Filaree		-	-	-	-	-	12"
Fleabane, annual		-	6"	20"	-	-	-
Fleabane, hairy *(Conyza bonariensis)*		-	6"	-	-	-	-
Fleabane, rough		-	3"	6"	12"	-	-
Florida, pusley		-	-	-	12"	-	-
Foxtail	South	-	8"	12"	20"	-	-
	North	18"	18" +	-	-	-	-
Goatgrass, jointed		-	6"	-	-	-	-
Goosegrass		-	3"	5"	8"	-	18"
Grain sorghum (milo)		-	6"	12"	20"	-	-
Groundsel, common		-	6"	-	-	-	-
Hemp sesbania		-	-	2"	4"	6"	8"
Henbit		-	-	-	6"	-	20"
Horseweed / Marestail *(Conyza canadensis)*	South	-	-	12"	30"	-	-
	North		6"	12"	18"	-	-
Itchgrass		-	6"	12"	18"	-	-
Jimsonweed		-	-	-	6"	-	12"
Johnsongrass, seedling	South	-	-	18"	-	-	-
	North		12"	18"	-	-	-
Junglerice		-	3"	5"	7"	9"	12"
Knotweed		-	3"	8"	12"	-	20"
Kochia[1]		-	3 - 6"	12"	-	-	-
Lambsquarters		-	6"	8"	12"	-	20"
Little barley		-	20"	-	-	-	-
London rocket		-	6"	-	-	-	-
Mayweed		-	-	2"	6"	12"	18"
Morning glory *(Ipomoea spp.)*		-	-	2"	4"	-	6"
Mustard, blue		6"	-	-	-	-	-
Mustard, tansy		6"	12"	20"	-	-	-

Mustard, tumble		6"	-	-	-	-	-
Mustard, wild		6"	12"	18"	-	-	-
Nightshade, black		-	6"	12"	-	-	-
Nightshade, hairy		-	6"	12"	-	-	-
Oats		-	-	6"	20"	-	-
Pigweed		-	12"	18"	24"	-	-
Plains / Tickseed coreopsis		-	5"	12"	18"	-	-
Prickly lettuce		-	6"	12"	20"	-	-
Purslane		-	-	-	6"	-	12"
Ragweed, common	South	-	4"	6"	8"	-	11"
	North	-	6"	12"	18"	-	-
Ragweed, giant		-	-	4"	6"	-	-
Red rice		-	-	-	4"	-	-
Russian thistle		-	-	-	6"	-	-
Rye	South	-	6"	20"	60"	-	-
	North	-	18"	18" +	-	-	-
Ryegrass		-	-	-	6"	-	7" +
Sandbur, field		12"	-	-	-	-	-
Shattercane		-	12"	18"	-	-	-
Shepherd's purse		-	6"	12"	-	-	-
Sicklepod		-	-	2"	4"	-	8"
Signalgrass, broadleaf		-	3"	5"	7"	9"	12"
Smartweed, ladysthumb		-	4"	6"	8"	-	12"
Smartweed, Pennsylvania		-	4"	6"	8"	-	12"
Sowthistle, annual		-	-	-	6"	-	12"
Spanishneedles		-	-	-	8"	-	18"
Speedwell, purslane		-	12"	-	-	-	-
Sprangletop		-	6"	12"	20"	-	-
Spurge, prostrate		-	6"	12"	20"	-	-
Spurge, spotted		-	6"	12"	20"	-	-
Spurry, umbrella		6"	-	-	-	-	-
Stinkgrass		12"	-	-	-	-	-
Sunflower		-	12"	18"	-	-	-
Teaweed / Prickly sida		-	1"	2"	3"	4"	6"

Texas panicum		-	6"	8"	12"	-	24"
Velvetleaf	South	-	2"	3"	4"	5"	8"
	North	-	3"	6"	12"	-	-
Virginia pepperweed		-	18"	-	-	-	-
Waterhemp		-	-	6"	12"	-	-
Wheat	South	-	6"	30"	-	-	-
	North	-	18"	18" +	-	-	-
Wheat (overwintered)		-	6"	18"	-	-	-
Wild oats		-	12"	-	-	-	-
Witchgrass		-	12"	-	-	-	-
Woolly cupgrass		-	6"	12"	-	-	-
Yellow rocket		-	-	12"	20"	-	-

[1] Do not treat kochia in the button stage.

Annual Weeds Rate Table,
West Region

Weeds Species	Glyfos X-TRA Rate - Fluid Ounces per Acre				
	12	16	24	32	48
	Maximum Height/Length				
Barley	12"	-	-	-	-
Barnyardgrass	6"	-	-	-	-
Bluegrass, annual	6"	-	-	-	-
Bluegrass, bulbous	-	6"	-	-	-
Brome, downy	6"	-	-	-	-
Buttercup	-	12"	-	-	-
Cheat	-	6"	-	-	-
Chickweed	-	6"	-	-	-
Cocklebur	-	12"	-	-	-
Corn	-	6"	-	-	-
Crabgrass	-	12"	-	-	-
Dwarfdandelion	-	12"	-	-	-
Fall panicum	-	12"	-	-	-
Falseflax, smallseed	-	12"	-	-	-
Field pennycress	-	6"	-	-	-
Filaree	-	-	-	-	12"
Fleabane, hairy *(Conyza bonariensis)*	-	6"	-	-	-
Florida pusley	-	-	-	12"	-
Foxtail	8 fl. oz. For up to 12"				
Goatgrass, jointed	-	6"	-	-	-
Groundsel, common	-	6"	-	-	-
Henbit	-	6"	-	-	-
Horseweed / Marestail *(Conyza canadensis)*	-	6"	-	-	-
Johnsongrass, seedling	-	12"	-	-	-
Lambsquarters	-	6"	-	-	-
London rocket	-	6"	-	-	-

Morning glory *(Ipomoea spp.)*	-	2"	-	-	-
Mustard, blue	6"	-	-	-	-
Mustard, tansy	6"	-	-	-	-
Mustard, tumble	6"	-	-	-	-
Mustard, wild	6"	-	-	-	-
Pigweed	-	12"	-	-	-
Rye	12"	-	-	-	-
Ryegrass, Italian	-	6"	-	-	-
Sandbur, field	12"	-	-	-	-
Shattercane	12"	-	-	-	-
Shepherd's purse	-	6"	-	-	-
Sowthistle, annual	-	6"	-	-	-
Spurge, annual	-	6"	-	-	-
Stinkgrass	12"	-	-	-	-
Texas panicum	-	12"	-	-	-
Wheat	18"	-	-	-	-
Wild oats	-	12"	-	-	-
Witchgrass	-	12"	-	-	-

[1]For control of Downy brome in no-till systems, use 16 fluid ounces per acre.

Annual Weeds - Water Carrier Volumes of 10 to 40 Gallons per Acre
Apply 1 to 1.5 quarts of this product per acre. Use 1 quart per acre if weeds are less than 6 inches tall and 1.5 quarts per acre if weeds are over 6 inches tall.
These rates will provide control of weeds listed in the **ANNUAL WEEDS RATE TABLES** when water carrier volumes are 10 to 40 gallons per acre for ground applications.

Annual Weeds - Tank Mixtures with 2,4-D or Banvel
12 to 16 fluid ounces of this product plus 0.25 pound a.i. of Banvel or 0.5 pound a.i. of 2,4-D per acre will control the following weeds with maximum height or length indicated: 6" - prickly lettuce, marestail / horseweed *(Conyza canadensis)*, morning glory *(Ipomoea spp.)*, kochia (Banvel only); 12" - cocklebur, lambsquarters, pigweed, Russian thistle.
16 fluid ounces of this product plus 0.5 pound a.i. of 2,4-D per acre will control the following weeds when they are the maximum height or length of 6 inches: common ragweed, giant ragweed, Pennsylvania smartweed, and velvet leaf.
12 fluid ounces of this product plus 0.25 pound a.i. of Banvel or 0.5 pound a.i. of 2,4-D per acre will control foxtail up to 18".
Refer to the specific product labels for crop rotation restrictions and cautionary statements of all products used in tank mixtures. Some crop injury may occur if Banvel is applied within 45 days of planting.

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

PERENNIAL WEEDS RATE TABLE

Apply to actively growing perennial weeds.
NOTE: If weeds have been mowed or tilled, do not treat until plants have resumed active growth and have reached the recommended stages.
Repeat treatments may be necessary to control weeds regenerating from underground parts or seed. Repeat treatments must be made prior to crop emergence.
Unless otherwise stated, allow 7 or more days after application before tillage.
Do not treat when weeds are under drought stress as good soil moisture is necessary for active growth.
For hand-held sprayers, prepare the desired volume of spray solution by mixing the amount of this product in water as shown in the following table.

Spray Solution

Desired Volume	Amount of Glyfos X-TRA					
	1/2 %	1 %	1 1/2 %	2%	5%	10%
1 Gal	2/3 oz	1 1/3 oz	2 oz	2 2/3 oz	6 1/2 oz	13 oz
25 Gal	1 pt	1 qt	1 1/2 qt	2 qt	5 qt	10 qt
100 Gal	2 qt	1 gal	1 1/2 gal	2 gal	5 gal	10 gal
2 tablespoons = 1 fluid ounce						

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

Bermudagrass, water (knotgrass)	1 - 1.5	5 - 10	2%	Apply 1.5 quarts of this product in 5 to 10 gallons of water per acre. Apply when water bermudagrass is 12 to 18 inches in length. Allow 7 or more days before tilling, flushing or flooding the field. Fall applications only: Apply 1 quart of this product in 5 to 10 gallons of water per acre. Fallow fields should be tilled prior to application. Apply prior to frost on water bermudagrass that is 12 to 18 inches in length. This product is not registered in California for use on water bermudagrass.
Bindweed, field	0.5 - 5	3 - 20	2%	Do not treat when weeds are under drought stress as good soil moisture is necessary for active growth. For control, apply 4 to 5 quarts of this product per acre west of the Mississippi River and 3 to 4 quarts east of the Mississippi River. Apply when 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 active ingredient of Banvel in 10 to 20 gallons of water per acre. Do not apply by air. For suppression on irrigated agricultural land, apply 1 to 2 quarts of this product plus 1 pound active ingredient 2,4-D in 10 to 20 gallons of water per acre with ground equipment only. Applications should be made following harvest or in fall fallow ground when the bindweed is actively growing and the majority of runners are 12 inches or more in length. The use of at least one irrigation will promote active bindweed growth. For suppression, apply 16 fluid ounces of this product plus 0.5 pound active ingredient 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 should 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 to 10 gallons of water per acre. Apply to bindweed that has reached a length of 12 inches or greater. Allow a maximum weed emergence and runner growth. Allow 3 or more days after application before tillage.
Bluegrass, Kentucky	1 - 2	3 - 40	2%	Apply 2 quarts of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead 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 which are 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.

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Bursage, woolly-leaf	See comments	3 - 20	2%	For control, apply 2 quarts of this product plus 1 pint of Banvel per acre. For partial control, apply 1 quart of this product plus 1 pint of Banvel per acre. Apply when plants are producing new active growth which has been initiated by moisture for at least 2 weeks and when plants are at or beyond flowering.
Canarygrass, reed	2 - 3	3 - 40	2%	For best results, apply when most plants have reached the boot-to-head stage of growth.
Cattail	3 - 5	3 - 40	2%	Apply when most plants have reached the early head stage.
Clover; red, white	3 - 5	3 - 20	2%	Apply when most plants have reached the early bud stage.
Cogongrass	3 - 5	10 - 40	2%	Apply when cogongrass is at least 18 inches tall in late summer or fall. Due to uneven stages of growth and the dense nature of vegetation preventing good spray coverage, repeat treatments may be necessary to maintain control.
Dallisgrass	3 - 5	3 - 20	2%	Apply when most plants have reached the early head stage.
Dandelion	3 - 5	3 - 40	2%	Apply when most plants have reached the early bud stage. Also for control, apply 16 fluid ounces of this product plus 0.5 pound active ingredient 2,4-D in 3 to 10 gallons of water per acre.
Dock, curly	3 - 5	3 - 40	2%	Apply when most plants have reached the early bud stage of growth. Also for control, apply 16 fluid ounces of this product plus 0.5 pound active ingredient 2,4-D in 3 to 10 gallons of water per acre.
Dogbane, hemp	4	3 - 40	2%	Apply when most plants have reached the late bud to flower stage of growth. Following crop harvest or mowing, allow weeds to regrow to a mature stage prior to treatment. For best results, apply in late summer or fall. For suppression, apply 16 fluid ounces of this product plus 0.5 pound active ingredient of 2,4-D in 3 to 10 gallons of water per acre for ground applications and 3 to 5 gallons of water per acre for aerial applications. Delay applications until maximum emergence of dogbane has occurred.
Fescue (except tall)	3 - 5	3 - 20	2%	Apply when most plants have reached the early head stage.
Fescue, tall	1 - 3	3 - 40	2%	Apply 3 quarts of this product per acre when most plants have reached boot-to-early seedhead stage of development. Fall applications only: Apply 1 quart of this product in 3 to 10 gallons of water per acre. Apply to fescue in the fall when plants have 6 to 12 inches of new growth. A sequential application of 1 pint per acre of this product will improve long-term control and control of seedlings germinating after fall treatments or the following spring.

Guineagrass	3	3 - 40	1%	Apply when most plants have reached at least the 7-leaf stage of growth. Ensure thorough coverage when using hand-held equipment.
Horsenettle	3 - 5	3 - 20	2%	Apply when most plants have reached the early bud stage.
Horseradish	4	3 - 40	2%	Apply when most plants have reached the late bud to flower stage of growth. For best results, apply in late summer or fall.
Iceplant	-	-	1.5 - 2%	Iceplant should be at or beyond the early bud stage of growth. Thorough coverage is necessary for best control.
Jerusalem artichoke	3 - 5	3 - 20	2%	Apply when most plants are in the early bud stage.
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, 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 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 per acre rate. For burndown of Johnsongrass, apply 1 pint of this product in 3 to 10 gallons of water per acre before the plants reach a height of 12 inches. For this use, allow at least 3 days after treatment before tillage. Spot treatment (partial control or suppression) - Apply a 1 percent solution of this product when Johnsongrass is 12 to 18 inches in height. Coverage should be uniform and complete.
Kikuyugrass	2 - 3	3 - 40	2%	Spray when most kikuyugrass is at least 8 inches in height (3 or 4 leaf stage of growth). Allow 3 or more days after application before tillage.
Knapweed	4	3 - 40	2%	Apply when most plants have reached the late bud to flower stage of growth. For best results, apply in late summer or fall.
Lantana	-	-	1 - 1.25%	Apply at or beyond the bloom stage of growth. Use the higher application rate for plants that have reached the woody stage of growth.
Lespedeza	3 - 5	3 - 20	2%	Apply when most plants have reached the early bud stage.
Milkweed (common)	3	3 - 40	2%	Apply when most plants have reached the late bud to flower stage of growth.
Muhly, wirestem	1 - 2	3 - 40	2%	Use 1 quart of this product in 3 to 10 gallons of water per acre. Use 2 quarts of this product when applying 10 to 40 gallons of water per acre or in pasture, sod or non-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 or prior to spring applications. Allow 3 or more days after application before tillage.
Mullein, common	3 - 5	3 - 20	2%	Apply when most plants are in the early bud stage.
Napiergrass	3 - 5	3 - 20	2%	Apply when most plants are in the early head stage.
Nightshade, silverleaf	2	3 - 10	2%	Applications should be made when at least 60% of the plants have berries. Fall treatments must be applied before a killing frost.

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Nutsedge; purple, yellow	0.5 - 3	3 - 40	1 - 2%	Apply 3 quarts of this product per acre or apply a 1 to 2% solution for control of nutsedge plants and immature nutlets attached to treated plants. Treat when plants are in flower or when new nutlets can be found at rhizome tips. Nutlets which have not germinated will not be controlled and may germinate after treatment. Repeat treatments will be required for long-term control of ungerminated tubers. Sequential applications: 1 to 2 quarts of this product in 3 to 10 gallons of water per acre will also provide control. Make applications when a majority of the plants are in the 3 to 5-leaf stage (less than 6 inches tall). Repeat this application, as necessary, when newly emerging plants reach the 3 to 5-leaf stage. Subsequent applications will be necessary for long-term control. For partial control of existing plants, apply 1 pint to 2 quarts of this product in 3 to 40 gallons of water per acre. Treat when plants have 3 to 5 leaves and most are less than 6 inches tall. Repeat treatments will be required to control subsequent emerging plants or regrowth of existing plants.
Orchardgrass	1 - 2	3 - 40	2%	Apply 2 quarts of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1 to 1.5 quarts of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height. Orchardgrass sods going to no-till corn: Apply 1 to 1.5 quarts of this product in 3 to 10 gallons of water per acre. Apply to orchardgrass that is a minimum of 12 inches tall for spring applications and 6 inches tall for fall applications. Allow at least 3 days following application before planting. A sequential application of atrazine will be necessary for optimum results.
Pampasgrass	-	-	1.5 - 2%	Pampasgrass should be at or beyond the boot stage of growth. Thorough coverage is necessary for best control.
Paragrass	3 - 5	3 - 20	2%	Apply when most plants are in the early head stage.
Phragmites	3 - 5	10 - 40	1 - 2%	For partial control. For best results, treat during late summer or fall months or when plants are actively growing and in full bloom. Treatment before or after this stage may lead to reduced control. Due to the dense nature of the vegetation, which may prevent good spray coverage or uneven stages of growth, repeat treatments may be necessary to maintain control. Visual control symptoms will be slow to develop.
Poison hemlock	-	-	1 - 2%	Apply as a spray-to-wet treatment. Optimum results are obtained when plants are treated at the bud to full-bloom stage of growth.
Quackgrass	1 - 3	3 - 40	2%	In annual cropping systems, or in pastures and sods followed by deep tillage: Apply 1 quart of this product in 3 to 10 gallons of water per acre. For 10 to 40 gallons of water per acre, apply 2 quarts of this product. Do not tank mix with residual herbicides when using 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 quackgrass is greater than 8 inches tall.

Redvine	0.75 - 2	5 - 10	2%	For suppression, apply 24 fluid ounces of this product per acre at each of two applications 7 to 14 days apart or a single application of 2 quarts per acre. Apply recommended rates in 5 to 10 gallons of water per acre. Apply in late September or early October to plants which are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.
Reed, giant	-	-	2%	Best results are obtained when applications are made in the 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 in 10 to 40 gallons of water per acre. In non-crop, or areas where annual tillage is not practiced (no-till), 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 per acre rate.
Smartweed, swamp	3 - 5	3 - 40	2%	Apply when most plants have reached the early bud stage of growth. Also for control, apply 16 fluid ounces of this product plus 0.5 pound active ingredient of 2,4-D in 3 to 10 gallons of water per acre in the late summer or fall.
Spurge, leafy	-	3 - 10	2%	For suppression, apply 16 fluid ounces of this product plus 0.5 pound active ingredient 2,4-D in 3 to 10 gallons of water per acre in the late summer or fall. If mowing has occurred prior to treatment, apply when most of the plants are 12 inches tall.
Starthistle, yellow	2	10 - 40	2%	Best results are obtained when applications are made during the rosette, bolting and early flower stages.
Sweet potato, wild	-	-	2%	Partial control. Apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.
Thistle, artichoke	-	-	2%	Partial control. Apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.
Thistle, Canada	2 - 3	3 - 40	2%	Apply when most plants are at or beyond the bud stage of growth. After harvest, mowing or tillage in the late summer or fall, allow at least 4 weeks for initiation of active regrowth and rosette development prior to the application of this product. Fall treatments must be applied before a killing frost. Allow 3 or more days after application before tillage. For suppression, apply 1 quart of this product, or 1 pint of this product plus 0.5 pound active ingredient 2,4-D, in 3 to 10 gallons of water per acre in the late summer or fall after harvest, mowing or tillage. Allow rosette regrowth to a minimum of 6 inches in diameter before treating. Applications can be made as long as leaves are still green and plants are actively growing at the time of application. Allow 3 or more days after application before tillage.
Timothy	2 - 3	3 - 40	2%	For best results, apply when most plants have reached the boot-to-head stage of growth.
Torpedograss	4 - 5	3 - 40	2%	For partial control. Apply when most plants are at or beyond the seedhead stage of growth. Repeat applications will be required to maintain control. Fall treatments must be applied before frost.
Trumpet creeper	2	5 - 10	2%	Partial control. Apply in late September or October, to plants which are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.
Vaseygrass	3 - 5	3 - 20	2%	Apply when most plants are in the early head stage.

Velvetgrass	3 - 5	3 - 20	2%	Apply when most plants are in the early head stage.
Wheatgrass, western	2 - 3	3 - 40	2%	For best results, apply when most plants have reached the boot-to-head stage of growth.

WOODY BRUSH AND TREES RATE TABLE

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

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

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

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

Weeds Species	Glyfos X-TRA Rate (QT/A)	Water Volume (GPA)	Hand-Held % Solution	Comments
Alder	3 - 4	3 - 40	1 - 1.5%	For control
Ash	2 - 5	3 - 40	1 - 2%	Partial control
Aspen, quaking	2 - 3	3 - 40	1 - 1.5%	For control
Bearmat (Bearclover)	2 - 5	3 - 40	1 - 2%	Partial control
Beech	2 - 5	3 - 40	1 - 2%	Partial control
Birch	2	3 - 40	1%	For control
Blackberry	3 - 4	10 - 40	1 - 1.5%	For control. Make applications after plants have reached full leaf maturity. Best results are obtained when applications are made in late summer or fall. Applications may also be made after leaf drop and until a killing frost or as long as stems are green. After berries have set or dropped in late fall, blackberry can be controlled by applying a 3/4% 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%	For control
Bracken	2 - 5	3 - 40	1 - 2%	For control
Broom: French, Scotch	-	-	1.5 - 2%	For control
Buckwheat, California	-	-	1 - 2%	For partial control. Thorough coverage of foliage is necessary for best results.
Cascara	2 - 5	3 - 40	1 - 2%	Partial control

Catsclaw	-	-	1 - 1.5%	Partial control
Ceanothus	2 - 5	3 - 40	1 - 2%	Partial control
Chamise	-	-	1%	For control. Thorough coverage of foliage is necessary for best results.
Cherry: bitter, black, pin	2 - 3	3 - 40	1 - 1.5%	For control
Coyote brush	-	-	1.5 - 2%	For control. Apply when at least 50% of the new leaves are fully developed.
Dogwood	2 - 5	3 - 40	1 - 2%	Partial control
Elderberry	2	3 - 40	1%	For control
Elm	2 - 5	3 - 40	1 - 2%	Partial control
Eucalyptus	-	-	2%	For control of eucalyptus resprouts, apply when resprouts are 6 to 12 feet tall. Ensure complete coverage. Avoid application to drought-stressed plants.
Florida holly (Brazilian Peppertree)	2 - 5	3 - 40	1 - 2%	Partial control
Gorse	2 - 5	3 - 40	1 - 2%	Partial control
Hazardia	-	-	1 - 2%	Partial control. Thorough coverage of foliage is necessary for best results.
Hawthorn	2 - 3	3 - 40	1 - 1.5%	For control
Hazel	2	3 - 40	1%	For control
Hickory	2 - 5	3 - 40	1 - 2%	Partial control
Honeysuckle	3 - 4	3 - 40	1 - 1.5%	For control
Hornbeam, American	2 - 5	3 - 40	1 - 2%	Partial control
Kudzu	4	3 - 40	2%	For control. Repeat applications may be required to maintain control.
Locust, black	2 - 4	3 - 40	1 - 2%	Partial control
Madrone resprouts	-	-	2%	Partial control. Apply to resprouts that are 3 to 6 feet tall. Best results are obtained with spring or early summer treatments.
Manzanita	2 - 5	3 - 40	1 - 2%	Partial control
Maple, red	2 - 4	3 -40	1 - 1.5%	For control, apply a 1 to 1.5% solution when at least 50% of the new leaves are fully developed. For partial control, apply 2 to 4 quarts of this product per acre.

Maple, sugar	-	-	1 - 1.5%	For control. Apply when at least 50% of the new leaves are fully developed.
Monkey flower	-	-	1 - 2%	Partial control. Thorough coverage of foliage is necessary for best results.
Oak; black, white	2 - 4	3 - 40	1 - 2%	Partial control
Oak, post	3 - 4	3 - 40	1 - 1.5%	For control
Oak; northern, pin	-	-	1 - 1.5%	For control. Apply when at least 50% of the new leaves are fully developed.
Oak, southern red	2 - 3	3 - 40	1 - 1.5%	For control
Persimmon	2 - 5	3 - 40	1 - 2%	Partial control
Pine	2 - 5	3 - 40	1 - 2%	For control
Poison ivy / Poison oak	4 - 5	3 - 40	2%	For control. Repeat applications may be required to maintain control. Fall treatments must be applied before leaves lose green color.
Poplar, yellow	2 - 5	3 - 40	1 - 2%	Partial control
Redbud, eastern	2 - 5	3 - 40	1 - 2%	For control
Rose, multiflora	2	3 - 40	1%	For control. Treatments should be made prior to leaf deterioration by leaf-eating insects.
Russian olive	2 - 5	3 - 40	1 - 2%	Partial control
Sage, black	-	-	1%	For control. Thorough coverage of foliage is necessary for best results.
Sage, white	2 - 5	3 - 40	1 - 2%	Partial control
Sage brush, California	-	-	1%	For control. Thorough coverage of foliage is necessary for best results.
Salmonberry	2	3 - 40	1%	For control
Salt-cedar	2 - 5	3 - 40	1 - 2%	For control
Sassafras	2 - 5	3 - 40	1 - 2%	Partial control
Sourwood	2 - 5	3 - 40	1 - 2%	Partial control
Sumac; poison, smooth, winged	2 - 4	3 - 40	1 - 2%	Partial control
Sweetgum	2 - 3	3 - 40	1 - 1.5%	For control
Swordfern	2 - 5	3 - 40	1 - 2%	Partial control

Tallowtree, Chinese	-	-	1%	For control. Thorough coverage of foliage is necessary for best results.
Tan oak resprouts	-	-	2%	For partial control. Apply to resprouts that are less than 3 to 6 feet tall. Best results are obtained with fall applications.
Thimbleberry	2	3 - 40	1%	For control
Tobacco, tree	-	-	1 - 2%	Partial control
Trumpet creeper	2 - 3	3 - 40	1 - 1.5%	For control
Vine maple	2 - 5	3 - 40	1 - 2%	Partial control
Virginia creeper	2 - 5	3 - 40	1 - 2%	For control
Waxmyrtle, southern	2 - 5	3 - 40	1 - 2%	Partial control
Willow	3	3 - 40	1%	For control

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The label instructions for use of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application all of which are beyond the control of **Cheminova**. All risks shall be assumed by the user.

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1/16/01 notify EPA RR crops added