

34704-890

12/20/2006

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
PREVENTION PESTICIDES AND
TOXIC SUBSTANCES

Mr. John T. Tice
Loveland Products, Inc.
P.O. Box 1286
Greeley, CO 80632-1286

DEC 20 2006

SUBJECT: Application for Pesticide Notification (PRN 98-10)
Request Alternate Brand Name "AFG Plus - KleenUp Pro"
EPA Reg. No. 34704-890
Application Dated December 14, 2006

Dear: Mr. Tice,

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 dated 12/14/2006 for the above product. The Registration Division (RD) has conducted a preliminary screen of this request for its applicability under PRN 98-10 and finds that the action(s) requested fall within the scope of PRN 98-10. The Confidential Statement of Formula (CSF) and/or label submitted with the application has (have) been stamped "Notification" and will be placed in our records.

If you have any questions, please me directly at 703-305-6249 or Owen F. Beeder of my staff at 703-308-8899.

Sincerely,

A handwritten signature in black ink, appearing to be "Linda Arrington".

Linda Arrington
Notifications & Minor Formulations Team Leader
Registration Division (7505P)
Office of Pesticide Programs

SIG

2117



United States
Environmental Protection Agency
Washington, DC 20460

Registration
 Amendment
 Other

OPP Identifier Number

Application for Pesticide - Section I

1. Company/Product Number 34704-890	2. EPA Product Manager JIM TOMPKINS	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) AFG Plus	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Loveland Products, Inc. P.O. Box 1286 Greeley, Colorado 80632-1286 <input type="checkbox"/> Check if this is a new address	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. <u>N/A</u> Product Name <u>N/A</u>	

NOTIFICATION Section - II

<input type="checkbox"/> Amendment - Explain below. <u>DEC 20 2006</u>	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

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

Alternate Brand Name for AFG Plus - - KleenUp® Pro

This notification is consistent with the provisions of PR Notice 98-10 and EPA Regulations at 40 CFR 152.46 and not other changes have been made to the labeling or the confidential statement of formula for 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 152.46, 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:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input checked="" type="checkbox"/> Metal	<input type="checkbox"/> Plastic
* Certification must be submitted		If "Yes" Unit Packaging wgt.	No. per container	If "Yes" Package wgt	No. per container
3. Location of Net Contents Information <input checked="" type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container 2.5 gallons		5. Location of Label Directions <input type="checkbox"/> On Label	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled				<input checked="" type="checkbox"/> Other <u>Pressure Adhesive Label</u>	

Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name John T. Tice	Title Manager Registrations	Telephone No. (Include Area Code) 970-347-1484
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.		5. Date Application Received (Stamped)
2. Signature 	3. Title Manager Registrations	
4. Typed Name John T. Tice John.Tice@UAP.com	5. Date December 14, 2006	<u>SIG</u>

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December 14, 2006

Document Processing Desk (NOTIF)
Office of Pesticide Programs (7504-P)
U. S. Environmental Protection Agency
2777 S. Crystal Drive, Room S-4900,
Arlington, VA 22202-4501

RE: EPA Reg. No. 34704-931 Imidacloprid 4F, Notification Adding an Alternate
Brand Name of Wrangler Insecticide.

Dear Sir or Madam:

Loveland Products, Inc. is submitting an application for notification adding an alternate brand name to the product name above. Enclosed please find my application containing the notification statement and one (1) copy of the label containing the new alternate brand name of Wrangler Insecticide.

If you have any questions, please feel free to call or contact me at 970-347-1484 or email at John.Tice@uap.com.

Sincerely,

A handwritten signature in black ink, appearing to be "John Tice", with a long horizontal line extending to the right.

John Tice
Manager Registrations
Loveland Products, Inc.

Enclosures (2)

KLEENUP PRO

4/17 NOTIFICATION
DEC 20 2006

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.

ENVIRONMENTAL HAZARDS

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

ACTIVE INGREDIENT

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

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.

*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.

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

KEEP OUT OF REACH OF CHILDREN CAUTION

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

Read the entire label before using this product. Use only according to label instructions. Read the "WARRANTY DISCLAIMER AND NOTICE" statement at the end of the label before buying or using. If terms are unacceptable, return at once unopened.

FIRST AID

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

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: 1-800-301-7976.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulations.

EPA REG. NO. 34704-890
EPA EST. NO. 34704-MS-1
NET CONTENTS 1 GAL. (3.78 L)

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AGRICULTURAL USE REQUIREMENTS

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

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

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is: Coveralls, chemical resistant gloves made of any waterproof material, shoes plus socks.

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION

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

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

PERSONAL PROTECTIVE EQUIPMENT: (PPE)

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

Applicators and other handlers must wear: long-sleeved shirt and long pants, shoes plus socks, chemical resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride. Follow manufacturer's instructions for cleaning/maintaining PPE (Personal Protective Equipment). If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

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

NON-AGRICULTURAL USE REQUIREMENTS

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

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

STORAGE AND DISPOSAL

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

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

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

CONTAINER DISPOSAL (plastic containers): Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

CONTAINER DISPOSAL (refillable containers): Do not reuse this container except for refill in accordance with a valid Loveland Products, Inc. Repackaging or Toll Repackaging Agreement. If not refilled or returned to the authorized repackaging facility, triple rinse container, then puncture and dispose of in a sanitary landfill, or by

USER SAFETY RECOMMENDATIONS

Users should:

Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

of smoke.
Container: Disposal (Bulk and Minibulk)
Instructions for Users
When the container is empty, replace the cap and seal all openings that have been opened during use; and return the container to the point of purchase, or to an alternate location designated by the registrant at the time of purchase of this product. If not returned to the point of purchase or to the designated location, triple rinse or pressure rinse the empty container and offer for recycling if available.
Instructions for Users and Refillers
This container must only be refilled with this pesticide product. **Do Not Reuse the Container for Any Other Purpose.** Do not transport if this container is damaged or leaking, or obsolete, or to obtain information about recycling refillable containers, contact Loveland Products, Inc. at 970-356-4400. Cleaning is not necessary prior to refilling with same product. Clean container before final disposal. Disposal of this container must be in compliance with state and local regulations.
For help with any spill, leak, fire or exposure involving this material, call day or night CHEMTREC - 1-800-424-9300.

GENERAL INFORMATION

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

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

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

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

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

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

INFORMATION ON WEED RESISTANCE

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

Weed resistance management recommendations for Group 9 herbicides are

- Ensure optimum weed control by making applications at the right time (correct weed size) and utilizing the recommended label rate for the most difficult to control weed in your field.
- Base decisions on local needs and use the tool(s) necessary to obtain optimum weed control and minimize weeds escapes.
- Avoid tank-mixtures that reduce this product's efficacy (through antagonism) or which encourage rates of this product below the label recommendations.
- Scout treated weed populations for escapes 2-4 weeks after application.
- Report any incidence of repeated non-performance of this product on a particular weed to the local retailer, county extension agent, or Loveland Products, Inc representative.

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

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

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

Use according to the most restrictive label directions for each product in the mixture.

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

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

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

ATTENTION

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

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

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

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

MIXING

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

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

Mixing with Water

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

Tank Mixture Procedure

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

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

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

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

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

Avoid direct application to any body of water.

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.

KLEENUP PRO

EPA REG. NO. 14-890

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

Refer to the "Tank Mixing" section of "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.

Desired Volume	Amount of KLEENUP PRO					
	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 larger 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 or Dyes

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

Drift Control Additives

Drift control additives may be used with all equipment types, except wiper applicators, sponge bars and CDA equipment. When a drift control additive is used, read and carefully observe the cautionary statements and 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 the spray onto weed foliage.

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

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

Injection Systems – Aerial or ground injection sprayers.

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

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

AERIAL SPRAY DRIFT MANAGEMENT

Spray Drift Management

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

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

1. The distance of the outer most nozzles on the boom must not exceed 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.

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Aerial Drift Reduction Advisory

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

Information on Droplet Size

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

Controlling Droplet Size

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

Boom Length

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

Application Height

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

Swath Adjustment

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

Temperature and Humidity

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

Temperature Inversions

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

Sensitive Areas

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

Aerial Equipment

DO NOT APPLY THIS PRODUCT USING AERIAL SPRAY EQUIPMENT EXCEPT UNDER CONDITIONS AS SPECIFIED WITHIN THIS LABEL. This product plus Banuel® or 2,4-D tank mixtures may not be applied by air in California.

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. Follow and reduced tillage systems and preharvest applications. Refer to the individual use area sections of this label for recommended volumes and application rates.

Avoid direct application to any body of water.

KLEENUP PRO

EPA REG. NO. J4-890

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

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

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

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

Arkansas Only:

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

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

Applications should typically be made with the nozzle release point at 8 to 15 feet above the top of the target plants unless a greater height is required for aircraft safety. The distance of the outermost nozzles on the boom must not exceed 75% of the length of the wingspan or rotor. In many cases, reducing the distance to 65% of the length of the wingspan or rotor will improve drift control without affecting the swath width.

Nozzles must always discharge backward parallel with the air stream and never discharge downwards more than 45 degrees on fixed wing aircraft or forward of the prevailing airflow on rotary winged aircraft. Avoid the use of nozzles with wide-angle discharge.

Do not apply this product when wind speeds are in excess of 10 miles per hour.

Do not apply this product when there is a low-level inversion where fine spray particles could be suspended in still air and move outside the target area when the inversion layer moves. These conditions may occur when wind speeds are less than 2 mph.

Use the following guidelines when applications are made near crops or other desirable vegetation:

1. Do not apply within 100 feet of any desirable vegetation or crops.
2. If wind up to 5 miles per hour is blowing toward desirable vegetation or crops, do not apply within 500 feet upwind of the desirable vegetation or crops.
3. Winds blowing from 5 to 10 miles per hour toward desirable vegetation or crops will likely require buffer zones in excess of 500 feet.

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

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

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

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

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 percent solution of this product to weeds less than 6 inches in height or runner length. Apply prior to seed-head formation in grasses and formation in broadleaf weeds. For annual weeds over 6 inches tall, or unless otherwise specified, use a 1 percent solution.

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

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

Selective Equipment

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

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

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

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

AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION

Contact of the herbicide with 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 the height of the weeds varies so that not all weeds are contacted. In these instances, repeat treatment may be necessary.

Shielded and hooded applicators

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

Wiper applicators and sponge bars

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

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

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

Do not use wiper equipment when weeds are wet.

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

Do not add surfactant to the herbicide solution.

For Rope or Sponge Wick Applicators – Mix 1 gallon of this product in 2 gallons of water to prepare a 33 percent solution. Apply this solution to weeds listed in this section.

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

When applied as 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, musk
Milkweed	Vaseygrass
Nightshade, silverleaf	Velvetleaf
Pigweed, redroot	

Injection Systems

This product may be used in aerial or ground injection spray systems. It may be used as a liquid concentrate or diluted prior to injecting into the spray stream. Do not mix this product with the 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 percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 1.5 mph (1 quart per acre). For the control of perennial weeds, apply a 20 to 40 percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 0.75 mph (2 to 4 quarts per acre).

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

**ANNUAL WEEDS RATE TABLES
ALPHABETICALLY BY SPECIES**

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.

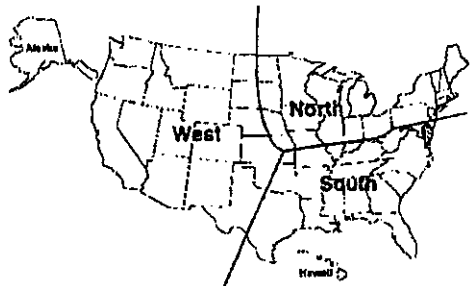
Apply to actively growing annual weeds.

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 this map for location of the regions listed in the annual weed tables below.



ANNUAL WEEDS RATE TABLE, NORTH AND SOUTH REGIONS

WEED SPECIES	REGION	RATE (FLUID OUNCES PER ACRE)				
		12	16	24	32	40
		MAXIMUM HEIGHT/LENGTH				
Amoda, spurred	-	1"	2"	3"	5"	8"
Barley	-	18"	18"+	-	-	-
Barnyardgrass	South	3"	5"	7"	9"	12"
	North	-	6"	12"	-	-
Bassia, fivehook	-	-	-	6"	-	-
Bittercress	-	12"	20"	-	-	-
Bluegrass, annual	-	10"	-	-	-	-
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"
Dwarf dandelion	-	20"	-	-	-	-
Eastern manna grass	-	8"	12"	-	-	-
Eclipta	-	4"	8"	12"	-	-

WEED SPECIES	REGION	RATE (FLUID OUNCES PER ACRE)					
		12	16	24	32	40	48
		MAXIMUM HEIGHT/LENGTH					
Fall panicum	South	-	4"	6"	8"	12"	24"
	North	-	6"	12"	18"	-	-
Falsedandelion	-	-	20"	-	-	-	-
Falseflax, smallseed	-	-	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	South	-	-	12"	30"	-	-
	North (Conyza canadensis)	-	6"	12"	18"	-	-
Ichgrass	-	-	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 to 6"	12"	-	-	-
Lambsquarters	-	-	6"	8"	12"	-	20"
Little barley	-	-	20"	-	-	-	-
London rocket	-	-	6"	-	-	-	-
Mayweed	-	-	-	2"	6"	12"	18"
Morningglory (Lomoea spp.)	-	-	-	2"	4"	-	6"
Mustard, blue	6"	-	-	-	-	-	-
Mustard, tansy	6"	12"	20"	-	-	-	-
Mustard, tumble	6"	-	-	-	-	-	-
Mustard, wild	6"	12"	18"	-	-	-	-
Nightshade, black	-	-	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"	-	12"
	North	-	6"	12"	18"	-	-
Ragweed, giant	-	-	-	4"	6"	-	11"
Red rice	-	-	-	-	4"	-	-
Russian thistle	-	-	-	-	6"	-	-
Rye	South	-	6"	20"	60"	-	-
	North	-	18"	18"+	-	-	-
Rye grass	-	-	-	-	6"	-	7"+
Sandbur, field	12"	-	-	-	-	-	-
Shattercane	-	-	12"	18"	-	-	-
Sheepspurge	-	-	6"	12"	-	-	-
Sicklepod	-	-	-	2"	4"	-	8"
Signalgrass, broadleaf	-	-	3"	5"	7"	9"	12"
Smartweed, ladsysthumb	-	-	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"	-	-	-
Teasweed/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"	-	-	-
Yellowrocket	-	-	-	12"	20"	-	-

¹Do not treat kochia in the button stage

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ANNUAL WEEDS RATE TABLE, WEST REGION

WEED SPECIES	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 ¹	6"	-	-	-
Buttercup	-	12"	-	-
Cheat	-	6"	-	-
Chickweed	-	6"	-	-
Cocklebur	-	12"	-	-
Corn	-	6"	-	-
Crabgrass	-	12"	-	-
Dwarfdandelion	-	12"	-	-
Fall panicum	-	12"	-	-
Falsiflax, smallseed	-	12"	-	-
Field pennycress	-	6"	-	-
Flaree	-	-	-	12"
Flieabane, hairy (<i>Conyza bonariensis</i>)	-	6"	-	-
Florida pusley	-	-	-	12"
Foxtail	-	8 fl. oz. for up to 12"		
Goatgrass, jointed	-	6"	-	-
Groundsel, common	-	6"	-	-
Herbbit	-	6"	-	-
Horseweed/Marestail (<i>Conyza canadensis</i>)	-	6"	-	-
Johnsongrass, seedling	-	12"	-	-
Lambsquarters	-	6"	-	-
London rocket	-	6"	-	-
Morningglory (<i>Lipomoea</i> 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"	-	-	-
Sheperdspurse	-	6"	-	-
Sowthistle, annual	-	6"	-	-
Spurge, annual	-	6"	-	-
Stinkgrass	12"	-	-	-
Texas panicum	-	12"	-	-
Wheat	18"	-	-	-
Wild oats	-	12"	-	-
Witchgrass	-	12"	-	-

¹For 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 weed control 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®

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

12 to 16 fluid ounces of this product plus 0.25 pounds a.i. of Banvel® or 0.5 pounds a.i. of 2,4-D per acre will control the following weeds with the maximum height or length indicated: 6" – prickly lettuce, marestail/horseweed (*Conyza canadensis*), morningglory (*Lipomoea* spp.), kochia (Banvel® only); 12" – cocklebur, lambsquarters, pigweed, Russian thistle.

16 fluid ounces of this product plus 0.5 pounds a.i. of 2,4-D per acre will control the following weeds when they are a maximum height or length of 6 inches: common ragweed, giant ragweed, Pennsylvania smartweed, and velvetleaf.

12 fluid ounces of this product plus 0.25 pounds a.i. of Banvel® or 0.5 pounds 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 ALPHABETICALLY BY SPECIES

Apply to actively growing perennial weeds.

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

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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 AFG Plus			
	1/2%	1%	1 1/2%	2%
1 Gal	2/3 oz	1 1/3 oz	2oz	2 2/3 oz
25 Gal	1 pt	1 qt	1 1/2 qt	2 qt
100 Gal	2 qt	1 gal	1 1/2 gal	2 gal

2 tablespoons = 1 fluid ounce

Weed Species	Rate (QT/A)	Water Volume	Hand-Held % Solution	Comments
Alfalfa	1	3-10	2%	Make applications after the last hay cutting in the fall. Allow alfalfa to regrow to a height of 5 to 8 inches or more prior to retreatment. 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. 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 the weeds are at or beyond full bloom. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost. Also for control, apply 2 quarts of this product plus 0.5 pounds a.i. 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 a.i. of 2,4-D in 10 to 20 gallons of water per acre with ground equipment only. Applications should be made following harvest or in fall fallow ground when the bindweed is actively growing and the majority of runners are 12 inches or more in length. The use of at least one irrigation will promote active bindweed growth. For suppression, apply 16 fluid ounces of this product plus 0.5 pound a.i. 2,4-D 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.

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Weed Species	Rate (QT/A)	Water Volume	Hand-Held % Solution	Comments
Bindweed, leafy <i>cont'd.</i>	0.5-5	3-20	2%	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 maximum weed emergence and runner growth. Allow 3 or more days after application before tillage.
Bluegrass, Kentucky	1-2	3-40	2%	Apply 2 quarts of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1 to 1.5 quarts of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.
Blueweed, Texas	3-5	3-40	2%	Apply 4 to 5 quarts of this product per acre west of the Mississippi River and 3 to 4 quarts per acre east of the Mississippi River. Apply when plants are at or beyond full bloom. New leaf development indicates active growth. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost.
Brackenfern	3-4	3-40	1-1.5%	Apply to fully expanded fronds which are at least 18 inches long.
Bromegrass, smooth	1-2	3-40	2%	Apply 2 quarts of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1 to 1.5 quarts of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.
Bursage, woolly-leaf		3-20	2%	For control, apply 2 quarts of this product plus 1 pint of Barvel® per acre. For partial control, apply 1 quart of this product plus 1 pint of Barvel® 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.
Clower, red, white	3-5	3-20	2%	Apply when most plants have reached the early bud stage.
Cogongrass	3-5	10-40	2%	Apply when cogongrass is at least 18 inches tall in late summer or fall. Due to uneven stages of growth and the dense nature of vegetation preventing good spray coverage, repeat treatments may be necessary to maintain control.
Dallisgrass	3-5	3-20	2%	Apply when most plants have reached the early head stage.
Dandelion	3-5	3-40	2%	Apply when most plants have reached the early bud stage of growth. Also for control, apply 16 fluid ounces of this product plus 0.5 pound a.i. 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 a.i. 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 a.i. of 2,4-D in 3 to 10 gallons of water per acre for ground applications and 3 to 5 gallons of water per acre for aerial applications. Delay applications until maximum emergence of dogbane has occurred.
Fescue (except tall)	3-5	3-20	2%	Apply when most plants have reached the early head stage.
Fescue, tall	1-3	3-40	2%	Apply 3 quarts of this product per acre when most plants have reached boot-to-early seedhead stage of development. Fall applications only. Apply 1 quart of this product in 3 to 10 gallons of water per acre. Apply to fescue in the fall when plants have 6 to 12 inches of new growth. A sequential application of 1 pint per acre of this product will improve long-term control and control seedlings germinating after fall treatments or the following spring.
Guinea grass	3		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 stage of bud 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	2%	In annual cropping systems apply 1 to 2 quarts of this product per acre. Apply 1 quart of this product in 3 to 10 gallons of water per acre. Use 2 quarts of this product when applying 10 to 40 gallons of water per acre. In noncrop, or areas where annual tillage (no-till) is not practiced, apply 2 to 3 quarts of this product in 10 to 40 gallons of water per acre. For best results, apply when most plants have reached the boot-to-head stage of growth or in the fall prior to frost. Allow 7 or more days after application before tillage. Do not tank mix with residual herbicides when using the 1 quart per acre rate. For burndown of Johnsongrass, apply 1 pint of this product in 3 to 10 gallons of water per acre before the plants reach a height of 12 inches. For this use, allow at least 3 days after treatment before tillage. Spot treatment (partial control or suppression) - Apply a 1 percent solution of this product when Johnsongrass is 12 to 18 inches in height. 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			1.1-2.5%	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, wrenstem	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 of in pasture, sod, or non crop areas. Spray when the wrenstem muhly is 8 inches or more in height. Do not till between harvest and fall applications or in the fall or spring prior to spring applications. Allow 3 or more days after application before tillage.
Mullein, common	3-5	3-20	2%	Apply when most plants are in the early bud stage.
Napergrass	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 percent of the plants have berries. Fall treatments must be applied before a killing frost.
Nutsedge, purple, yellow	0.5-3	3-40	1-2%	Apply 3 quarts of this product per acre or apply a 1 to 2 percent solution for control of nutsedge plants and immature nutlets attached to treated plants. Treat when plants are in flower or when new nutlets can be found at rhizome tips. Nutlets which have not germinated will not be controlled and may germinate following treatment. Repeat treatments will be required for long-term control of ungerminated tubers. Sequential applications 1 to 2 quarts of this product in 3 to 10 gallons of water per acre will also provide control. Make applications when a majority of the plants are in the 3 to 5-leaf stage (less than 6 inches tall). Repeat this application, as necessary when newly emerging plants reach the 3 to 5-leaf stage. Subsequent applications will be necessary for long-term control. For partial control of existing plants, apply 1 pint to 2 quarts of this product in 3 to 40 gallons of water per acre. Treat when plants have 3 to 5 leaves and most are less than 6 inches tall. Repeat treatments will be required to control subsequent emerging plants or regrowth of existing plants.

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Weed Species	Rate (QT/A)	Water Volume	Hand-Held % Solution	Comments
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 the 1 quart rate. Spray when quackgrass is 6 to 8 inches in height. Do not till between harvest and fall applications or in fall or spring prior to spring application. Allow 3 or more days after application before tillage. In pastures or sods, use a moldboard plow for best results. In pastures, sods or noncrop areas where deep tillage does not follow application. Apply 2 to 3 quarts of this product in 10 to 40 gallons of water per acre when the quackgrass is greater than 8 inches tall.
Redvine	0.75-2	5-10	2%	For suppression, apply 24 fluid ounces of this product per acre at each of two applications 7 to 14 days apart or a single application of 2 quarts per acre. Apply 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 grass	-	-	2%	Best results are obtained when applications are made in late summer to fall.
Ryegrass, perennial	1-3	3-40	2%	In annual cropping systems apply 1 to 2 quarts of this product per acre. Apply 1 quart of this product in 3 to 10 gallons of water per acre. Use 2 quarts of this product when applying 10 to 40 gallons of water per acre. In noncrop, or areas where annual tillage (no-till) is not practiced, apply 2 to 3 quarts of this product in 10 to 40 gallons of water per acre. For best results, apply when most plants have reached the boot-to-head stage of growth or in the fall prior to frost. Do not tank-mix with residual herbicides when using the 1 quart per acre rate.
Smartweed, swamp	3-5	3-40	2%	Apply when most plants have reached the early bud stage of growth. Also for control, apply 16 fluid ounces of this product plus 0.5 pound a.i. 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 a.i. 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.
Starchie, yellow	2	10-40	2%	Best results are obtained when applications are made during the rosette being and early flower stages.

Weed Species	Rate (QT/A)	Water Volume	Hand-Held % Solution	Comments
Sweet potato, w/d	-	-	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 stages of growth. After harvest, mowing or tillage in the late summer or fall, allow at least 4 weeks for initiation of active growth and rosette development prior to the application of this product. Fall treatments must be applied before a killing frost. Allow 3 or more days after application before tillage. For suppression, apply 1 quart of this product or 1 pint of this product plus 0.5 pound a.i. 2,4-D, in 3 to 10 gallons of water per acre in the late summer or fall after harvest, mowing or tillage. Allow rosette regrowth to a minimum of 6 inches in diameter before treating. Applications can be made as long as leaves are still green and plants are actively growing at the time of application. Allow 3 or more days after application before tillage.
Timothy	2-3	3-40	2%	For best results, apply when most plants have reached the boot-to-head stage of growth.
Torpedograss	4-5	3-40	2%	For partial control. Apply when most plants are at or beyond the seedhead stage of growth. Repeat applications will be required to maintain control. Fall treatments must be applied before frost.
Trumpetcreeper	2	5-10	2%	Partial control. Apply in late September or October, to plants which are at least 18 inches tall and have been growing 45-60 days since the last tillage operation. Make applications at least 1 week before a killing frost.
Vaseygrass	3-5	3-20	2%	Apply when most plants are in the early head stage.
Velvetgrass	3-5	3-20	2%	Apply when most plants are in the early head stage.
Wheatgrass, western	2-3	3-40	2%	For best results, apply when most plants have reached the boot-to-head stage of growth.

WOODY BRUSH AND TREES RATE TABLE ALPHABETICALLY BY SPECIES

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

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

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

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

Weed Species	Rate (QT/A)	Water Volume	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 2% percent solution of this product. For control of blackberries after leaf drop and until a killing frost or as long as stems are green, apply 3 to 4 quarts of this product in 10 to 40 gallons of water per acre.
Blackgum	2-5	3-40	1-2%	For control.
Bracken	2-5	3-40	1-2%	For control.
Broom	-	-	1-1.5%	For control.
French, Scotch	-	-	1-2%	For partial control. Thorough coverage of foliage is necessary for best results.
Buckwheat, California	-	-	1-2%	Partial control.
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	-	-	1-1.5%	For control. Apply when at least 50 percent of the new leaves are fully developed.

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

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

Weed Species	Rate (QT/A)	Water Volume	Hand-Held % Solution	Comments
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
Hasardia	-	-	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/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 percent solution when at least 50 percent of the new leaves are fully developed. For partial control, apply 2 to 4 quarts of this product per acre.
Maple, sugar	-	-	1-1.5%	For control. Apply when at least 50 percent of 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 percent 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	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

INDUSTRIAL, RECREATIONAL AND PUBLIC AREAS

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

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

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

Chemical mowing - Perennials

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

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

Chemical mowing - Annuals

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

RAILROADS

Bare ground, Ballast and Shoulders, Crossings, and Spot Treatment

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

ARSENAL	GARLON 4	SAHARA
DICAMBA	HYVAR X	SPIKE
DIURON	KROVAR I DF	TELAR
ESCORT	OUST	VANQUISH
GARLON 3A		2,4-D

Brush control

This product may be used to control woody brush and trees on railroad rights-of-way. Apply 4 to 10 quarts of this product per acre as a broadcast spray, using boom-type or boom-less nozzles. Up to 80 gallons of spray solutions per acre may be used. Apply a 3/4 to 2 percent solution of this product when using high-volume spray-to-wet applications. Apply a 5 to 10 percent solution of this product when using low volume directed sprays for spot treatment. This product may be mixed with the following products for enhanced control of woody brush and trees:

ARSENAL	GARLON 3A	GARLON 4
ESCORT		TORDON K

Bermudagrass release

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

Bahiagrass	Fescue, tall	Trumpet creeper
Bluestem, silver	Johnsongrass	Vaseygrass

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

Bahiagrass	Dewberry	Poorjoe
Blackberry	Dock, Curly	Raspberry
Bluestem, silver	Dog Fennel	Trumpet creeper
Broomsedge	Fescue, tall	Vaseygrass
Dallisgrass	Johnsongrass	Vervain, blue

NONCROP USES

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

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

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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 occur.

ROADSIDES

Shoulder treatments

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

Guardrails and other obstacles to mowing

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

Spot treatment

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

Tank mixtures

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

DICAMBA	OUST	SAHARA
DIURON	PENDULUM 3.3 EC	SIMAZINE
ENDURANCE	PENDULUM WDG	SURFLAN
ESCORT	PRINCEP DF	TELAR
IMAZAPYR	PRINCEP LIQUID	VANQUISH
KROVAR I DF	RONSTAR 50 WP	2,4-D

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

Release of Bermudagrass or Bahiagrass

Dormant applications

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

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

Apply 8 to 64 fluid ounces of this product per acre alone or in a tank mixture with 1/4 to 1 ounce per acre of Oust. Apply the recommended rates in 10 to 40 gallons of water per acre. Use only in areas where bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated. To avoid delays in greenup and minimize injury, add no more than 1 ounce of Oust per acre on bermudagrass and no more than 0.5 ounce of Oust per acre on bahiagrass and avoid treatments when these grasses are in semi-dormant condition.

Actively growing bermudagrass

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

Bahiagrass	Fescue, tall	Trumpet creeper
Bluestem, silver	Johnsongrass	Vaseygrass

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

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

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

Actively growing bahiagrass

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

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

TANK MIXTURES FOR INDUSTRIAL SITES AND FORESTRY
SITE PREPARATIONS

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KLEENUP PRO Herbicide
us OUST

Use on industrial sites including airports, industrial plants, lumberyards, petroleum tank farms, pumping stations, railroads, roadsides, storage areas, warehouse areas and forestry sites.

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

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

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

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

*Suppression at the 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 NONCROP 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.

KLEENUP PRO plus DIURON	PRINCEP CALIBER 90
KLEENUP PRO plus KROVAR I	KLEENUP PRO plus SIMAZINE 4L
KLEENUP PRO plus KROVAR II	KLEENUP PRO plus SIMAZINE 80W
KLEENUP PRO plus RONSTAR 50WP	KLEENUP PRO plus SURFLAN 75W
KLEENUP PRO plus SIMAZINE	KLEENUP PRO plus SURFLAN AS

When tank mixing with residual herbicides, see the "MIXING, ADDITIVES and APPLICATION INSTRUCTIONS" section of this label before preparing these tank mixtures. 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 these tank mixtures, apply 2 to 5 quarts per acre of this product. Follow the recommendations in the "WEEDS CONTROLLED" section of this label for stage of growth and rate of application for specific perennial weeds.

PREEMERGENCE WEED CONTROL

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

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

FARMSTEAD WEED CONTROL

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

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

FARM DITCHES

This product will suppress perennial grasses along farm ditches. Apply this product at a rate of 6 to 8 fluid ounces per acre. Use 8 fluid ounces per acre when treating tall (coarse)

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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 an appropriate, labeled broadleaf weed herbicide.

CONSERVATION RESERVE PROGRAM (CRP ACRES)

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

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

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

For selective applications with broadcast spray equipment, apply 12 to 16 ounces per acre of this product in early spring before desirable CRP grasses, such as crested and tall wheatgrass, break dormancy and initiate green growth. Late fall applications can be made after desirable perennial grasses have reached dormancy. Some stunting of CRP perennial grasses will occur if applications are made when plants are not dormant.

DORMANT RANGELAND

This product will control or suppress many weeds, including downy brome, cheat grass, cereal rye, medusahead rye and jointed goatgrass in dormant rangeland.

Apply 8 to 16 ounces per acre of this product in the early spring when the weeds have greened up, but desirable grasses, such as crested and tall wheatgrass are still truly dormant.

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

Do not use additional surfactant or ammonium sulfate when spraying dormant rangeland grasses with KLEENUP PRO.

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 "NONCROP USES" section of this label.

Habitat Restoration and Maintenance – When applied as directed, exotic and other undesirable vegetation may be controlled in habitat management areas. Applications can be made to allow recovery of native plant species, prior to planting desirable native species, and for similar broad spectrum 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, NURSERIES (PLANTS AND TREES) 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 "NONCROP USES", this product controls undesirable vegetation listed on this label prior to planting, within and around greenhouses and shadehouses, and as a postdirected spray around established ornamentals and Christmas trees. This product may also be used to trim and edge around trees, buildings, sidewalks, roads, potted plants and other objects in a nursery setting.

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

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

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

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

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

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

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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 "NONCROP USES" under conditions described, this product controls undesirable vegetation listed on this label. This product also suppresses or controls undesirable vegetation listed on this label when applied at 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 "WEEDS CONTROLLED" section of this label. For specific rates of application for release of listed coniferous species, see the "CONIFER RELEASE" part of this section of the label.

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

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

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

SITE PREPARATION

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

POSTDIRECTED SPRAY

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

CONIFER RELEASE

For release, apply at the end of the first growing season, except in California. Vegetation should not be disturbed prior to treatment or until visual symptoms appear after treatment. Symptoms of treatment are slow to appear, especially in woody species treated in late fall. Injury may occur to conifers treated for release, especially where spray patterns overlap or the higher rates are applied or when applications are made during periods of active conifer growth. Do not use additional surfactant with conifer release applications.

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

For release of the following conifer species:		
Douglas fir	Hemlock	Spruce
<i>Pseudotsuga menziesii</i>	<i>Tsuga</i> spp.	<i>Picea</i> spp.
Fir	Pines*	
<i>Abies</i> spp.	<i>Pinus</i> spp.	

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

Apply 1.5 to 2 quarts of this product per acre except in Washington and Oregon, west of the crest of the Cascade Mountains. For spring treatments west of the crest of the 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	Eastern white pine	Slash pine
<i>Pinus Taeda</i>	<i>Pinus strobus</i>	<i>Pinus elliotti</i>

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

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

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

KLEENUP PRO PLUS OUST TANK MIXTURES FOR CONIFER RELEASE FROM HERBACEOUS WEEDS

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

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

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

This tank mixture may be applied using aerial equipment. When applying by air, use the 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 the higher rates of both products when annual weeds are in more advanced stages of growth and approaching flower or seed formation.

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

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

*Control at the higher rates.

**Suppression at the higher rates only.

Pine damage may occur or can be accentuated if treatment takes place when young trees are under stress from drought, 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 that no such species are located in or immediately adjacent to the area to be treated.

CUT STUMP TREATMENTS

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

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

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

INJECTION AND FRILL APPLICATIONS

Woody vegetation may be controlled by injection or frill application of this product. Apply this product using suitable equipment which must penetrate into the living tissue. Apply

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

This treatment WILL CONTROL the following woody species:

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

This treatment WILL SUPPRESS the following woody species:

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

TURFGRASSES AND GRASSES FOR SEED PRODUCTION PREPLANT AND RENOVATION

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

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

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

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

TURFGRASSES

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

Where existing vegetation is growing under mowed turfgrass management in such sites as apartment complexes, residential areas and sod farms, 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 CONTROLLED" section of this label prior to planting or renovation of turf or forage grass areas grown for seed production.

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

ANNUAL WEED CONTROL IN DORMANT BERMUDAGRASS AND BAHIA GRASS TURF

When applied as directed for "NONCROP USES" under the conditions described, this product will provide control or suppression of many winter annual weeds and tall fescue for effective release of dormant bermudagrass and bahiagrass turf. Refer to the rate table for KLEENUP PRO alone under the "RELEASE OF BERMUDAGRASS and BAHIA GRASS" 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 BAHIA GRASS

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

When applied as directed for "NONCROP USES" under the conditions described, this product will provide control or suppression of many winter annual weeds and tall fescue for effective release of dormant bermudagrass or bahiagrass. This product may be tank-mixed with Oust as 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 1 ounce per acre of Oust on bermudagrass or more than 0.5 ounce per acre on bahiagrass, or treat when these grasses are in a semi-dormant condition.

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

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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, plus 0.5 to 1 percent nonionic surfactant by total spray volume per acre.

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

WEEDS CONTROLLED OR SUPPRESSED WITH KLEENUP PRO ALONE*

NOTE: C = Control
S = Suppression

WEED SPECIES	KLEENUP PRO FLUID OZ/ACRE					
	8	12	16	24	32	64
Barley, little	S	C	C	C	C	C
<i>Hordeum pusillum</i>						
Bedstraw, catchweed	S	C	C	C	C	C
<i>Galium aparine</i>						
Bluegrass, annual	S	C	C	C	C	C
<i>Poa annua</i>						
Chervil	S	C	C	C	C	C
<i>Chaerophyllum tainturieri</i>						
Chickweed, common	S	C	C	C	C	C
<i>Stellaria media</i>						
Clover, crimson	•	S	S	C	C	C
<i>Trifolium incarnatum</i>						
Clover, large hop	•	S	S	C	C	C
<i>Trifolium campestre</i>						
Fescue, tall	•	•	•	•	S	S
<i>Festuca arundinaceae</i>						
Geranium, Carolina	•	•	S	S	C	C
<i>Geranium carolinianum</i>						
Henbit	•	S	C	C	C	C
<i>Lamium amplexicaule</i>						
Ryegrass, Italian	•	•	S	C	C	C
<i>Lolium multiflorum</i>						
Speedwell, com	S	C	C	C	C	C
<i>Veronica arvensis</i>						
Vetch, common	•	•	S	C	C	C
<i>Vicia sativa</i>						

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

WEEDS CONTROLLED OR SUPPRESSED WITH KLEENUP PRO PLUS OUST*

NOTE: C = Control
S = Suppression

WEED SPECIES	KLEENUP PRO + OUST						
	KLEENUP PRO (FL. OZ/A)	8	12	16	16	12	16
Barley, little	+	+	+	+	+	+	+
<i>Hordeum pusillum</i>							
Bedstraw, catchweed C	C	C	C	C	C	C	C
<i>Galium aparine</i>							
Bluegrass, annual	S	C	C	C	C	C	C
<i>Poa annua</i>							
Chervil	C	C	C	C	C	C	C
<i>Chaerophyllum tainturieri</i>							
Chickweed, common S	C	C	C	C	C	C	C
<i>Stellaria media</i>							
Clover, crimson	S	S	S	S	C	C	C
<i>Trifolium incarnatum</i>							
Clover, large hop	•	•	S	S	C	C	C
<i>Trifolium campestre</i>							
Fescue, tall	•	•	•	•	•	S	S
<i>Festuca arundinaceae</i>							
Geranium, Carolina	•	S	S	C	C	C	C
<i>Geranium carolinianum</i>							
Henbit	•	S	C	C	C	C	C
<i>Lamium amplexicaule</i>							
Ryegrass, Italian	•	S	S	C	C	C	C
<i>Lolium multiflorum</i>							
Speedwell, com	S	C	C	C	C	C	C
<i>Veronica arvensis</i>							
Vetch, common	C	C	C	C	C	C	C
<i>Vicia sativa</i>							

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

RELEASE OF ACTIVELY GROWING BERMUDAGRASS

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

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

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

Bahiagrass	Fescue, tall	Trumpet creeper**
<i>Paspalum notatum</i>	<i>Festuca arundinaceae</i>	<i>Campsis radicans</i>
Bluestem, silver	Johnsongrass*	Vaseygrass
<i>Andropogon saccharoides</i>	<i>Sorghum halepense</i>	<i>Paspalum urvillei</i>

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*Control at the higher rates.

**Suppression at higher rates only.

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

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

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

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

*Suppression at higher rates only.

**Control at the higher rates.

COOL SEASON TURF GROWTH REGULATION

When applied as directed, this product will suppress growth and seedhead development of listed turf species in industrial sites. This product is 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 some turf color changes cannot be tolerated. Slight turf discoloration may occur but turf will regreen and regrow under moist conditions as effects of this product wear off.

Apply 4 to 6 fluid ounces of this product per acre alone or in a 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 made when annual grasses are actively growing and before the seedheads are in the boot stage of development. Treatments made after seedhead emergence may cause injury to the desired grasses.

TANK MIXTURES

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

TANK MIXTURES PLUS 2,4-D AMINE

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

TALL FESCUE

KLEENUP PRO 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.

KLEENUP PRO 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.

KLEENUP PRO 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.

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SMOOTH BROME
KLEENUP PRO 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-seed-head stage of development. Use up to 0.25 ounce of Oust per acre

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