



ACCEPTED  
FOR REGISTRATION

DOC ID 537273

12/17/2013

Group 9 Herbicide

New York State Department  
of Environmental Conservation  
Division of Materials Management

Pesticide Product Registration

# KLEENUP PRO

## HERBICIDE

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

**ACTIVE INGREDIENT**

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

**OTHER INGREDIENTS:** . . . . . 59.0%

**TOTAL 100.0%**

\*Contains 480 grams per liter or 4.0 pounds per U.S. gallon of the active ingredient, glyphosate, in the form of its isopropylamine salt. Equivalent to 356 grams per liter or 3.0 pounds per U.S. gallon of the acid, glyphosate.

**KEEP OUT OF REACH OF CHILDREN  
CAUTION**

**EPA REG. NO. 34704-890**

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

2

FIRST AID	
<b>If in eyes:</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If on skin or clothing:</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15 to 20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. <b>FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL:            1-866-944-8565.</b>	

SECTION	DESCRIPTION
<b>1.0</b>	<b>INGREDIENTS</b>
<b>2.0</b>	<b>EMERGENCY PHONE NUMBERS</b>
<b>3.0</b>	<b>PRECAUTIONARY STATEMENTS</b>
3.1	Hazards to Humans and Domestic Animals
3.2	Personal Protective Equipment (PPE) and User Safety Recommendations
3.3	Environmental Hazards
3.4	Physical or Chemical Hazards and Directions for Use
3.5	Agricultural Use Requirements
3.6	Non-Agricultural Use Requirements
3.7	Seed Potato Precaution
<b>4.0</b>	<b>USE INFORMATION (Mode of Action)</b>
<b>5.0</b>	<b>WEED RESISTANCE MANAGEMENT</b>
5.1	Weed Management Directions
5.2	Management Directions for Glyphosate Resistant Biotypes
<b>6.0</b>	<b>MIXING</b>
6.1	Mixing with Water
6.2	Tank Mixing Procedure
6.3	Mixing for Hand-held Sprayers
6.4	Surfactants
6.5	Ammonium Sulfate
6.6	Colorants or Dyes
6.7	Drift Control Additives

<b>7.0</b>	<b>APPLICATION EQUIPMENT AND TECHNIQUES</b>
7.1	Aerial Equipment and Spray Drift Management
7.2	Ground Broadcast Equipment
7.3	Hand-held or High-volume Equipment
7.4	Selective Equipment
7.5	Injection Systems
7.6	Controlled Droplet Application (CDA) Equipment
<b>8.0</b>	<b>PASTURES, GRASSES, FORAGE LEGUMES, AND RANGES</b>
8.1	Alfalfa, Clover and Other Forage Legumes
8.2	Conservation Reserve Program (CRP) Acres
8.3	Grass or Turfgrass Seed Production
8.4	Pastures
8.5	Rangelands
8.6	Turfgrass, Sod Production
8.7	Release of Bermudagrass and Bahiagrass
<b>9.0</b>	<b>NON-CROP USES AROUND THE FARMSTEAD</b>
9.1	Weed Control, Trim and Edge
9.2	Greenhouse/Shadehouse
9.3	Chemical Mowing
9.4	Cut Stumps
9.5	Habitat Management
<b>10.0</b>	<b>FORESTRY, INDUSTRIAL, TURF AND ORNAMENTAL</b>
10.1	Forestry Site Preparation
10.2	Non-crop Areas and Industrial Sites
10.3	Injection and Frill (Woody Brush and Trees)
10.4	Hollow Stem Injection
10.5	Ornamentals, Plant Nurseries and Christmas Trees
10.6	Parks, Recreational and Residential Areas
10.7	Railroads
10.8	Roadsides
10.9	Utility Sites

SECTION	DESCRIPTION
<b>11.0</b>	<b>ANNUAL WEEDS RATE TABLE (Alphabetical By Species)</b>
11.1	Annual Weeds - Water Carrier Volumes of 10.0 to 40.0 Gallons per Acre
11.2	Annual Weeds - Tank Mixtures with 2,4-D or Dicamba or Picloram 22K
11.3	Annual Weeds - Hand-held or High-volume Equipment
11.4	Annual Weeds - Tank Mixtures with Atrazine for Fallow and Reduced Tillage Systems
<b>12.0</b>	<b>PERENNIAL WEEDS RATE TABLE (Alphabetical By Species)</b>
12.1	Bromus Species and Medusahead
<b>13.0</b>	<b>WOODY BRUSH AND TREES RATE TABLE (Alphabetical By Species)</b>
<b>14.0</b>	<b>STORAGE AND DISPOSAL</b>
<b>15.0</b>	<b>CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY</b>

the animal with plenty of fluids to prevent dehydration. Call a veterinarian if symptoms persist more than 24 hours.

**3.2 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 exist, use detergent and hot water. Keep and wash PPE separately from other laundry. When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

**USER SAFETY RECOMMENDATIONS**

**Users should:**

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

**1.0 INGREDIENTS**

**ACTIVE INGREDIENT**

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

**2.0 EMERGENCY PHONE NUMBERS**

24-Hour Emergency Phone: 1-800-424-9300  
 Medical Emergencies: 1-866-944-8565  
 U.S. Coast Guard National Response Center: 1-800-424-8802

**3.0 PRECAUTIONARY STATEMENTS**

**3.1 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

**3.3 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.

**3.4 PHYSICAL OR CHEMICAL HAZARDS**

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

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

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

Read the Conditions of Sale and Limitation of Liability, Section 15.0, at the end of the label before buying or using. If terms are unacceptable, return at once unopened.

### 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.

#### 3.5 AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with Worker Protection Standard (WPS), 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 (REI). The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

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

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

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

#### 3.6 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.**

#### 3.7 Seed Potato Precaution

Potatoes grown for seed are very sensitive to glyphosate at extremely low concentrations. Exposure of the seed potato crop can cause germination failure or deformities. Daughter tuber damage may occur at levels where mother crop symptoms are not visible. Multiple sprouting from eyes, weak and distorted stems, little potato syndrome, cauliflower sprouts, root distortions, excessive root growth, suppressed tuber initiation and bulking, failure or delay in opening of eyes, and rotting of tubers in the field or store can result. Subsequent plantings of seed pieces from the exposed mother crop can result in delayed or no emergence or produce lower than normal yields.

Glyphosate can contaminate seed potato crops through carryover residue in application equipment or drift from applying glyphosate to nearby crops.

Always follow good wash-out procedures using detergents or other suitable cleaning agents to remove all residual traces of glyphosate from application equipment that may be used to apply other products to seed potato crops.

To avoid contamination from spray drift follow the directions and precautions in Spray Drift Management, Section 7.1.

### 4.0 USE INFORMATION

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

Ammonium sulfate, drift control additives, or dyes and colorants may be used. See Mixing, Section 6.0, 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 Weeds, Perennial Weeds, and Woody Brush and Trees rate tables, Sections 11.0, 12.0 and 13.0, for recommendations for specific weeds.

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

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

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

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

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

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

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

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

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

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 food crop section of this label, the combined total of all treatments must not exceed 8.0 quarts of this product per acre per year. For non-food/non-crop uses, the combined total of all treatments must not exceed 10.6 quarts of this product per acre per year. The maximum use rates stated throughout this product's labeling apply to this product combined with the use of all other herbicides containing glyphosate or sulfosate as the active ingredient, whether applied as mixtures or separately. Calculate the application rates and ensure that the total use of this and other glyphosate or sulfosate containing products does not exceed stated maximum use rate.

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

## 5.0 WEED RESISTANCE MANAGEMENT

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

### 5.1 Weed Management Directions

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

- Scout your fields before and after herbicide applications.
- Start with a clean field, use either a burndown herbicide application or tillage.
- Control weeds early when they are relatively small.
- Add other herbicides (e.g. a selective and/or a residual herbicide) and cultural practices (e.g. tillage or crop rotation) where appropriate.
- One method of adding other herbicides into a continuous Roundup Ready system is to rotate to other Roundup Ready crops.
- Utilize the labeled rate for the most difficult to control weed in your field. Avoid tank mixtures with other herbicides that reduce this product's efficacy (through

antagonism), or tank mixture recommendations that encourage application rates of this product below the label recommendations.

- Control weed escapes and prevent weeds from setting seeds.
- Clean equipment before moving from field to field to minimize the spread of weed seed or plant parts.
- Use new commercial seed that is as free of weed seed as possible.
- Report any incidence of repeated non performance of this product on a particular weed to your Loveland Products, Inc. representative, local retailer, or county extension agent.

### 5.2 Management Directions for Glyphosate Resistance Biotypes

**Note:** Appropriate testing is critical in order to determine if a weed is resistant to glyphosate. Contact your Loveland Products, Inc. representative to determine if resistance has been confirmed to any particular weed biotype in your area, or visit on the internet [www.weedresistancemanagement.com](http://www.weedresistancemanagement.com) or [www.weedscience.org](http://www.weedscience.org). For more information see the Annual Weeds and Perennial Weeds tables, Sections 11.0 and 12.0.

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

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

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

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

## 6.0 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.**

### 6.1 Mixing with Water

This product mixes readily with water. Mix spray solutions of this product as follows: Fill the mixing or spray tank with the required amount of water. Add the labeled amount of this product near the end of the filling process and mix well.

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

#### 6.2 Tank Mixing Procedure

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

- Place a 20- to 35-mesh screen or wetting basket over filling port.
- Through the screen, fill the spray tank 1/2 full with water and start agitation.
- If ammonium sulfate is used, add it slowly through the screen into the tank. Continue agitation. Ensure that dry ammonium sulfate is completely dissolved in the spray tank before adding other products.
- If a wettable powder is used, make a slurry with the water carrier and add it SLOWLY through the screen into the tank. Continue agitation.
- If a flowable formulation is used, premix 1 part flowable with 1 part water. Add diluted mixture SLOWLY through the screen into the tank. Continue agitation.
- If an emulsifiable concentrate formulation is used, premix 1 part emulsifiable concentrate with 2 parts water. Add diluted mixture slowly through the screen into the tank. Continue agitation.
- Continue filling the spray tank with water and add the required amount of this product near the end of the filling process.
- 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.

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

Refer to Tank Mixing, Section 4.0, for additional precautions.

#### 6.3 Mixing for Hand-Held Sprayers

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

Spray Solution	Amount KleenUp® Pro					
	0.5%	1.0%	1.5%	2.0%	5.0%	10.0%
1.0 gal	0.6 oz	1.3 oz	2.0 oz	2.6 oz	6.5 oz	13.0 oz
25.0 gal	1.0 pt	1.0 qt	1.5 qt	2.0 qt	5.0 qt	10.0 qt
100 gal	2.0 qt	1.0 gal	1.5 gal	2.0 gal	5.0 gal	10.0 gal

2.0 tablespoons = 1.0 fluid ounce

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

#### 6.4 Surfactants

Additional surfactants labeled for use with herbicides may be used. Do not reduce application rates of this herbicide when adding surfactants. Read and carefully observe cautionary statements and other information appearing on the additives label.

Enhanced product performance may be obtained with use of Loveland Products, Inc. Leci-Tech® adjuvants. Consult with your local Loveland Products, Inc. representative for advice on specific product selection.

#### 6.5 Ammonium Sulfate

The addition of 1.0 to 2.0% dry ammonium sulfate by weight or 8.5 to 17.0 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 specified in this label. Lower rates will result in reduced performance.

#### 6.6 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.

#### 6.7 Drift Control Additives

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

Enhanced product performance may be obtained with use of Loveland Products, Inc. Leci-Tech adjuvants. Consult with your local Loveland Products, Inc. representative for advice on specific product selection.

**Note:** The use of drift control additives can affect spray coverage which may result in reduced performance.

### 7.0 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 or High-volume Spray Equipment - Knapsack and backpack sprayers, pump-up pressure sprayers, handguns, handwands, mistblowers\*, lances and other hand-held and motorized spray equipment used to direct the spray onto weed foliage.
- Selective Equipment - Shielded and hooded sprayers, wiper applicators and

sponge bars.

- Injection Systems - Aerial or ground injection sprayers.
- Controlled Droplet Applicator (CDA) - Hand-held or boom-mounted applicators which produce a spray consisting of a narrow range of droplet sizes.

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

#### 7.1 Aerial Equipment

DO NOT APPLY THIS PRODUCT USING AERIAL SPRAY EQUIPMENT EXCEPT UNDER CONDITIONS AS SPECIFIED WITHIN THIS LABEL. FOR AERIAL APPLICATION IN CALIFORNIA AND ARKANSAS, REFER TO INSTRUCTIONS SPECIFIC TO THOSE STATES.

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

Use the specified rates of this herbicide in 3.0 to 15.0 gallons of water per acre unless otherwise specified on this label. Unless otherwise specified, do not exceed 1.0 quart per acre. Aerial applications of this product may be made in annual cropping conventional tillage systems, fallow and reduced tillage systems and preharvest applications. Refer to the individual use area sections of this label for labeled volumes and application rates.

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

#### Aerial 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 must be observed.

#### 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 sections of this label).

#### Controlling Droplet Size

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

- **Pressure** - Do not exceed the nozzle manufacturers 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 designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.
- **Boom Length** - For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.
- **Application Height** - Applications must not be made at a height greater than 10 feet above the top of the target plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

#### Swath Adjustment

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

#### Wind

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

#### Temperature and Humidity

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

#### Temperature Inversions

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

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**Sensitive Areas**

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

Avoid direct application to any body of water

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

**FOR AERIAL APPLICATION IN CALIFORNIA ONLY**

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

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

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

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

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

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

**Aerial Equipment**

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

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

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

4. Do not apply when winds are in excess of 10 miles per hour or when inversion conditions exist.

**FOR AERIAL APPLICATION IN FRESNO COUNTY CALIFORNIA**  
(From February 15 through March 31 Only)**Applicable Area**

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

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

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

Observe the following directions to minimize off-site movement during aerial application of this product. Minimization of off-site movement is the responsibility of the grower, Pest Control Advisor and aerial applicator.

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

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

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

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

**FOR AERIAL APPLICATION IN ARKANSAS ONLY**

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



Use the specified rate of this product in 3.0 to 15.0 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 this distance to 65% of the length of the wingspan or rotor will improve drift control without affecting the swath width.

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

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

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

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

1. Do not apply within 100 feet of any desirable vegetation or crops.
2. If wind up to 5 miles per hour is blowing toward desirable vegetation or crops, do not apply within 500 feet upwind of the desirable vegetation or crops.
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.

#### 7.2 Ground Broadcast Equipment

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

#### 7.3 Hand-held or High-volume Equipment

Apply to foliage of vegetation to be controlled. For applications made on a spray-to-wet basis, spray coverage must be uniform and complete. Do not spray to the point of runoff. Use coarse sprays only. For labeled rates and timing refer to Annual Weeds - Hand-held or High-volume Equipment, Section 11.3.

#### 7.4 Selective Equipment

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

In cropping systems, hooded sprayers, shielded sprayers, and wipers may be used in row middles (in between rows of crop plants) where any dripping or leaking will not contact crop foliage. Such equipment must be capable of preventing all crop contact with herbicide solutions and operated without leakage of spray mists or dripping onto crop. Wipers over the top of crops may be used only when specifically labeled in this product's labeling.

#### AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION

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

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

When applied under the conditions described in the following paragraphs for shielded and hooded applications, this product at labeled rates will control those weeds listed in the Annual Weeds and Perennial Weeds tables, Sections 11.0 and 12.0. A hooded sprayer is a type of shielded applicator where the spray pattern is fully enclosed including top, sides, front and back, thereby shielding the crop from the spray solution. Keep shields on these sprayers adjusted to protect desirable vegetation. When applying to crops grown on raised beds, ensure that the hood is designed to completely enclose the spray solution. If necessary, extend the front and rear flaps of the hoods to reach the ground in deep furrows. **EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION.**

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

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

These procedures will reduce the potential for crop injury:

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

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

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

**Wiper Applicators**

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

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

Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting desirable vegetation. Operate this equipment at ground speeds no greater than 5 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 1.0 gallon of this product in 2.0 gallons of water to prepare a 33% solution. Apply this solution to weeds listed above in this section.

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

**7.5 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.

**7.6 Controlled Droplet Application (CDA) Equipment**

The rate of this product applied per acre by vehicle-mounted CDA equipment must not be less than the amount labeled in this label when applied by conventional broadcast equipment. For vehicle-mounted CDA equipment, apply 3.0 to 20.0 gallons of water per acre.

For the control of annual weeds with hand-held CDA units, apply a 20% solution of this product at a flow rate of 2.0 fluid ounces per minute and a walking speed of 1.5 mph (1.0 quart per acre). For the control of perennial weeds, apply a 20 to 40% solution of this product at a flow rate of 2.0 fluid ounces per minute and a walking speed of 0.75 mph (2.0 to 4.0 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.

**8.0 PASTURE, GRASSES, FORAGE LEGUMES AND RANGELANDS**

**8.1 ALFALFA, CLOVER AND OTHER FORAGE LEGUMES**

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

TYPES OF APPLICATIONS	USE DIRECTIONS	RESTRICTIONS
Pre-plant Pre-emergence At-planting	This product may be applied before, during or after planting crops listed. Make applications according to the rates listed in Annual Weeds, Perennial Weeds, and Woody Brush and Trees rate tables, Sections 11.0, 12.0 and 13.0. Applications must be made prior to emergence of the crop.	If a single application is made at rates of 2.0 qt/A or less, no waiting period between treatment and feeding or grazing is required. If application rates greater than 2.0 qt/A are made, remove domestic livestock before application and wait 8 wk after application before grazing or harvesting.
Spot treatment Over-the-top Wiper applications (Alfalfa and Clover only)	This product may be applied as a spot treatment in alfalfa or clover. This product may be applied with wiper applicators to control or suppress the weeds listed in Wiper Applicators, Section 7.4. Applications may be made in the same area at 30-day intervals.	For spot treatment and wiper applications, apply in areas where the movement of domestic livestock can be controlled. No more than 1/10 of any acre can be treated at one time. Remove domestic livestock before application and wait 14 days after application before grazing livestock or harvesting.

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**8.1 Alfalfa, Clover & Other Forage Legumes cont'd.:**

<b>TYPES OF APPLICATIONS</b>	<b>USE DIRECTIONS</b>	<b>RESTRICTIONS</b>
Dormant (Alfalfa only)	This product will control or suppress many weeds including Downy brome, Cheatgrass and Quackgrass, in dormant alfalfa. Apply 8.0 to 12.0 oz/A of this product. Apply in the spring to alfalfa that is dormant. Applications should be made after spring temperatures have warmed enough to encourage resumption of weed growth, but prior to initiation of trifoliolate leaf expansion of the alfalfa. Applications made after expansion of the first trifoliolate leaf of the alfalfa will cause growth reduction and reduced crop yield. Slight discoloration of the alfalfa may occur, but the alfalfa will regreen and regrow under moist soil conditions as effects of this product wear off. PRECAUTION: Application of this product can cause crop injury. Any crop injury is the sole responsibility of the applicator.	Do not use ammonium sulfate when spraying dormant alfalfa with KleenUp Pro. Do not use this product where a slight yield reduction in the first cutting of alfalfa cannot be tolerated. Do not make more than 1 application/yr. Allow 36 hours after application before grazing livestock or harvesting.
Pre-harvest (Alfalfa only)	This product may be used in declining alfalfa stands or any stand of alfalfa where crop destruction is acceptable. This application will severely injure or destroy the stand of alfalfa. This product will control annual and perennial weeds including Quackgrass, when applied prior to the harvest of alfalfa. Use up to 1.0 qt of this product/A. Applications may be made at any time of the year. For control of Quackgrass, apply in the spring, late summer or fall when Quackgrass is actively growing. Treatments for Quackgrass must be followed by deep tillage for complete control.	Make only 1 application to an existing stand of alfalfa/yr. Do not apply more than 2.0 qt of this product/A as a pre-harvest treatment. Do not use for alfalfa grown for seed, as a reduction in germination or vigor may occur. The treated crop and weeds can be harvested and fed to livestock after 36 hr.
Renovation	This product may be applied as a broadcast spray to existing stands of alfalfa, clover, and other labeled forage legumes. Labeled crops may be planted into the treated area. Make applications according to the rates listed in Annual Weeds, Perennial Weeds, and Woody Brush and Trees rate tables, Sections 11.0, 12.0 and 13.0.	Remove domestic livestock before application. If application rates of 2.0 qt/A or less are used, wait 36 hr after application before grazing or harvesting. If application rates greater than 2.0 qt/A are used, wait 8 wk after application before grazing or harvesting.

**8.2 CONSERVATION RESERVE PROGRAM (CRP)****LABELLED CROPS:** Conservation Reserve Program (CRP) Acres

<b>TYPES OF APPLICATIONS</b>	<b>USE DIRECTIONS</b>	<b>RESTRICTIONS</b>
Renovation (rotating out of CRP) Site preparation	This product may be used to prepare CRP land for crop production. Refer to Federal, State or local use guides for CRP renovation recommendations. Make applications according to the rates listed in Annual Weeds, Perennial Weeds, and Woody Brush and Trees rate tables, Sections 11.0, 12.0 and 13.0. For any crop not listed in the crops sections of this label, applications must be made at least 30 days prior to planting. PRECAUTION: Some stunting of CRP perennial grasses will occur if broadcast applications are made when plants are not dormant.	Do not apply more than 3.0 qt/A/yr onto CRP grasses.

12

**8.2 Conservation Reserve Program (CRP) cont'd.:**

TYPES OF APPLICATIONS	USE DIRECTIONS	RESTRICTIONS
Post-emergence Weed control in dormant acres Over-the-top Wiper application	This product may be used to suppress competitive growth and seed production of undesirable vegetation in CRP acres. Such applications may be made with wiper application equipment or as a broadcast or spot treatment to dormant CRP grasses. For selective applications with broadcast spray equipment, apply 12.0 to 16.0 fl oz of this product/A 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.	Do not apply more than 3.0 qt/A year onto CRP grasses.

**8.3 GRASS or TURFGRASS SEED PRODUCTION**

**LABELED CROPS:** Any grass (*Gramineae* family), except Barley, Buckwheat, Corn, Millet (Pearl and Proso), Oats, Quinoa, Rice, Rye, Sorghum, Sugarcane, Teff, Teosinte, Triticale, Wheat (all), Wild Rice

TYPES OF APPLICATIONS	USE DIRECTIONS	RESTRICTIONS
Pre-plant Pre-emergence Renovation Site preparation	This product may be applied before, during, or after planting or for renovation of turf or forage grass areas grown for seed production. Make applications according to the rates listed in Annual Weeds, Perennial Weeds, and Woody Brush and Trees rate tables, Sections 11.0, 12.0 and 13.0. Applications must be made prior to the emergence of the crop to avoid injury. For maximum control of existing vegetation, delay planting to determine if any regrowth from escaped underground plant parts occurs. Where repeat treatments are necessary, sufficient regrowth must be attained prior to application. For warm-season grasses, such as Bermudagrass, summer or fall applications provide best control.	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. If application rates total 3.0 qt/A or less, no waiting period between treatment and feeding or livestock grazing is required. If the rate is greater than 3.0 qt/A, remove domestic livestock and wait 8 wk following application before grazing or harvesting.
Shielded Sprayer	Apply 1.0 to 3.0 qt of this product as a broadcast spray in 10.0 to 20.0 gal of total spray volume/A. Uniform planting in straight rows aids in shielded sprayer applications. Best results are obtained when the grass seed crop is small enough to easily pass by or through the protective shields. <b>PRECAUTION:</b> Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage. Grower assumes all responsibility for crop losses from misapplication.	
Over-the-top Wiper Applications	This product may be applied with wiper applicators to control or suppress the weeds listed under Wiper Applications in Section 7.4. Weeds should be 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 weed height varies so that not all weeds are contacted. In these instances, repeat treatments may be necessary. Better results may be obtained if 2 applications are made in opposite directions.	Contact of the herbicide solution with desirable vegetation may result in damage or destruction. Applicators must be adjusted so that the wiper contact point is at least 2 inches above the desirable vegetation.

**8.3 Grass or Turfgrass Seed Production cont'd.:**

TYPES OF APPLICATIONS	USE DIRECTIONS	RESTRICTIONS
Spot treatments	Use a 1 to 1.5% solution. Apply this product prior to heading of grasses.	The crop receiving the spray in the treated area will be killed. Avoid drift or spray outside of the target area for the same reason.
Creating rows in Annual ryegrass	Use 16.0 to 32.0 fl oz of this product/A. Use the higher rate when the ryegrass is greater than 6 inches tall. Best results are obtained when applications are made before the ryegrass reaches 6 inches in height. <b>PRECAUTION:</b> Set nozzle height to allow the establishment of the desired row spacing while preventing spray droplets, spray fines, or drift to contact the ryegrass plants not treated. Use of low-pressure nozzles, or drop nozzles designed to target the application over a narrow band are recommended. Grower assumes all responsibility for crop losses from misapplication.	

**8.4 PASTURES**

**LABELED CROPS:** Any grass (*Gramineae* family) including Bahiagrass, Bermudagrass, Bluegrass, Brome, Fescue, Guinea grass, Kikuygrass, Orchardgrass, Pangola grass, Ryegrass, Timothy, Wheatgrass. Not for use on Barley, Buckwheat, Corn, Millet (Pearl and Proso), Oats, Quinoa, Rice, Rye, Sorghum, Sugarcane, Teosinte, Teff, Triticale, Wheat (all) and Wild rice

TYPES OF APPLICATIONS	USE DIRECTIONS	RESTRICTIONS
Spot treatment Over-the-top Wiper Applications	This product may be applied as a spot treatment or with wiper applicators in pastures. Applications may be made in the same area at 30-day intervals.	For spot treatments or wiper application methods using rates of 3.0 qt/A or less, the entire field or any portion of it may be treated. When spot treatment or wiper applications are made using rates above 3.0 qt/A, no more than 10% of the total pasture may be treated at any one time. To achieve maximum performance, remove domestic livestock before application and wait 7 days after application before grazing livestock or harvesting.
Pre-plant Pre-emergence Pasture Renovation Stand Removal	This product may be applied prior to planting or emergence of forage grasses. In addition this product may be used to control perennial pasture species listed on this label prior to re-planting. Make applications according to the rates listed in Annual Weeds, Perennial Weeds, and Woody Brush and Trees rate tables, Sections 11.0, 12.0 and 13.0.	If application rates total 3.0 qt/A or less, no waiting period between treatment and feeding or livestock grazing is required. If the rate is greater than 3.0 qt/A, remove domestic livestock and wait 8 wk following application before grazing or harvesting.
Chemical mowing (Bermudagrass) pastures prior to spring growth or immediately after first cutting	This product may be applied at 16.0 fl oz/A to control the weeds listed below and most other winter annual grass and broadleaf weeds in established coastal bermudagrass pastures. Annual bluegrass, Cheat, Crabgrass, Henbit, Johnsongrass seedling, Little barley, Oats, Ryegrass, Sandbur field, Wheat, Wild mustard <b>Applications prior to spring growth:</b> Apply this product in the late winter or early spring but before new coastal bermudagrass growth begins in the spring. Applications to new growth can damage the bermudagrass. <b>Applications following the first cutting:</b> Apply this product after the first bermudagrass cutting when the bermudagrass has not yet begun to regrow. Applications made after regrowth has begun can damage the bermudagrass.	Labeled application rates totaling 3.0 qt/A or less do not require a waiting period between treatment and feeding or livestock grazing. <b>NOTE: ONLY 1 APPLICATION/YR MAY BE MADE TO ANY ONE FIELD. A SPRING APPLICATION PRIOR TO GROWTH AND AN APPLICATION FOLLOWING THE FIRST CUTTING MAY NOT BE MADE ON THE FIELD DURING THE SAME YEAR.</b>

**8.4 Pastures cont'd.:**

**Colorado, Idaho, Iowa, Kansas, Montana, Nebraska, North Dakota, Oregon, South Dakota, Utah, Washington, and Wyoming Only Bromus Species:** This product may be used to treat Cheatgrass (*Bromus secalinus*), Downy brome (*Bromus tectorum*), Japanese brome (*Bromus japonicus*), and Soft chess (*Bromus mollis*) found in industrial, rangeland and pasture sites. Apply 8.0 to 16.0 fluid ounces of product per acre on a broadcast basis. For best results, treatment should coincide with early seedhead emergence of the most mature plants. Delaying the application until this growth stage will maximize the emergence of other weedy grass flushes. Applications should be made to the same site each year until seed banks are depleted and the desirable perennial grasses are able to become reestablished on the site.

**Medusahead:** To treat medusahead, apply 16.0 fluid ounces of this product per acre as soon as plants are actively growing, and prior to the 4-leaf stage. Applications may be made in the fall or spring.

**Application Equipment and Techniques:** Applications may be made using ground or aerial equipment. Aerial applications for these uses may be made using fixed wing or helicopter equipment. For aerial applications, apply in 2.0 to 10.0 gallons of water per acre. For applications using ground equipment, apply in 10.0 to 20.0 gallons of water per acre.

When applied as directed there are no grazing restrictions.

**8.5 RANGELANDS**

**LABELLED CROPS:** Rangeland (Perennial cool- and warm-season grass rangelands)

TYPES OF APPLICATIONS	USE DIRECTIONS	RESTRICTIONS
Post-emergence	<p>This product will control or suppress many annual weeds growing in perennial cool- and warm-season grass rangelands.</p> <p>Preventing viable seed production is key to the successful control and invasion of annual grassy weeds in rangelands. Follow-up applications in sequential years should eliminate most of the viable seeds.</p> <p>Grazing of treated areas should be delayed to encourage growth of desirable perennials. Allowing desirable perennials to flower and reseed in the treated area will encourage successful transition.</p> <p>Apply 12.0 to 16.0 fl oz/A to control or suppress many annual weeds growing in perennial cool and warm-season grass rangelands including Cereal rye, Cheatgrass, Downy brome and Jointed goatgrass.</p> <p>Apply when most mature brome plants are in early flower and before the plants, including seedheads, turn color. Allowing for secondary weed flushes to occur in the spring following rain events further depletes the seed reserve and encourages perennial grass conversion on weedy sites. Fall applications are possible, and recommended, where spring moisture is usually limited and fall germination allows for good weed growth.</p> <p>For Medusahead, apply 16.0 fl oz/A at the 3-leaf stage. Delaying applications beyond this stage will result in reduced or unacceptable control. Fire may be useful in eliminating the thatch layer produced by slow decaying culms prior to application. Allow new growth to occur before spraying after a burn.</p>	<p>Do not use ammonium sulfate when spraying rangeland grasses with this product.</p> <p>Do not apply more than 3.0 qt/A/yr.</p> <p>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.</p>

**8.6 TURFGRASS SOD PRODUCTION**

**LABELLED CROPS:** Turfgrass for Sod

TYPES OF APPLICATIONS	USE DIRECTIONS	RESTRICTIONS
Pre-plant Pre-emergence Renovation Site Preparation	This product controls most existing vegetation prior to renovating turf grass areas or establishing turfgrass grown for sod. Broadcast of hand-held equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested. For maximum control of existing vegetation, delay planting or sodding to determine if any regrowth from escaped underground plant parts occurs. Where repeat treatments are necessary, sufficient regrowth must be attained prior to application. For warm-season grasses such as bermudagrass, summer or fall applications provide the best control. Where existing vegetation is growing under mowed turfgrass management, apply this product after omitting at least one regular mowing to allow sufficient growth or good interception of the spray. Make applications according to the rates listed in Annual Weeds, Perennial Weeds, and Woody Brush and Trees rate tables, Sections 11.0, 12.0 and 13.0. Desirable turfgrasses may be planted following the above procedures.	If application rates total 3.0 qt/A or less, no waiting period between treatment and feeding or livestock grazing is required. If the rate is greater than 3.0 qt/A, remove domestic livestock and wait 8 wk following application before grazing or harvesting. Do not disturb soil or underground plant before treatment. Tillage or renovation techniques such as vertical mowing, coring, or slicing should be delayed for 7 days after application to allow translocation into underground plant parts.
Spot treatment	Hand-held equipment may be used for spot treatment of unwanted vegetation growing in existing turfgrass.	
Turfgrass renovation for sod production	This product controls most existing vegetation prior to renovating turfgrass areas or establishing turfgrass grown for seed or sod. For maximum control of existing vegetation, delay planting or sodding to determine if any regrowth from escaped underground plant parts occurs. Where repeat treatments are necessary, sufficient regrowth must be attained prior to application. For warm-season grasses such as bermudagrass, summer or fall applications provide the best control. Where existing vegetation is growing under mowed turfgrass management, apply this product after omitting at least one regular mowing to allow sufficient growth for good interception of the spray. 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 translocation into underground plant parts. Desirable turfgrass may be planted following the above procedures. Hand-held equipment may be used for spot treatment of unwanted vegetation growing in existing turfgrass. Broadcast or hand-held equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested.	Do not feed or graze turfgrass grown for seed or sod production for 8 wk following application.

**8.7 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 8.0 to 64.0 fluid ounces of this product per acre alone or in a tank mixture with 0.25 to 1.0 ounce per acre of Oust. Apply the labeled rates in 10.0 to 40.0 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 1.0 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 a semi-dormant condition.

**Actively Growing Bermudagrass**

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing bermudagrass. Apply 1.0 to 3.0 pints of this product in 10.0 to 40.0 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	Trumpetcreeper
Bluestem, silver	Johnsongrass	Vaseygrass

This product may be tank-mixed with Oust. If tank mixed, use no more than 1.0 to 2.0 pints of this product with 1.0 to 2.0 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	Dallisgrass	Fescue, tall	Trumpetcreeper
Bluestem, silver	Dock, curly	Johnsongrass	Vaseygrass
Broomsedge	Dogfennel	Poorjoe	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 6.0 fluid ounces of this product in 10.0 to 40.0 gallons of water per acre. Apply 1 to 2 weeks after full green-up or after mowing to a uniform height of 3 to 4 inches. This application must be made prior to seedhead emergence.

For suppression up to 120 days, apply 4.0 fluid ounces of this product per acre, followed by an application of 2.0 to 4.0 fluid ounces per acre about 45 days later. Make no more than 2 applications per year.

A tank mixture of this product plus Oust may be used. Apply 6.0 fluid ounces of this product plus 0.25 ounce of Oust per acre 1 to 2 weeks following an initial spring mowing. Make only 1 application per year.



**9.0 NON-CROP USES AROUND THE FARMSTEAD**

**9.1 WEED CONTROL, TRIM AND EDGE**

**LABELLED SITES:** Non-crop areas including building foundations, along and in fences, in dry ditches and canals, along ditchbanks, farm roads, shelterbelts, prior to landscape plantings and equipment storage areas

TYPES OF APPLICATIONS	USE DIRECTIONS	RESTRICTIONS																																
Any suitable application equipment described in Section 7.0.	<p>This product may be used to control annual weeds, perennials weeds and woody brush which are found in any part of the farmstead.</p> <p>Make applications according to the rates listed in Annual Weeds, Perennial Weeds, and Woody Brush and Trees rate tables, Sections 11.0, 12.0 and 13.0.</p> <p>Tank Mixtures: This product may be tank mixed with the following products (or generic equivalents). Refer to these product labels for approved farmstead sites and application rates. For annual weeds, use 1.0 qt/A of this product when weeds are less than 6 inches tall and 1.5 qt/A when weeds are greater than 6 inches tall. For perennial weeds, apply 2.0 to 5.0 qt/A in these tank mixes.</p> <p>For tank mixtures with these products through backpack sprayers, handguns or other high-volume spray-to-wet applications, see the Hand-held or High Volume Equipment, Section 7.3, for allowable application rates.</p> <table border="0"> <tr> <td>Arsenal®</td> <td>Plateau®</td> </tr> <tr> <td>Barricade® 65WG</td> <td>Princep DF</td> </tr> <tr> <td>Diuron</td> <td>Princep Liquid</td> </tr> <tr> <td>Endurance®</td> <td>Ronstar® 50 WP</td> </tr> <tr> <td>Escort®</td> <td>Sahara®</td> </tr> <tr> <td>Karmex DF</td> <td>Simazine</td> </tr> <tr> <td>Krovar DF</td> <td>Surflan</td> </tr> <tr> <td>Oust</td> <td>Vanquish®</td> </tr> <tr> <td>Pendulum® 3.3 EC</td> <td>2,4-D</td> </tr> <tr> <td>Pendulum WDG</td> <td></td> </tr> </table> <p>For control or partial control of the following perennial weeds, apply 1.0 to 2.0 qt KleenUp Pro + 2.0 to 4.0 oz of Oust/A.</p> <table border="0"> <tr> <td>Bahiagrass</td> <td>Fescue, tall</td> </tr> <tr> <td>Bermudagrass</td> <td>Johnsongrass</td> </tr> <tr> <td>Broomsedge</td> <td>Poorjoe</td> </tr> <tr> <td>Dallisgrass</td> <td>Quackgrass</td> </tr> <tr> <td>Dock, curly</td> <td>Vaseygrass</td> </tr> <tr> <td>Dogfennel</td> <td>Vervain, blue</td> </tr> </table>	Arsenal®	Plateau®	Barricade® 65WG	Princep DF	Diuron	Princep Liquid	Endurance®	Ronstar® 50 WP	Escort®	Sahara®	Karmex DF	Simazine	Krovar DF	Surflan	Oust	Vanquish®	Pendulum® 3.3 EC	2,4-D	Pendulum WDG		Bahiagrass	Fescue, tall	Bermudagrass	Johnsongrass	Broomsedge	Poorjoe	Dallisgrass	Quackgrass	Dock, curly	Vaseygrass	Dogfennel	Vervain, blue	This product plus dicamba tank mixtures may not be applied by air in CA.
Arsenal®	Plateau®																																	
Barricade® 65WG	Princep DF																																	
Diuron	Princep Liquid																																	
Endurance®	Ronstar® 50 WP																																	
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Dogfennel	Vervain, blue																																	

**9.2 GREENHOUSE/SHADEHOUSE**

TYPES OF APPLICATIONS	USE DIRECTIONS	RESTRICTIONS
Spot spray Directed spray	<p>This product may be used to control weeds in and around greenhouses and shadehouses.</p> <p>Make applications according to the rates listed in Annual Weeds, Perennial Weeds, and Woody Brush and Trees rate tables, Sections 11.0, 12.0 and 13.0.</p>	Air circulation fans must be turned off during application. Desirable vegetation should not be present during application.

18

**9.3 CHEMICAL MOWING**

**LABELLED USES:** Farm Ditches and Other Parts of Farmsteads

TYPES OF APPLICATIONS	USE DIRECTIONS	RESTRICTIONS
Any suitable application equipment described in Section 7.0.	This product will suppress perennial grasses listed in this section to serve as a substitute for mowing. Use 8.0 fl oz of KleanUp Pro/A when treating tall fescue, fine fescue, orchardgrass or quackgrass covers. Use 6.0 fl oz of KleanUp Pro/A when treating Kentucky bluegrass. Use 16.0 fl oz of KleanUp Pro when treating bermudagrass. Use 64.0 fl oz of KleanUp Pro when treating Torpedograss or Paragrass. Apply treatments in 10.0 to 20.0 gal of spray solution/A.	Use only in areas where some temporary injury or discoloration of perennial grasses can be tolerated.

**9.4 CUT STUMPS**

**LABELLED USES:** Cut Stumps (on any non-crop site listed on this label)

TYPES OF APPLICATIONS	USE DIRECTIONS	RESTRICTIONS												
Suitable Hand-held Equipment	<p>This product will control regrowth of cut stumps and resprouts of many types of woody brush and tree species, some of which are listed below. Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut trees or resprouts close to the soil surface. Apply a 50 to 100% 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.</p> <table border="0" data-bbox="573 1045 841 1161"> <tr> <td>Alder</td> <td>Reed, giant</td> </tr> <tr> <td>Eucalyptus</td> <td>Salt cedar</td> </tr> <tr> <td>Madrone</td> <td>Sweetgum</td> </tr> <tr> <td>Oak</td> <td>Tan oak</td> </tr> <tr> <td>Pepper, Brazilian</td> <td>Willow</td> </tr> <tr> <td>Pine, Austrian</td> <td></td> </tr> </table>	Alder	Reed, giant	Eucalyptus	Salt cedar	Madrone	Sweetgum	Oak	Tan oak	Pepper, Brazilian	Willow	Pine, Austrian		Some sprouts, stems, or trees may share the same root system. Adjacent trees having a similar age, height and spacing may signal shared roots. Whether grafted or shared, injury is likely to occur to non-treated stems/trees when one or more trees sharing common roots are treated.
Alder	Reed, giant													
Eucalyptus	Salt cedar													
Madrone	Sweetgum													
Oak	Tan oak													
Pepper, Brazilian	Willow													
Pine, Austrian														

**9.5 HABITAT MANAGEMENT**

**LABELLED USES:** Habitat Restoration and Maintenance, Wildlife Food Plots

TYPES OF APPLICATIONS	USE DIRECTIONS	RESTRICTIONS
Any suitable application equipment described in Section 7.0.	<p>This product may be used to control exotic and other undesirable vegetation in habitat management and natural areas including rangeland and wildlife refuges. Applications can be made to allow recovery of native plant species, prior to planting desirable native species, and for similar broad-spectrum vegetation control requirements in habitat management areas.</p> <p>Make applications according to the rates listed in Annual Weeds, Perennial Weeds, and Woody Brush and Trees rate tables, Sections 11.0, 12.0 and 13.0.</p> <p>Spot treatments can be made to selectively remove unwanted plants for habitat maintenance and enhancement.</p> <p>This product may be used as a site preparation treatment to control annual and perennial weeds prior to planting wildlife food plots. Any wildlife food species may be planted after applying this product, or native species may be allowed to repopulate the area.</p>	If tillage is needed to prepare a seedbed, wait 7 days after application before tillage to allow translocation into underground plant parts.

**10.0 FORESTRY, INDUSTRIAL, TURF AND ORNAMENTAL**

**10.1 FORESTRY SITE PREPARATION**

TYPES OF APPLICATIONS	USE DIRECTIONS	RESTRICTIONS
<p>Boom sprayers Shielded boom sprayers High-volume Off-Center Nozzles Hand-held Equipment and similar equipment</p>	<p>This product is recommended for the control or partial control of woody brush, trees and herbaceous weeds in forestry. This product is also recommended for use in preparing or establishing wildlife openings with these sites and maintaining logging roads.</p> <p>Make applications according to the rates listed in Annual Weeds, Perennial Weeds, and Woody Brush and Trees rate tables, Sections 11.0, 12.0 and 13.0.</p> <p>This product is recommended for use in site preparation prior to planting any tree species, including Christmas trees, eucalyptus, hybrid tree cultivars and silvicultural nursery sites.</p> <p>Use higher rates of this product within the labeled range for control or partial control of woody brush, trees and hard-to-control perennial herbaceous weeds. For best results, apply to actively growing woody brush and trees after full leaf expansion and before fall color and leaf drop. Increase rates within the labeled range for control of perennial herbaceous weeds any time after emergence and before seedheads, flowers or berries appear.</p> <p>Use the lower rates of this product within the labeled range for control of annual herbaceous weeds and actively growing perennial herbaceous weeds after seedheads, flowers or berries appear. Apply to the foliage of actively growing annual herbaceous weeds any time after emergence.</p> <p>Tank Mixtures: Tank mixtures of this product may be used to increase the spectrum of vegetation controlled. When tank mixing, read and carefully observe the label claims, cautionary statements and all information on the labels of all products used. Use according to the restrictive precautionary statements for each product in the mixture.</p> <p>Note: For forestry site preparation, make sure the tank-mix product is approved for use prior to planting the desired species. Observe planting interval restrictions.</p> <p>Any labeled rate of this product may be used in a tank-mix with the following products (or generic equivalents) for forestry site preparation.</p> <p>Arsenal Applicators Concentrate Chopper® Escort or Escort XP Garlon® 3A Garlon 4A Landmark® XP Oust or Oust XP Westar®</p> <p>For control of herbaceous weeds, use the lower labeled tank mixture rates. For control of dense stands or tough-to-control woody brush and trees, use the higher labeled rates.</p>	<p>Do not apply this product as an over-the-top broadcast spray for forestry, conifer or hardwood release unless otherwise specified on this label, or in separate supplemental labeling published by Loveland Products, Inc. for this product.</p>

**10.2 NON-CROP AREAS AND INDUSTRIAL SITES**

**LABELLED USES:** Non-crop areas including airports, apartment complexes, Christmas tree farms, commercial sites, Conservation Reserve Program (CRP) areas, ditch banks, dry ditches, dry canals, fencerows, golf courses, greenhouses, industrial sites, landscape areas, lumber yards, manufacturing sites, municipal sites, natural areas, office complexes, ornamentals parks, parking areas, pastures, petroleum tank farms, and pumping installations, plant nurseries, public areas, railroads, rangeland, recreational areas, residential areas, rights-of-way, roadsides, schools, sod or turf, seed farms, sports complexes, storage areas, substations, turfgrass, areas utility sites, warehouse areas and wildlife management areas

TYPES OF APPLICATIONS	USE DIRECTIONS	RESTRICTIONS																																												
This product may be applied with any suitable application equipment described in Section 7.0.	<p>This product may be used to trim and edge around objects in non-crop sites, for spot treatment of unwanted vegetation and to eliminate unwanted weeds growing in established shrub beds or ornamental plantings. This product may be used prior to planting an area to ornamentals, flowers, turfgrass (sod or seed), or prior to laying asphalt or beginning construction projects. Make applications according to the rates listed in Annual Weeds, Perennial Weeds, and Woody Brush and Trees rate tables, Sections 11.0, 12.0 and 13.0. Repeated applications of this product may be used, as weeds emerge, to maintain bare ground.</p> <p>Tank Mixtures: This product may be tank mixed with the following products (or generic equivalents) provided that the specific product is registered for use on the target site. Refer to these product labels for approved sites and application rates. Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used. Use according to the most restrictive precautionary statements for each product in the mixture. User is responsible for ensuring that the mixture product's label allows the specific applications.</p> <table border="0"> <tr><td>Arsenal</td><td>Outrider®</td></tr> <tr><td>Atrazine</td><td>pendimethalin</td></tr> <tr><td>Barricade 65WG</td><td>Plateau</td></tr> <tr><td>Certainty®</td><td>Crossbow® L</td></tr> <tr><td>dicamba*</td><td>Landmark II MP</td></tr> <tr><td>diuron</td><td>Landmark II</td></tr> <tr><td>Endurance</td><td>Poast®</td></tr> <tr><td>Escort</td><td>Ronstar 50 WP</td></tr> <tr><td>Escort XP</td><td>simazine</td></tr> <tr><td>Gallery® 75DF</td><td>Surflan AS</td></tr> <tr><td>Garlon 3A</td><td>Surflan WDG</td></tr> <tr><td>Garlon 4</td><td>Transline®</td></tr> <tr><td>Goal 2XL</td><td>Velpar® DF</td></tr> <tr><td>Krovar I DF</td><td>Velpar L</td></tr> <tr><td>Oust</td><td>2,4-D</td></tr> <tr><td>Oust XP</td><td></td></tr> </table> <p>When applied as a tank mixture for bare ground, this product provides control of the emerged annual weeds and control or partial control of emerged perennial weeds, woody brush and trees. For control or partial control of the following perennial weeds, apply 1.0 to 2.0 qt of KleenUp Pro + 2.0 to 4.0 oz of Oust or Oust XP/A.</p> <table border="0"> <tr><td>Bahiagrass</td><td>Dock, curly</td><td>Poorjoe</td></tr> <tr><td>Bermudagrass</td><td>Dogfennel</td><td>Quackgrass</td></tr> <tr><td>Broomsedge</td><td>Fescue, tall</td><td>Vaseygrass</td></tr> <tr><td>Dallisgrass</td><td>Johnsongrass</td><td>Vervain, blue</td></tr> </table>	Arsenal	Outrider®	Atrazine	pendimethalin	Barricade 65WG	Plateau	Certainty®	Crossbow® L	dicamba*	Landmark II MP	diuron	Landmark II	Endurance	Poast®	Escort	Ronstar 50 WP	Escort XP	simazine	Gallery® 75DF	Surflan AS	Garlon 3A	Surflan WDG	Garlon 4	Transline®	Goal 2XL	Velpar® DF	Krovar I DF	Velpar L	Oust	2,4-D	Oust XP		Bahiagrass	Dock, curly	Poorjoe	Bermudagrass	Dogfennel	Quackgrass	Broomsedge	Fescue, tall	Vaseygrass	Dallisgrass	Johnsongrass	Vervain, blue	*This product plus dicamba tank mixtures may not be applied by air in CA.
Arsenal	Outrider®																																													
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**10.3 INJECTION AND FRILL (Woody Brush and Trees)****LABELLED SITES:** Woody brush and Trees in non-crop areas

<b>TYPES OF APPLICATIONS</b>	<b>USE DIRECTIONS</b>	<b>RESTRICTIONS</b>										
Injection or Frill applications	<p>Apply this product using suitable equipment which must penetrate into the living tissue. Apply the equivalent of 1.0 mL of this product per each 2 to 3 inches of trunk diameter at breast height (DBH). This is best achieved by applying a 50 to 100% concentration of KleenUp Pro either to a continuous frill around the tree or as cuts evenly spaced around the tree below all branches. As tree diameter increases in size, better results are achieved by applying diluted material to a continuous frill or more closely spaced cuttings.</p> <p>For best results, application should be made during periods of active growth and after full leaf expansion. This product will control many species, some of which are listed below:</p> <table border="0" data-bbox="574 877 857 970"> <tr> <td>Control</td> <td>Partial Control</td> </tr> <tr> <td>Oak</td> <td>Black gum</td> </tr> <tr> <td>Poplar</td> <td>Dogwood</td> </tr> <tr> <td>Sweetgum</td> <td>Hickory</td> </tr> <tr> <td>Sycamore</td> <td>Maple, red</td> </tr> </table>	Control	Partial Control	Oak	Black gum	Poplar	Dogwood	Sweetgum	Hickory	Sycamore	Maple, red	<p>Avoid application techniques that allow runoff to occur from frilled or cut areas in species that exude sap freely. In species such as this make the frill or cuts at an oblique angle to produce a cupping effect and use a 100% concentration of this product.</p>
Control	Partial Control											
Oak	Black gum											
Poplar	Dogwood											
Sweetgum	Hickory											
Sycamore	Maple, red											

**10.4 HOLLOW STEM INJECTION****LABELLED SITES:** Hollow-stem plants growing in any non-crop site specified on this label.

<b>TYPES OF APPLICATIONS</b>	<b>USE DIRECTIONS</b>	<b>RESTRICTIONS</b>
Hand-held injection devices that deliver labeled amounts of this product	<p>For control of the following hollow stem plants, use the application rates below:</p> <ul style="list-style-type: none"> <li>• Japanese Knotweed (<i>Polygonum cuspidatum</i>) Inject 5.0 mL/stem KleenUp Pro between 2nd and 3rd internode.</li> <li>• Bohemian Knotweed (<i>Polygonum bohemicum</i>) Inject 5.0 mL/stem KleenUp Pro between 2nd and 3rd internode.</li> <li>• Giant Hogweed (<i>Heracleum mantegazzianum</i>) Inject 1 leaf cane/plant 12 inches above the root crown with 5.0 mL of a 5% v/v solution of KleenUp Pro.</li> <li>• Poison Hemlock (<i>Conium maculatum</i>) Inject 1 leaf cane/plant 10 to 12 inches above the root crown with 5.0 mL of a 5% v/v solution of KleenUp Pro.</li> <li>• Field horsetail (<i>Equisetum arvense</i>) Inject 1 segment above the root crown with 0.5 mL/stem of KleenUp Pro. Use a small syringe that calibrates to this rate.</li> <li>• Canada Thistle (<i>Cirsium arvense</i>) Cut 8 to 9 of the tallest plants at bud stage in a clump with clippers. Use a cavity needle that is pushed into the stem center and then slowly removed as 0.5 mL/stem of this product is injected into the stem.</li> </ul>	<p>The combined total for all treatments must not exceed 7.0 qt of KleenUp Pro/A. At 5.0 mL/stem, 7.0 qt should treat approximately 1300 stems/A.</p>

22

**10.5 ORNAMENTALS, PLANT NURSERIES AND CHRISTMAS TREES****LABELED SITES:** Plant Nurseries, Christmas Tree farms and other non-food tree production sites

<b>TYPES OF APPLICATIONS</b>	<b>USE DIRECTIONS</b>	<b>RESTRICTIONS</b>
Post-directed Trim-and-edge	This product may be used as a post-directed spray around established woody ornamental species (including arborvitae, azalea, boxwood, crabapple, eucalyptus, euonymus, fir, Douglas fir, jojoba, hollies, lilac, magnolia, maple, oak, poplar, privet, pine, spruce and yew, growing in plant nurseries, on Christmas tree farms or on other non-food tree production sites), or to trim and edge around trees, buildings, sidewalks, roads, potted plants and other objects in a production setting. Apply at a concentration labeled by Annual Weeds, Perennial Weeds, and Woody Brush and Trees rate tables, Sections 11.0, 12.0 and 13.0, appropriate to the species of weed to be controlled. Desirable plants may be protected from the spray solution by using shields or coverings made of cardboard or other impermeable material.	UNLESS OTHERWISE DIRECTED, THIS PRODUCT IS NOT ALLOWED FOR USE AS AN OVER-THE-TOP BROADCAST SPRAY IN ORNAMENTALS AND CHRISTMAS TREES. Care must be taken to avoid contact of spray, drift or mist with foliage or green bark of desirable ornamental species.
Site preparation	This product may be used prior to planting any tree, shrub or vine, including Christmas tree species, in a nursery or production setting.	
Wiper application	This product may be used through wick or other suitable wiper applicators to control or partially control undesirable vegetation around established trees, shrubs or vines. See Selective Equipment, Section 7.4, for further information about the proper use of wiper applicators.	

**10.6 PARKS, RECREATIONAL AND RESIDENTIAL AREAS****LABELED SITES:** Around Trees, Fences, Paths, Driveways, around Buildings, Patios, Sidewalks, Flower Beds, around Shrubs, and other Ornamental Plants

<b>TYPES OF APPLICATIONS</b>	<b>USE DIRECTIONS</b>	<b>RESTRICTIONS</b>
Trim-and-edge Spot treatment	This product may be used to eliminate unwanted weeds growing in areas listed above. Use suitable hand-held equipment for directed spraying according to instructions in Mixing for Hand-held Sprayers, Section 6.3. If necessary, use cardboard or plastic to shield desirable plants. Do not use for spot weed control in lawns since desirable lawn grass will also be killed.	Spray only when air is calm. Care must be taken to avoid contact of spray, drift or mist with foliage or green bark of desirable ornamental species.
Site preparation Lawn renovation	This product may be used prior to planting an area to ornamentals, flowers, turfgrass (sod or seed), lawn renovation or prior to laying asphalt or beginning construction projects. Make applications according to the rates listed in Annual Weeds, Perennial Weeds, and Woody Brush and Trees rate tables, Sections 11.0, 12.0 and 13.0. Apply using suitable broadcast or directed spray equipment. For lawn renovation, thorough coverage is necessary to kill all weeds and old lawn. For best results, apply when daytime temperatures are at least 60 ° F. Do not mow for 7 days before or after treatment. Seven days after application, soil may be tilled, fertilized and seeded.	Spray only when air is calm. Care must be taken to avoid contact of spray, drift or mist with foliage or green bark of desirable ornamental species.

**10.7 RAILROADS****LABELLED SITES:** Railroad Rights-of-Way, Railroad Ballast areas

<b>TYPES OF APPLICATIONS</b>	<b>USE DIRECTIONS</b>	<b>RESTRICTIONS</b>																								
Boom sprayers Shielded boom sprayers High-volume off-center nozzles Hand-held equipment	<p>All of the instructions in Noncrop Areas and Industrial Sites, Section 10.2, apply to railroads.</p> <p>Make applications according to the rates listed in Annual Weeds, Perennial Weeds, and Woody Brush and Trees rate tables, Sections 11.0, 12.0 and 13.0.</p> <p>This product may be used to maintain bare ground on railroad ballast and shoulders. Repeat applications of this product may be used as weeds emerge to maintain bare ground. This product may be used to control tall-growing weeds to improve line of sight at railroad crossings and reduce the need for mowing along rights-of-way. For crossing applications, up to 80.0 gal of spray solution/A may be used.</p> <p>Tank Mixtures: This product may be tank mixed with the following products (or generic equivalent) for ballast, shoulder, spot, bare ground and crossing treatments provided that the specific product is registered for use on such sites. Refer to these product labels for approved non-crop sites and application rates. Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used. Use according to the most restrictive precautionary statements for each product in the mixture.</p> <table border="0"> <tr> <td>Arsenal</td> <td>Krovar I DF</td> </tr> <tr> <td>Dicamba</td> <td>Oust</td> </tr> <tr> <td>Diuron</td> <td>Sahara</td> </tr> <tr> <td>Escort</td> <td>Spike®</td> </tr> <tr> <td>Garlon 3A</td> <td>Velpar</td> </tr> <tr> <td>Garlon 4</td> <td>2,4-D</td> </tr> <tr> <td>Hyvar® X</td> <td></td> </tr> </table> <p>Brush control: This product may be used to control woody brush and trees on railroad rights-of-way.</p> <p>Apply 4.0 to 10.0 qt of KleenUp Pro/A as a broadcast spray, using boom-type or boomless nozzles. Up to 80.0 gal of spray solution/A may be used. Apply a 0.5 to 2% solution of this product when using high-volume spray-to-wet applications. Apply a 5 to 10% solution of this product when using low volume directed sprays for spot treatment. This product may be mixed with the following products (or generic equivalent) for enhanced control of woody brush and trees:</p> <table border="0"> <tr> <td>Arsenal</td> <td>Tordon® 22K</td> </tr> <tr> <td>Escort</td> <td>Tordon K</td> </tr> <tr> <td>Garlon 3A</td> <td>Transline</td> </tr> <tr> <td>Garlon 4</td> <td>Vanquish</td> </tr> <tr> <td>Kernite</td> <td>Velpar</td> </tr> </table>	Arsenal	Krovar I DF	Dicamba	Oust	Diuron	Sahara	Escort	Spike®	Garlon 3A	Velpar	Garlon 4	2,4-D	Hyvar® X		Arsenal	Tordon® 22K	Escort	Tordon K	Garlon 3A	Transline	Garlon 4	Vanquish	Kernite	Velpar	Observe application precautions in Application and Techniques, Section 7.0. Avoid application to non-target plants due to drift, overspray or runoff.
Arsenal	Krovar I DF																									
Dicamba	Oust																									
Diuron	Sahara																									
Escort	Spike®																									
Garlon 3A	Velpar																									
Garlon 4	2,4-D																									
Hyvar® X																										
Arsenal	Tordon® 22K																									
Escort	Tordon K																									
Garlon 3A	Transline																									
Garlon 4	Vanquish																									
Kernite	Velpar																									

**10.8 ROADSIDES**

**LABELED SITES:** Roadside Rights-of-Way areas (including Shoulders, Guardrails and Signposts)

<b>TYPES OF APPLICATIONS</b>	<b>USE DIRECTIONS</b>	<b>RESTRICTIONS</b>																
Boom sprayers Shielded boom sprayers High-volume off-center nozzles Hand-held equipment and similar equipment	All the instructions in Noncrop Areas and Industrial Sites, Section 10.2, apply to roadsides. Make applications according to the rates listed in Annual Weeds, Perennial Weeds, and Woody Brush and Trees rate tables, Sections 11.0, 12.0 and 13.0. This product may be used on road shoulders, under guardrails and around signposts and other objects along roadsides that may be obstacles to mowing. Tank Mixtures: This product may be tank-mixed with the following products (or generic equivalent) for shoulder, guardrail, spot and bare ground treatments: <table border="0" style="width: 100%;"> <tr> <td>Rifle®</td> <td>Princep DF</td> </tr> <tr> <td>Diuron</td> <td>Princep Liquid</td> </tr> <tr> <td>Endurance</td> <td>Ronstar 50 WP</td> </tr> <tr> <td>Escort</td> <td>Sahara</td> </tr> <tr> <td>Krovar I DF</td> <td>Simazine</td> </tr> <tr> <td>Oust</td> <td>Surflan</td> </tr> <tr> <td>Pendulum 3.3 EC</td> <td>Vanquish</td> </tr> <tr> <td>Pendulum WDG</td> <td>2,4-D</td> </tr> </table> See Noncrop Areas and Industrial Sites, Section 10.2, for instructions for tank mixing.	Rifle®	Princep DF	Diuron	Princep Liquid	Endurance	Ronstar 50 WP	Escort	Sahara	Krovar I DF	Simazine	Oust	Surflan	Pendulum 3.3 EC	Vanquish	Pendulum WDG	2,4-D	Observe application precautions in Application Equipment and Techniques, Section 7.0. Avoid application to non-target plants due to drift, overspray or runoff.
Rifle®	Princep DF																	
Diuron	Princep Liquid																	
Endurance	Ronstar 50 WP																	
Escort	Sahara																	
Krovar I DF	Simazine																	
Oust	Surflan																	
Pendulum 3.3 EC	Vanquish																	
Pendulum WDG	2,4-D																	
Spot treatment	This product must be used as a spot treatment to control unwanted vegetation growing along roadsides.																	

**10.9 UTILITY SITES**

**LABELED SITES:** Electrical Power, Pipeline And Telephone rights-of-way, and in other sites associated with these rights-of-way, Including Substations, Roadsides, Railroads or Similar Rights-of-way that run in conjunction with Utilities

<b>TYPES OF APPLICATIONS</b>	<b>USE DIRECTIONS</b>	<b>RESTRICTIONS</b>
Boom sprayers Shielded boom sprayers High-volume off-center nozzles Hand-held equipment and similar equipment	This product may be used in utility sites and substations to control unwanted vegetation and to eliminate unwanted weeds growing in established shrub beds or ornamental plantings. This product may be used prior to planting a utility site to ornamentals, flowers, turfgrass (sod or seed), or beginning construction projects. Make applications according to the rates listed in Annual Weeds, Perennial Weeds, and Woody Brush and Trees rate tables, Sections 11.0, 12.0 and 13.0. Repeated applications of this product may be used as weeds emerge to maintain bare ground. This product can also be used when preparing or establishing wildlife openings within these sites, maintaining access roads and for side trimming along utility rights-of-way. For control of herbaceous weeds, use the lower labeled tank mixture rates. For control of dense stands of tough-to-control woody brush and trees, use the higher labeled rates. Tank Mixtures: Tank mixtures of this product may be used to increase the spectrum of control for herbaceous weeds, woody brush and trees. This product may be tank mixed with the following products (or generic equivalent). Refer to these products labels for approved non-crop sites and	Observe application precautions in Application Equipment and Techniques, Section 7.0. Avoid application to non-target plants due to drift, overspray or runoff.

Cont'd. next page



**10.9 Utility Sites cont'd.:**

TYPES OF APPLICATIONS	USE DIRECTIONS	RESTRICTIONS																												
<i>Boom sprayers Shielded boom sprayers High-volume off-center nozzles Hand-held equipment and similar equipment cont'd.</i>	<p>application rates. Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used. Use according to the most restrictive precautionary statements for each product in the mixture. User is responsible for ensuring that the mixture product's label allows the specific application when tank mixing with a single generic active ingredient listed below.</p> <table border="0"> <tr> <td>Arsenal</td> <td>Outrider</td> </tr> <tr> <td>Atrazine<sup>1</sup></td> <td>pendimethalin<sup>1</sup></td> </tr> <tr> <td>Barricade 65WG</td> <td>Plateau</td> </tr> <tr> <td>dicamba<sup>1</sup></td> <td>Princep</td> </tr> <tr> <td>diuron<sup>1</sup></td> <td>Ronstar 50WP</td> </tr> <tr> <td>Endurance</td> <td>Sahara</td> </tr> <tr> <td>Escort</td> <td>simazine<sup>1</sup></td> </tr> <tr> <td>Escort XP</td> <td>Surflan AS</td> </tr> <tr> <td>Garlon 3A<sup>2</sup></td> <td>Surflan WDG</td> </tr> <tr> <td>Garlon 4<sup>3</sup></td> <td>Transline</td> </tr> <tr> <td>Krenite®</td> <td>Vanquish</td> </tr> <tr> <td>Krovar I DF</td> <td>Velpar DF</td> </tr> <tr> <td>Oust</td> <td>Velpar L</td> </tr> <tr> <td>Oust XP</td> <td>2,4-D<sup>2</sup></td> </tr> </table> <p><sup>1</sup>Tank mixtures with product containing this generic active ingredient may be made provided the specific product is registered for the use.</p> <p><sup>2</sup>Ensure that Garlon 3A is thoroughly mixed with water according to label directions before adding this product. Have spray mixture agitating at the time this product is added to avoid spray incompatibility problems.</p> <p><sup>3</sup>For side trimming treatments, it is recommended that this product be used alone or in a tank mixture with Garlon 4.</p>	Arsenal	Outrider	Atrazine <sup>1</sup>	pendimethalin <sup>1</sup>	Barricade 65WG	Plateau	dicamba <sup>1</sup>	Princep	diuron <sup>1</sup>	Ronstar 50WP	Endurance	Sahara	Escort	simazine <sup>1</sup>	Escort XP	Surflan AS	Garlon 3A <sup>2</sup>	Surflan WDG	Garlon 4 <sup>3</sup>	Transline	Krenite®	Vanquish	Krovar I DF	Velpar DF	Oust	Velpar L	Oust XP	2,4-D <sup>2</sup>	<p>Observe application precautions in Application Equipment and Techniques, Section 7.0.</p> <p>Avoid application to non-target plants due to drift, overspray or runoff.</p>
Arsenal	Outrider																													
Atrazine <sup>1</sup>	pendimethalin <sup>1</sup>																													
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Krovar I DF	Velpar DF																													
Oust	Velpar L																													
Oust XP	2,4-D <sup>2</sup>																													

**11.0 ANNUAL WEEDS RATE TABLES (Alphabetical by Species)**

WATER CARRIER VOLUMES OF 3.0 TO 10.0 GALLONS PER ACRE FOR GROUND APPLICATIONS AND 3.0 TO 5.0 GALLONS PER ACRE FOR AERIAL APPLICATIONS ARE REQUIRED.

- Apply to actively growing annual weeds. Annual weeds are generally easiest to control when they are small.
- Older, mature (hardened) annual weed species may require higher rates even if they meet the size requirements.
- Do not tank mix with soil residual herbicides when using these rates unless otherwise specified.
- For weeds that have been mowed, grazed or cut, allow regrowth to occur prior to treatment.
- This product may be used up to 48.0 fluid ounces per acre where heavy weed densities exist.

**ANNUAL WEEDS RATE TABLE**

WEED SPECIES	APPLICATION RATE (Fl Oz/Acre)				
	16	24	32	40	48
	Maximum height/length (in inches)				
Ammannia, purple	3"	6"	12"	-	18"
Annoda, spurred	-	2"	3"	5"	8"
Barley	18"	18+"	-	-	-
Barnyardgrass	-	3"	6"	7"	9"
Bassia, fivehook	-	-	6"	-	-
Beggarweed, Florida	-	5"	8"	-	-
Bittercress	12"	20"	-	-	-
Bluegrass, annual	10"	-	-	-	-
Bluegrass, bulbous	6"	-	-	-	-
Brome, downy <sup>1, 2</sup>	6"	12"	-	-	-
Brome, Japanese	6"	12"	24"	-	-
Browntop panicum	6"	8"	12"	-	24"
Buckwheat, wild <sup>3</sup>	-	1"	2"	-	-
Burcucumber	-	6"	12"	-	18"
Buttercup	6"	20"	-	-	-
Carolina geranium	-	-	4"	-	9"
Carpetweed	-	6"	12"	-	-
Cheat <sup>4</sup>	6"	20"	-	-	-
Chervil	20"	-	-	-	-
Chickweed	-	12"	18"	-	-
Cocklebur	12"	18"	24"	-	36"
Copperleaf, hophornbeam	-	2"	4"	-	6"
Copperleaf, Virginia	-	2"	4"	-	6"
Coreopsis, plains	-	6"	12"	-	18"
Corn, volunteer	6"	12"	20"	-	-
Corn speedwell	12"	-	-	-	-
Crabgrass	3"	6"	12"	-	-
Crowfootgrass	-	-	6"	-	12"
Cutleaf evening primrose	-	-	3"	-	6"
Devilsclaw (unicorn plant)	-	3"	6"	-	-
Dwarf dandelion	12"	-	-	-	-
Eastern manna grass	8"	12"	-	-	-
Eclipta	-	4"	8"	12"	-
Fall panicum	4"	-	6"	-	12"
Falsedandelion	-	20"	-	-	-
Falseflax, smallseed	12"	-	-	-	-
Fiddleneck	-	6"	12"	-	-
Field pennycress	6"	12"	-	-	-
Filaree	-	-	6"	-	12"
Fleabane, annual	6"	20"	-	-	-
Fleabane, hairy ( <i>Conyza bonariensis</i> )	-	-	6"	-	10"
Fleabane, rough	3"	6"	12"	-	-
Florida pusley	-	-	4"	-	6"
Foxtail, giant, bristly, yellow	6"	12"	20"	-	-
Foxtail, Carolina	10"	-	-	-	-
Foxtail, green	12"	-	-	-	-
Goatgrass, jointed	6"	12"	-	-	-
Goosegrass	-	3"	6"	-	12"
Grain sorghum (milo)	6"	12"	20"	-	-

Cont'd. next page

**Annual Weeds Rate Table cont'd.:**

WEED SPECIES	APPLICATION RATE (Fl Oz/Acre)				
	16	24	32	40	48
	Maximum height/length (in inches)				
Groundcherry	-	3"	6"	-	9"
Groundsel, common	-	6"	10"	-	-
Hemp sesbania	-	2"	4"	6"	8"
Henbit	-	-	6"	-	12"
Horseweed/Marestail ( <i>Conyza canadensis</i> )	-	6"	12"	-	18"
Itchgrass	6"	8"	12"	-	18"
Jimsonweed	-	-	12"	-	18"
Johnsongrass, seedling	6"	12"	18"	-	24"
Junglerice	-	3"	6"	7"	9"
Knotweed	-	-	6"	-	12"
Kochia <sup>4</sup>	-	3" to 6"	12"	-	-
Lambsquarters	-	6"	12"	-	20"
Little barley	6"	12"	-	-	-
London rocket	6"	-	24"	-	-
Mayweed	-	2"	6"	12"	18"
Morningglory ( <i>Ipomoea</i> spp.)	-	-	3"	-	6"
Mustard, blue	6"	12"	18"	-	-
Mustard, tansy	6"	12"	18"	-	-
Mustard, tumble	6"	12"	18"	-	-
Mustard, wild	6"	12"	18"	-	-
Nightshade, black	-	4"	6"	-	12"
Nightshade, hairy	-	4"	6"	-	12"
Oats	3"	6"	18"	-	-
Pigweed	-	12"	18"	24"	-
Prickly lettuce	-	6"	12"	-	-
Purslane	-	-	3"	-	6"
Ragweed, common	-	6"	12"	-	18"
Ragweed, giant	-	6"	12"	-	18"
Red rice	-	-	4"	-	-
Rye volunteer/cereal <sup>2</sup>	6"	18"	18"+	-	-
Ryegrass	-	-	6"	-	12"
Sandbur, field	6"	12"	-	-	-
Sandbur, longspine	6"	12"	-	-	-
Shattercane	6"	12"	20"	-	-
Shepherdspurse	6"	12"	-	-	-
Sicklepod	-	2"	4"	-	8"
Signalgrass, broadleaf	-	3"	6"	7"	9"
Smartweed, ladysthumb	-	-	6"	-	9"
Smartweed, Pennsylvania	-	-	6"	-	9"
Sowthistle, annual	-	-	6"	-	12"
Spanishneedles	-	-	6"	-	12"
Speedwell, purslane	12"	-	-	-	-
Sprangletop	6"	12"	20"	-	-
Spurge, prostrate	-	6"	12"	-	-
Spurge, spotted	-	6"	12"	-	-
Spurry, umbrella	6"	-	-	-	-
Stinkgrass	-	12"	-	-	-
Sunflower	12"	18"	-	-	-
Swinecress	-	5"	12"	-	-

Cont'd. next page

**Annual Weeds Rate Table cont'd.:**

WEED SPECIES	APPLICATION RATE (Fl Oz/Acre)				
	16	24	32	40	48
	Maximum height/length (in inches)				
Teaweed/Prickly sida	-	2"	4"	-	6"
Texas panicum	6"	8"	12"	24"	-
Thistle, Russian <sup>5</sup>	-	6"	12"	-	-
Velvetleaf	-	-	6"	-	12"
Virginia pepperweed	-	18"	-	-	-
Waterhemp	-	-	6"	-	12"
Wheat <sup>2</sup>	6"	12"	18"	-	-
Wheat (overwintered)	-	6"	12"	-	18"
Wild oats	3"	6"	18"	-	-
Wild proso millet	-	6"	12"	-	18"
Witchgrass	-	12"	-	-	-
Woolly cupgrass	-	6"	12"	-	-
Yellow rocket	-	12"	20"	-	-

<sup>1</sup>For control of Downy brome in no-till systems use 24.0 fluid ounces per acre.

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

<sup>3</sup>Use 24.0 fluid ounces per acre of this product to control Wild buckwheat in the cotyledon to 2-leaf stage.

Use 32.0 fluid ounces per acre to control 2- to 4-leaf Wild buckwheat.

For improved control of Wild buckwheat over 2 inches in size, use sequential treatments of 32.0 fluid ounces followed by 32.0 fluid ounces of this product per acre.

<sup>4</sup>Do not treat Kochia in the button stage.

<sup>5</sup>Control of Russian thistle may vary based on environmental conditions and spray coverage.

Whenever possible, a tank mixture with 2,4-D as described below may improve control.

**11.1 ANNUAL WEEDS - Water Carrier Volumes of 10.0 to 40.0 Gallons per Acre**

Apply 1.0 to 2.0 quarts of this product per acre. Use 1.0 quart per acre if weeds are less than 6 inches tall, and 1.5 quarts per acre if weeds are 6 to 12 inches tall, and 2.0 quarts per acre if weeds are greater than 12 inches tall.

These rates will provide control of weeds listed in the annual weed control tables when water carrier volumes are 10.0 to 40.0 gallons per acre for ground applications. Older, mature (hardened) annual weed species may require higher rates even if they meet the size requirements.

**11.2 ANNUAL WEEDS - Tank Mixtures with 2,4-D or Dicamba or Picloram 22K**

12.0 to 16.0 fluid ounces of this product plus 0.25 pound active ingredient of dicamba or 0.5 pound active ingredient of 2,4-D per acre or 1.0 to 2.0 fluid ounces of Picloram 22K per acre will control the following weeds with the maximum height or length indicated:

6" - Prickly lettuce, Marestalk/Horseweed (*Conyza canadensis*), Morningglory (*Ipomoea* spp.), Kochia (dicamba only); Wild buckwheat (Picloram 22K only).

12" - Cocklebur, Lambsquarters, Pigweed, Russian thistle (2,4-D only).

16.0 fluid ounces of this product plus 0.5 pound active ingredient 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.

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 dicamba or Picloram 22K is applied within 45 days of planting.

DO NOT APPLY DICAMBA TANK MIXTURES BY AIR IN CALIFORNIA.

**11.3 ANNUAL WEEDS - Hand-Held or High-Volume Equipment**

For control of weeds listed in the Annual Weeds rate table, Section 11.0, apply a 0.5% solution of this product to weeds less than 6 inches in height or runner length. Apply prior to seedhead formation in grass or bud formation in broadleaf weeds. For annual weeds over 6 inches tall, or unless otherwise specified, use a 1% solution.

For best results, use a 2% solution on harder-to-control perennials, such as Bermudagrass, Canada thistle, Dock, Dogbane milkweed, Field bindweed and Hemp.

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

**11.4 ANNUAL WEEDS - Tank Mixtures with Atrazine for Fallow and Reduced Tillage Systems**

For use only in Colorado, Kansas, Nebraska, Oklahoma, Oregon, South Dakota, and Washington. In Oregon and Washington, do not exceed 1.0 pound of atrazine per acre.

24.0 to 28.0 fluid ounces of this product plus 1.0 to 2.0 pounds of atrazine per acre will control the following weeds: Barnyardgrass (requires 28.0 ounces for control), Downy brome, Field sandbur, Green foxtail, Kochia (add 0.125 pound of dicamba for control) Lambsquarters, Pigweed, Prickly lettuce, Stinkgrass, Tansy mustard, Russian thistle, Volunteer wheat and Witchgrass.

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

**12.0 PERENNIAL WEEDS RATE TABLE  
(Alphabetical 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. 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 KleenUp Pro					
	0.5%	1%	1.5 %	2%	5%	10%
1.0 Gal	0.6 oz	1.3 oz	2.0 oz	2.6 oz	6.5 oz	13.0 oz
25.0 Gal	1.0 pt	1.0 qt	1.5 qt	2.0 qt	5.0 qt	10.0 qt
100 Gal	2.0 qt	1.0 gal	1.5 gal	2.0 gal	5.0 gal	10.0 gal

WEED SPECIES	RATE (QT/A)	WATER VOLUME (GPA)	HAND-HELD % SOLUTION	COMMENTS
Alfalfa	1.0 to 2.0	3.0 to 10.0	2%	Make applications after the last hay cutting in the fall. Allow Alfalfa to regrow to a height of 6 to 8 inches or more prior to treatment. Applications should be followed with deep tillage at least 7 days after treatment, but before soil freeze-up.
Alligatorweed	4.0	3.0 to 20.0	1.5%	Partial control. Apply when most of the plants are in bloom. Repeat applications will be required to maintain control.
Anise (fennel)			1 to 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	3.0 to 5.0	3.0 to 20.0	2%	Apply when most plants have reached the early head stage.
Bentgrass	1.5	10.0 to 20.0	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	3.0 to 5.0	3.0 to 20.0	2%	For control, apply 5.0 qt of KleenUp Pro/A. For partial control, apply 3.0 qt/A. Treat when bermudagrass is actively growing and seedheads are present. Retreatment may be necessary to maintain control.

30

WEED SPECIES	RATE (QT/A)	WATER VOLUME (GPA)	HAND-HELD % SOLUTION	COMMENTS
Bermudagrass, water (Knotgrass)	1.0 to 1.5	5.0 to 10.0	2%	Apply 1.5 qt of KleenUp Pro in 5.0 to 10.0 gal of water/A. Apply when water bermudagrass is 12 to 18 inches in length. Allow 7 or more days before tilling, flushing or flooding the field. Fall applications only: Apply 1.0 qt of KleenUp Pro in 5.0 to 10.0 gal of water/A. Fallow fields should be tilled prior to application. Apply prior to frost on Water bermudagrass that is 12 to 18 inches in length. This product is not registered in CA for use on water bermudagrass.
Bindweed, field	0.5 to 5.0	3.0 to 20.0	2%	Do not treat when weeds are under drought stress as good soil moisture is necessary for active growth. For control, apply 4.0 to 5.0 qt of KleenUp Pro/A west of the Mississippi River and 3.0 to 4.0 qt 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 2.0 qt of KleenUp Pro + 0.5 lb AI of Rifle in 10.0 to 20.0 gal of water/A. Do not apply by air. For suppression on irrigated agricultural land, apply 1.0 to 2.0 qt of KleenUp Pro + 1.0 lb AI of 2,4-D in 10.0 to 20.0 gal of water/A 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 1 irrigation will promote active bindweed growth. For suppression, apply 16.0 fl oz of KleenUp Pro + 0.5 lb AI 2,4-D in 3.0 to 10.0 gal of water/A for ground applications and 3.0 to 5.0 gal of water/A for aerial applications. Apply by air in fallow and reduced tillage systems only. Applications should be delayed until maximum emergence has occurred and when vines are between 6 to 18 inches in length. In CA only, apply 1.0 to 5.0 qt of KleenUp Pro/A. 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 1.0 qt of this product in 3.0 to 10.0 gal of water/A. 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	1.0 to 2.0	3.0 to 40.0	2%	Apply 2.0 qt of KleenUp Pro in 10.0 to 40.0 gal of water/A when most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1.0 to 1.5 qt of KleenUp Pro in 3.0 to 10.0 gal of water/A. Apply to actively growing plants when most have reached 4 to 12 inches in height.
Blueweed, Texas	3.0 to 5.0	3.0 to 40.0	2%	Apply 4.0 to 5.0 qt of KleenUp Pro/A west of the Mississippi River and 3.0 to 4.0 qt/A 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	3.0 to 4.0	3.0 to 40.0	1 to 1.5%	Apply to fully expanded fronds which are at least 18 inches long.
Bromegrass, smooth	1.0 to 2.0	3.0 to 40.0	2%	Apply 2.0 qt of KleenUp Pro in 10.0 to 40.0 gal of water/A when most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1.0 to 1.5 qt of KleenUp Pro in 3.0 to 10.0 gal of water/A. Apply to actively growing plants when most have reached 4 to 12 inches in height.
Bursage, woolly-leaf	-	3.0 to 20.0	2%	For control, apply 2.0 qt of KleenUp Pro + 1.0 pt of Rifle/A. For partial control, apply 1.0 qt of KleenUp Pro + 1.0 pt of Rifle/A. 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	2.0 to 3.0	3.0 to 40.0	2%	For best results, apply when most plants have reached the boot-to-head stage of growth.
Cattail	3.0 to 5.0	3.0 to 40.0	2%	Apply when most plants have reached the early head stage.

WEED SPECIES	RATE (QT/A)	WATER VOLUME (GPA)	HAND-HELD % SOLUTION	COMMENTS
Clover; red, white	3.0 to 5.0	3.0 to 20.0	2%	Apply when most plants have reached the early bud stage. Also for control, apply 16.0 to 32.0 fl oz of KleenUp Pro + 0.5 to 1.0 lb of 2,4 -D in 3.0 to 10.0 gal of water/A.
Cogongrass	3.0 to 5.0	10.0 to 40.0	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	3.0 to 5.0	3.0 to 20.0	2%	Apply when most plants have reached the early head stage.
Dandelion	3.0 to 5.0	3.0 to 40.0	2%	Apply when most plants have reached the early bud stage of growth. Also for control, apply 16.0 fl oz of KleenUp Pro + 0.5 lb AI 2,4-D in 3.0 to 10.0 gal of water/A.
Dock, curly	3.0 to 5.0	3.0 to 40.0	2%	Apply when most plants have reached the early bud stage of growth. Also for control, apply 16.0 fl oz of KleenUp Pro + 0.5 lb AI 2,4-D in 3.0 to 10.0 gal of water/A.
Dogbane, hemp	4.0	3.0 to 40.0	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 16.0 fl oz of KleenUp Pro + 0.5 lb AI of 2,4-D in 3.0 to 10.0 gal of water/A for ground applications and 3.0 to 5.0 gal of water/A for aerial applications. Delay applications until maximum emergence of Dogbane has occurred.
Fescue (except tall)	3.0 to 5.0	3.0 to 20.0	2%	Apply when most plants have reached the early head stage.
Fescue, tall	1.0 to 3.0	3.0 to 40.0	2%	Apply 3.0 qt of KleenUp Pro/A when most plants have reached boot-to-early seedhead stage of development. Fall applications only: Apply 1.0 qt of KleenUp Pro in 3.0 to 10.0 gal of water/A. Apply to Fescue in the fall when plants have 6 to 12 inches of new growth. A sequential application of 1.0 pt/A of KleenUp Pro will improve long-term control and control seedlings germinating after fall treatments or the following spring.
Guineagrass	2.0 to 3.0	3.0 to 40.0	1%	Apply when most plants have reached at least the 7-leaf stage of growth. Ensure thorough coverage when using hand-held equipment.
Horsenettle	3.0 to 5.0	3.0 to 20.0	2%	Apply when most plants have reached the early bud stage.
Horseradish	4.0	3.0 to 40.0	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 to 2%	Iceplant should be at or beyond the early bud stage of growth. Thorough coverage is necessary for best control.
Jerusalem artichoke	3.0 to 5.0	3.0 to 20.0	2%	Apply when most plants are in the early bud stage.
Johnsongrass	0.5 to 3.0	3.0 to 40.0	1%	In annual cropping systems, apply 1.0 to 2.0 qt of KleenUp Pro/A. Apply 1.0 qt of KleenUp Pro in 3.0 to 10.0 gal of water/A. Use 2.0 qt of KleenUp Pro when applying 10.0 to 40.0 gal of water/A. In noncrop, or areas where annual tillage (no till) is not practiced, apply 2.0 to 3.0 qt of KleenUp Pro in 10.0 to 40.0 gal of water/A. For best results, apply when most plants have reached the boot to head stage of growth or in the fall prior to frost. Allow 7 or more days after application before tillage. Do not tank mix with residual herbicides when using the 1.0 qt/A rate. For burndown of Johnsongrass, apply 1.0 pt of KleenUp Pro in 3.0 to 10.0 gal of water/A 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% solution of this product when Johnsongrass is 12 to 18 inches in height. Coverage must be uniform and complete.
Kikuyugrass	2.0 to 3.0	3.0 to 40.0	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	4.0	3.0 to 40.0	2%	Apply when most plants have reached the late bud to flower stage of growth. For best results, apply in late summer or fall.

32

WEED SPECIES	RATE (QT/A)	WATER VOLUME (GPA)	HAND-HELD % SOLUTION	COMMENTS
Lantana	-	-	1 to 1.25%	Apply at or beyond the bloom stage of growth. Use the higher application rate for plants that have reached the woody stage of growth.
Lespedeza	3.0 to 5.0	3.0 to 20.0	2%	Apply when most plants have reached the early bud stage.
Milkweed, common	3.0	3.0 to 40.0	2%	Apply when most plants have reached the late bud to flower stage of growth.
Muhly, wirestem	1.0 to 2.0	3.0 to 40.0	2%	Use 1.0 qt of KleenUp Pro in 3.0 to 10.0 gal of water/A. Use 2.0 qt of KleenUp Pro when applying 10.0 to 40.0 gal of water/A or in pasture, sod, or noncrop areas. Spray when the Wirestem muhly is 8 inches or more in height. Do not till between harvest and fall applications or in the fall or spring prior to spring applications. Allow 3 or more days after application before tillage.
Mullein, common	3.0 to 5.0	3.0 to 20.0	2%	Apply when most plants are in the early bud stage.
Napiergrass	3.0 to 5.0	3.0 to 20.0	2%	Apply when most plants are in the early head stage.
Nightshade, silverleaf	2.0	3.0 to 10.0	2%	Applications should be made when at least 60% of the plants have berries. Fall treatments must be applied before a killing frost.
Nutsedge; purple, yellow	0.5 to 3.0	3.0 to 40.0	1 to 2%	Apply 3.0 qt of KleenUp Pro/A or apply a 1 to 2% solution for control of Nutsedge plants and immature nutlets attached to treated plants. Treat when plants are in flower or when new nutlets can be found at rhizome tips. Nutlets which have not germinated will not be controlled and may germinate following treatment. Repeat treatments will be required for long-term control of ungerminated tubers. Sequential applications: 1.0 to 2.0 qt of KleenUp Pro in 3.0 to 10.0 gal of water/A 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 1.0 pt to 2.0 qt of KleenUp Pro in 3.0 to 40.0 gal of water/A. Treat when plants have 3 to 5 leaves and most are less than 6 inches tall. Repeat treatments will be required to control subsequent emerging plants or regrowth of existing plants.
Orchardgrass	1.0 to 2.0	3.0 to 40.0	2%	Apply 2.0 qt of KleenUp Pro in 10.0 to 40.0 gal of water/A when most plants have reached boot-to-early seed-head stage of development. For partial control in pasture or hay crop renovation, apply 1.0 to 1.5 qt of KleenUp Pro in 3.0 to 10.0 gal of water/A. Apply to actively growing plants when most have reached 4 to 12 inches in height. Orchardgrass sods going to no till corn: Apply 1.0 to 1.5 qt of KleenUp Pro in 3.0 to 10.0 gal of water/A. 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 to 2%	Pampasgrass should be at or beyond the boot stage of growth. Thorough coverage is necessary for best control.
Paragrass	3.0 to 5.0	3.0 to 20.0	2%	Apply when most plants are in the early head stage.
Phragmites	3.0 to 5.0	10.0 to 40.0	1 to 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 to 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.



WEED SPECIES	RATE (QT/A)	WATER VOLUME (GPA)	HAND-HELD % SOLUTION	COMMENTS
Pokeweed common	1.0	3.0 to 40.0	2%	Apply to actively growing plants up to 24 inches tall.
Quackgrass	1.0 to 3.0	3.0 to 40.0	2%	In annual cropping systems, or in pastures and sods followed by deep tillage: Apply 1.0 qt of KleenUp Pro in 3.0 to 10.0 gal of water/A. For 10.0 to 40.0 gal of water/A, apply 2.0 qt of KleenUp Pro. Do not tank mix with residual herbicides when using the 1.0 qt 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 2.0 to 3.0 qt of KleenUp Pro in 10.0 to 40.0 gal of water/A when the Quackgrass is greater than 8 inches tall.
Redvine	0.75 to 2.0	5.0 to 10.0	2%	For suppression, apply 24.0 fl oz of KleenUp Pro/A at each of 2 applications 7 to 14 days apart or a single application of 2.0 qt/A. Apply labeled rates in 5.0 to 10.0 gal of water/A. Apply in late September or early October to plants which are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.
Reed, giant	-	-	2%	Best results are obtained when applications are made in late summer to fall.
Ryegrass, perennial	1.0 to 3.0	3.0 to 40.0	1%	In annual cropping systems, apply 1.0 to 2.0 qt of KleenUp Pro/A. Apply 1.0 qt of this product in 3.0 to 10.0 gal of water/A. Use 2.0 qt of KleenUp Pro when applying 10.0 to 40.0 gal of water/A. In noncrop, or areas where annual tillage (no till) is not practiced, apply 2.0 to 3.0 qt of KleenUp Pro in 10.0 to 40.0 gal water/A. 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 1.0 qt/A rate.
Smartweed, swamp	3.0 to 5.0	3.0 to 40.0	2%	Apply when most plants have reached the early bud stage of growth. Also for control, apply 16.0 fl oz of KleenUp Pro + 0.5 lb AI 2,4-D in 3.0 to 10.0 gal of water/A in the late summer or fall.
Sowthistle, perennial	2.0 to 3.0	3.0 to 40.0	2%	Apply when most plants are at or beyond the bud stage of growth. After harvest mowing or tillage in the late summer or fall allow at least 4 weeks for initiation of active growth and rosette development prior to the application of KleenUp Pro. Fall treatments must be applied before a killing frost. Allow 3 or more days after application before tillage.
Spurge, leafy	-	3.0 to 10.0	2%	For suppression, apply 16.0 fl oz of KleenUp Pro + 0.5 lb AI 2,4-D in 3.0 to 10.0 gal of water/A in the late summer or fall. If mowing has occurred prior to treatment, apply when most of the plants are 12 inches tall.
Starthistle, yellow	2.0	10.0 to 40.0	2%	Best results are obtained when applications are made during the rosette, bolting and early flower stages.
Sweet potato wild	-	-	2%	Partial control. Apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.
Thistle, artichoke	-	-	2%	Partial control. Apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.
Thistle, Canada	2.0 to 3.0	3.0 to 40.0	2%	Apply when most plants are at or beyond the bud stage of growth. After harvest, mowing or tillage in the late summer or fall, allow at least 4 weeks for initiation of active growth and rosette development prior to the application of this product. Fall treatments must be applied before a killing frost. Allow 3 or more days after application before tillage. For suppression, apply 1.0 qt of KleenUp Pro, or 1.0 pt of KleenUp Pro + 0.5 lb AI 2,4-D in 3.0 to 10.0 gal of water/A 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.

34

WEED SPECIES	RATE (QT/A)	WATER VOLUME (GPA)	HAND-HELD % SOLUTION	COMMENTS
Timothy	2.0 to 3.0	3.0 to 40.0	2%	For best results, apply when most plants have reached the boot-to-head stage of growth.
Torpedograss	4.0 to 5.0	3.0 to 40.0	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	2.0	5.0 to 10.0	2%	Partial control. Apply in late September or October, to plants which are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.
Vaseygrass	3.0 to 5.0	3.0 to 20.0	2%	Apply when most plants are in the early head stage.
Velvetgrass	3.0 to 5.0	3.0 to 20.0	2%	Apply when most plants are in the early head stage.
Wheatgrass, western	2.0 to 3.0	3.0 to 40.0	2%	For best results, apply when most plants have reached the boot-to-head stage of growth.

Refer to the specific product labels and comply with all restrictions and application instructions for all products used in tank mixes.

#### 12.1 PERENNIAL WEEDS - Bromus Species and Medusahead

For use in the states of Colorado, Idaho, Iowa, Kansas, Montana, Nebraska, North Dakota, Oregon, South Dakota, Utah, Washington, and Wyoming only.

**Bromus Species:** This product may be used to treat Cheatgrass (*Bromus secalinus*), Downy brome (*Bromus tectorum*), Japanese brome (*Bromus japonicus*) and Soft chess (*Bromus mollis*) found in industrial, rangeland and pasture sites. Apply 8.0 to 16.0 fluid ounces of product per acre on a broadcast basis. For best results, treatment should coincide with early seedhead emergence of the most mature plants. Delaying the application until this growth stage will maximize the emergence of other weedy grass flushes. Applications should be made to the same site each year until seed banks are depleted and the desirable perennial grasses are able to become reestablished on the site.

**Medusahead:** To treat medusahead, apply 16.0 fluid ounces of this product per acre as soon as plants are actively growing and prior to the 4-leaf stage. Applications may be made in the fall or spring.

**Application Equipment and Techniques:** Applications may be made using ground or aerial equipment. Aerial applications for these uses may be made using fixed wing or helicopter equipment. For aerial applications, apply in 2.0 to 10.0 gallons of water per acre. For applications using ground equipment, apply in 10.0 to 20.0 gallons of water per acre.

When applied as directed there are no grazing restrictions.

#### 13.0 WOODY BRUSH AND TREES RATE TABLE (Alphabetical by Species)

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

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

Unless otherwise directed, apply broadcast treatments in 3.0 to 40.0 gallons of water per acre. Ensure thorough coverage when using hand-held equipment. Symptoms may not appear prior to frost or senescence with fall treatments.

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

WEED SPECIES	RATE (QT/A)	HAND-HELD % SOLUTION	COMMENTS
Alder	3.0 to 4.0	1 to 1.5%	For control
Ash	2.0 to 5.0	1 to 2%	Partial control
Aspen, quaking	2.0 to 3.0	1 to 1.5%	For control
Bearmat (Bearclover)	2.0 to 5.0	1 to 2%	Partial control
Beech	2.0 to 5.0	1 to 2%	Partial control
Birch	2.0	1%	For control
Blackberry	3.0 to 4.0	1 to 1.5%	For control. Make applications after plants have reached full leaf maturity. Best results are obtained when applications are made in late summer or fall. Applications may also be made after leaf drop and until a killing frost or as long as stems are green. After berries have set or dropped in late fall, blackberry can be controlled by applying a 0.5% solution of this product. For control of blackberries after leaf drop and until a killing frost or as long as stems are green, apply 3.0 to 4.0 qt of KleenUp Pro in 10.0 to 40.0 gal of water/A.
Blackgum	2.0 to 5.0	1 to 2%	For control
Bracken	2.0 to 5.0	1 to 2%	For control
Broom; French Scotch	-	1.5 to 2%	For control
Buckwheat, California	-	1 to 2%	For partial control. Thorough coverage of foliage is necessary for best results.
Cascara	2.0 to 5.0	1 to 2%	Partial control
Catsclaw	-	1 to 1.5%	Partial control
Ceanothus	2.0 to 5.0	1 to 2%	Partial control
Chamise	-	1%	For control. Thorough coverage of foliage is necessary for best results.
Cherry; bitter, black, pin	2.0 to 3.0	1 to 1.5%	For control
Coyote brush	-	1.5 to 2%	For control. Apply when at least 50% of the new leaves are fully developed.
Dogwood	2.0 to 5.0	1 to 2%	Partial control
Elderberry	2.0	1%	For control
Elm	2.0 to 5.0	1 to 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)	2.0 to 5.0	1 to 2%	Partial control
Gorse	2.0 to 5.0	1 to 2%	Partial control
Hasardia	-	1 to 2%	Partial control. Thorough coverage of foliage is necessary for best results.
Hawthorn	2.0 to 3.0	1 to 1.5%	For control
Hazel	2.0	1%	For control
Hickory	2.0 to 5.0	1 to 2%	Partial control
Honeysuckle	3.0 to 4.0	1 to 1.5%	For control
Hornbeam, American	2.0 to 5.0	1 to 2%	Partial control
Kudzu	4.0	2%	For control. Repeat applications may be required to maintain control.
Locust, black	2.0 to 4.0	1 to 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	2.0 to 5.0	1 to 2%	Partial control
Maple, red	2.0 to 4.0	1 to 1.5%	For control, apply a 1 to 1.5% solution when at least 50% of the new leaves are fully developed. For partial control, apply 2.0 to 4.0 qt of KleenUp Pro/A.
Maple, sugar	-	1 to 1.5%	For control. Apply when at least 50% of the new leaves are fully developed.
Monkey flower	-	1 to 2%	Partial control. Thorough coverage of foliage is necessary for best results.

36

WEED SPECIES	RATE (QT/A)	HAND-HELD % SOLUTION	COMMENTS
Oak; black, white	2.0 to 4.0	1 to 2%	Partial control
Oak, post	3.0 to 4.0	1 to 1.5%	For control
Oak; northern, pin	-	1 to 1.5%	For control. Apply when at least 50% of the new leaves are fully developed.
Oak, southern, red	2.0 to 3.0	1 to 1.5%	For control
Persimmon	2.0 to 5.0	1 to 2%	Partial control
Pine	2.0 to 5.0	1 to 2%	For control
Poison ivy/Poison oak	4.0 to 5.0	2%	For control. Repeat applications may be required to maintain control. Fall treatments must be applied before leaves lose green color.
Poplar, yellow	2.0 to 5.0	1 to 2%	Partial control
Redbud, eastern	2.0 to 5.0	1 to 2%	For control
Rose, multiflora	2.0	1%	For control. Treatments should be made prior to leaf deterioration by leaf-eating insects.
Russian olive	2.0 to 5.0	1 to 2%	Partial control
Sage, black	-	1%	For control. Thorough coverage of foliage is necessary for best results.
Sage, white	2.0 to 5.0	1 to 2%	Partial control
Sage brush, California	-	1%	For control. Thorough coverage of foliage is necessary for best results.
Salmonberry	2.0	1%	For control
Salt-cedar	2.0 to 5.0	1 to 2%	For control
Sassafras	2.0 to 5.0	1 to 2%	Partial control
Sourwood	2.0 to 5.0	1 to 2%	Partial control
Sumac; poison, smooth, winged	2.0 to 4.0	1 to 2%	Partial control
Sweetgum	2.0 to 3.0	1 to 1.5%	For control
Swordfern	2.0 to 5.0	1 to 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	2.0	1%	For control
Tobacco, tree	-	1 to 2%	Partial control
Trumpetcreeper	2.0 to 3.0	1 to 1.5%	For control
Vine maple	2.0 to 5.0	1 to 2%	Partial control
Virginia creeper	2.0 to 5.0	1 to 2%	For control
Waxmyrtle, southern	2.0 to 5.0	1 to 2%	Partial control
Willow	3.0	1%	For control

Refer to the specific product labels and comply with all restrictions and application instructions for all products used in tank mixes.

## 14.0 STORAGE AND DISPOSAL

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

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

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

Container Disposal Nonrefillable container. Do not reuse this container to hold materials other than pesticides or dilute pesticides (rinsate). After emptying and cleaning, it may be allowable to temporarily hold rinsate or other pesticide-related materials in the container. Contact your state regulatory agency to determine allowable practices in your state. Once cleaned, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling. To find the nearest site, contact your chemical dealer or manufacturer, or contact The Agricultural Container Recycling Council (ACRC) at [www.acrecycle.org](http://www.acrecycle.org).

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

**For packages up to 5 gallons: Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

**For packages greater than 5 gallons and less than 56 gallons: Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

**For packages greater than 56 gallons:** To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

**For refillable containers:** Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

**Container Disposal: Nonrefillable container.** Do not reuse or refill this container. Completely empty bag into application equipment by shaking and tapping sides and bottom to loosen clinging particles. Offer for recycling if available or dispose of empty bag in a sanitary landfill or by incineration. Do not burn, unless allowed by state and local ordinances.

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

### 15.0 CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

BEFORE BUYING OR USING THIS PRODUCT, read the entire Directions for Use and the following Conditions of Sale and Limitation of Warranty and Liability. By buying or using this product, the buyer or user accepts the following Conditions of Sale and Limitation of Warranty and Liability, which no employee or agent of LOVELAND PRODUCTS, INC. or the seller is authorized to vary in any way.

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