



STATE OF HAWAII  
Department of Agriculture

**ACCEPTED**

LICENSE NO. **9805.48**

Department of Agriculture  
STATE OF HAWAII

**LICENSED**

PERIOD **2015-2017** LIC. NO.

Department of Agriculture  
STATE OF HAWAII

**LICENSED**

PERIOD **2012-2014** LIC. NO.

# CLEAN SLATE<sup>®</sup>

## SELECTIVE HERBICIDE

For selective control of broadleaf weeds in asparagus, barley, canola, christmas tree plantations, fallow cropland, field corn, garden beet, grasses grown for seed, mint, oats, popcorn, spinach, stone fruits, sugarbeet, sweet corn, turnip, wheat, conservation reserve program (crp), forest sites, forestry nurseries, non-cropland areas, industrial manufacturing and storage sites, rights-of-way, and wildlife openings, including grazed areas on these sites, cottonwood/poplar and eucalyptus tree plantations, rangeland and permanent grass pastures (including but not limited to ranchette pastures), non-residential turf including turf grown for seed or sod farms, and certain ornamental plantings such as conifers, non-leguminous woody species, and ornamental grasses in landscapes and nurseries.

### ACTIVE INGREDIENT:

Clopyralid: 3,6-dichloro-2-pyridinecarboxylic acid, monoethanolamine salt ..... 40.90%

**OTHER INGREDIENTS:** ..... 59.10%

**TOTAL:** ..... 100.00%

Acid Equivalent:

3,6-dichloro-2-pyridinecarboxylic acid.....31%, 3 lbs./gal.

**Not for Sale, Use, or Distribution in Nassau and Suffolk Counties in New York State.**

**Use of this product in Oregon is limited to the sites stated on this label which are agriculture, forest, right-of-way, golf course or cemetery sites.**

### KEEP OUT OF REACH OF CHILDREN CAUTION / PRECAUCION

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

**SEE INSIDE BOOKLET FOR FIRST AID AND ADDITIONAL  
PRECAUTIONARY STATEMENTS**

For Chemical Spill, Leak, Fire, or  
Exposure, Call CHEMTREC  
(800) 424-9300

For Medical Emergencies Only,  
Call (877) 325-1840

EPA Reg. No. 228-491  
EPA Est. No. 228-IL-1

**Net Contents**  
**2.5 Gal.**  
**(9.46 L)**

Manufactured for  
Nufarm Americas Inc.  
150 Harvester Drive  
Burr Ridge, IL 60527



**PRECAUTIONARY STATEMENT  
HAZARDS TO HUMANS AND DOMESTIC ANIMALS  
CAUTION / PRECAUCION**

Avoid contact with eyes, skin or clothing.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

**Applicators and other handlers must wear:**

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material
- Shoes plus socks
- Protective eyewear

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

**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.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**FIRST AID**

**IF ON SKIN  
OR CLOTHING**

- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15 to 20 minutes.
- Call a poison control center or doctor for treatment advice.

**HOT LINE NUMBER**

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-877-325-1840 for emergency medical treatment information.

**ENVIRONMENTAL HAZARDS**

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

Clopyralid is a chemical which can travel (seep or leach) through soil and under certain conditions contaminate groundwater which may be used for irrigation or drinking purposes. Users are advised not to apply clopyralid where soils have a rapid to very rapid permeability throughout the profile (such as loamy sand to sand) and the water table of an underlying aquifer is shallow, or to soils that would allow direct introduction into an aquifer. Your local agricultural agencies can provide further information on the type of soil in your area and the location of groundwater.

**PHYSICAL OR CHEMICAL HAZARDS**

**Combustible. Do not use or store near heat or open flame.**

**Notice:** Read the entire label. Use only according to label directions. **Before buying or using this product, read the "Warranty Disclaimer and Limitation of Liability" elsewhere on this label.**

In case of emergency endangering health or the environment involving this product, call CHEMTREC (800) 424-9300. If you wish to obtain additional product information, visit our web site at [www.nufarm.com](http://www.nufarm.com).

Agricultural Chemical: Do not ship or store with food, feeds, drugs or clothing.

**DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read all directions for use carefully before applying.

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 regulation.

**AGRICULTURAL USE REQUIREMENTS**

Use this product only in accordance with its labeling and with the 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 statement of this label about personal protective equipment (PPE) and restricted-entry interval (REI). The requirements in this box only apply to users of this product that are covered by the WPS.

Do not enter or allow worker entry into treated areas during the REI of 12 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
- Protective eyewear
- Shoes plus socks



## NON-AGRICULTURAL USE REQUIREMENTS

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

**Entry Restrictions for Non-WPS Uses:** For applications to fallow cropland, rangeland, pasture (including but not limited to ranchette pastures), and non-crop areas, do not enter treated areas until sprays have dried. For early entry to treated areas, wear eye protection, chemical-resistant gloves made of any waterproof material, long-sleeved shirt, long pants, shoes and socks.

When this product is applied to lawns, landscape areas, or golf courses, keep unprotected persons out of treated areas until sprays have dried.

## PRODUCT INFORMATION

This product is recommended for selective, postemergence control of broadleaf weeds in forest sites, forest nurseries, non-crop land areas including equipment pathways, industrial manufacturing and storage sites, around farm buildings, and rights-of-way such as along roadsides, fence rows, electrical lines and railroads, Christmas tree plantations, conservation reserve program (CRP) acres, fallow cropland, and in crop land areas including asparagus, barley, oats and wheat not underseeded with a legume, canola, fallow cropland, field corn, garden beet, grasses grown for seed, mint (spearmint and peppermint), popcorn, spinach, stone fruits, sugarbeet, sweet corn, and turnip, rangeland and permanent grass pastures. Use on these sites may include application to grazed areas as well as establishment and maintenance of wildlife openings, wild parkland and wildlife management areas, and forest spot application adjacent to these sites. This product is labeled for control of broadleaf weeds in cottonwood/poplar and eucalyptus tree plantations; and in rangeland and permanent grass pastures (including but not limited to ranchette pastures) in certain western states. This product may also be used on non-residential turf including turf grown for seed or sod farms, and on certain ornamental plantings such as conifers, non-leguminous woody species, and ornamental grasses in landscapes and nurseries.

## USE PRECAUTIONS AND RESTRICTIONS – CROPS AND NON-CROP AREAS (REFER TO TURF AND ORNAMENTALS SECTION FOR ADDITIONAL PRECAUTIONS AND RESTRICTIONS)

- In Arizona: The state of Arizona has not approved this product for use on plants grown for agricultural/commercial production, such as on designated grazing areas.
- In Florida: For control of kudzu in forests, utility rights-of-way, roadsides, fence lines, and other non-crop areas, this product may only be used in the following counties: Baker, Bay, Bradford, Calhoun, Columbia, Escambia, Franklin, Gadsden, Gulf, Hamilton, Holmes, Jackson, Jefferson, Lafayette, Leon, Liberty, Madison, Okaloosa, Santa Rosa, Suwannee, Taylor, Union, Wakulla, Walton, and Washington.
- In California and New York, the maximum application rate for this product is 2/3 pint per acre per growing season. Do not exceed a cumulative amount of 2/3 pint [0.25 lb acid equivalent (a.e.)] of clopyralid per acre per crop year.
- Not for Sale, Use or Distribution in Nassau and Suffolk Counties in New York State.
- Do not contaminate irrigation ditches or water used for irrigation or domestic purposes.
- Do not use in greenhouses.
- This product may be applied by aircraft on the following crops: spinach, canola (rapeseed), and crambe. Do not apply this product by aircraft to other labeled crops unless otherwise permitted by supplemental labeling or product bulletins.
- **Chemigation:** Do not apply this product through any type of irrigation system.
- Re-treatment is allowed, but do not apply more than the maximum allowable rate per crop growing season. An application to fallow cropland preceding or following an application to dryland small grains (wheat, barley or oats) is allowed, but is not allowed preceding or following an application to irrigated small grains.
- **Do not transfer livestock** from treated grazing areas (or feeding of treated hay) to sensitive broadleaf crop areas without first allowing 7 days of grazing on an untreated pasture (or feeding of treated hay). If livestock are transferred within less than 7 days of grazing untreated pasture or eating untreated hay, urine and manure may contain enough clopyralid to cause injury to sensitive broadleaf plants.
- **Field Bioassay Instructions:** In fields previously treated with this product, plant short test rows of the intended rotational crop across the original direction of application in a manner to sample field conditions such as soil texture, soil pH, drainage, and any other variable that could affect the seed bed of the new crop. The field bioassay can be initiated at any time between harvest of the treated crop and the planting of the intended rotational crop. Observe the test crop for herbicidal activity, such as poor stand (effect on seed germination) chlorosis (yellowing), and necrosis (dead leaves or shoots), or stunting (reduced growth). If herbicidal symptoms do not occur, the test crop can be grown. If there is apparent herbicidal activity, do not plant the field to the test rotational crop; plant only a labeled crop, a crop tolerant to clopyralid (such as barley, canola (rapeseed), grasses, field corn, oats, sugar beets or wheat), or a crop listed in the table below for which the rotational interval has clearly been met.

## AVOIDING INJURY TO NON-TARGET PLANTS

This product can affect susceptible broadleaf plants directly through foliar contact and indirectly by root uptake from soil in treated areas. Do not allow spray drift to come in contact with vegetables, flowers, tomatoes, potatoes, beans, lentils, peas, alfalfa, sunflowers, soybeans, safflower, or other desirable broadleaf crops or ornamental plants or soil where sensitive crops will be planted the same season. (See guidance on Crop Rotation Restrictions). Small areas of new legume seedlings should be established prior to seeding more extensive areas in order to determine if phytotoxic residues are present in the soil of previously treated areas at levels that could inhibit legume establishment. Unless otherwise specified on this label or supplemental labeling for this product, do not apply this product to any broadleaf crop or ornamental planting or to areas where sensitive plants will be planted during the same growing season. (See following guidance on "Rotation to Broadleaf Crops").

Do not spray pastures if injury to existing forage legumes or other desirable broadleaf plants cannot be tolerated. Clean Slate may injure or kill legume and certain other broadleaf plants. However, the stand and growth of established perennial grasses is usually improved after spraying, especially when rainfall is adequate and grazing is deferred. Established grasses are tolerant to this product but newly seeded grasses may be injured until well established as indicated by tillering, development of a secondary root system, and vigorous growth.

### Avoid Movement of Treated Soil

Avoid conditions under which soil from treated areas may be moved or blown to areas containing susceptible plants. Wind-blown dust containing clopyralid may produce visible symptoms, such as epinasty (downward curving or twisting of leaf petioles or stems) when deposited on susceptible plants; however, serious injury is unlikely. To minimize potential movement of clopyralid on wind-blown dust, avoid treatment of powdery dry or light sandy soils until soil is settled by rainfall or irrigation or irrigate shortly after application.

### Residues in Plants or Manure

Do not use plant residues, including hay or straw from treated areas, or manure or bedding straw from animals that have grazed or consumed forage from treated areas for composting or mulching where susceptible plants may be grown the following season. Plant materials and/or manure contain enough clopyralid to cause injury to susceptible plant species. Do not spread manure from animals that have grazed or consumed forage or hay from treated areas on land used for growing susceptible broadleaf crops. To promote herbicidal decomposition, plant residues should be evenly incorporated or burned. Breakdown of clopyralid in crop residues or manure is more rapid under warm, moist soil conditions and may be enhanced by supplemental irrigation.





**Avoid Spray Drift**

Avoid spray drift since very small quantities of the spray, which may not be visible, may severely injure susceptible crops during active growth or dormant periods. Use coarse sprays to minimize drift. To aid in further reducing drift, a drift control or deposition agent suitable for agricultural use may be used with this product. If used, follow all use recommendations and precautions on the product label.

**Ground Application:** To minimize spray drift, apply this product in a total spray volume of 10 or more gallons per acre as large-droplet, low-pressure spray. Refer to spray equipment manufacturer's recommendations for additional information on spray volume, spray pressure, sprayer speed, type and arrangement of nozzles, height of nozzles above the target canopy, etc. Spray drift can be lessened by keeping the spray boom as low as possible; by using no more than 30 pounds per square inch (psi) spraying pressure with large droplet-producing nozzle tips, by using larger nozzle tips rather than increasing pressure to increase spray volume; and, by spraying when wind velocity is low. Avoid application under completely calm conditions which may be conducive to air inversion. In hand-gun applications, select the minimum pressure required to obtain adequate plant coverage without forming a mist. Do not apply with a mist blower. Do not apply with hollow cone-type insecticide or other nozzles that produce a fine-droplet spray. Keep operating spray pressures at the lower end of the manufacturer's recommended pressure range for the specific nozzle type used. Low pressure nozzles are available from spray equipment manufacturers. Select nozzles and pressures that provide adequate plant coverage but minimize the production of fine spray particles.

**Aerial Application:** Drift can be lessened by using straight stream nozzles directed straight back; by using drift control systems or use of drift control additives; and by keeping spray pressures low enough to provide coarse spray droplets. Do not use a thickening agent with the Microfoil or Thru-Valve booms, or other systems that cannot accommodate thick sprays. Spray only when wind velocity is low (follow state regulations).

**Sprayer Clean-Out**

To avoid injury to desirable plants, equipment used to apply this product should be thoroughly cleaned before re-using to apply any other chemicals.

1. Rinse and flush application equipment thoroughly at least 3 times with water after use. Dispose of rinse water by application to treatment area or in non-cropland area away from water supplies.
2. During the second rinse, add 1 qt of household ammonia for every 25 gallons of water. Circulate the solution through the entire system so that all internal surfaces are contacted (1 5-20 minutes). Let the solution stand for several hours, preferably overnight.
3. Flush the solution out of the spray tank through the boom.
4. Rinse the system twice with clean water, recirculating and draining each time.
5. Remove nozzles and screens and clean separately.

**CROP ROTATION INTERVALS**

Residues of this product in treated plant tissues, including the treated crop or weeds, which have not completely decayed may affect succeeding susceptible crops.

**Crop Rotation Intervals for All States Except California, Idaho, Nevada, Oregon, Utah and Washington**

**Note:** Numbers in parenthesis and † refer to footnotes following the tables.

Rotation Crops (1)	Rotation interval† (Soils greater than 2% organic matter AND rainfall more than 15 inches during 12 months following application)	Rotation interval† (Soils less than 2% organic matter AND rainfall less than 15 inches during 12 months following application)
barley, canola (rapeseed), cole crops ( <i>Brassica</i> species), flax, garden beet, grasses, field corn, oats, popcorn, spinach, sugarbeet, sweet corn, turnip, wheat	Anytime	Anytime
alfalfa, asparagus, grain sorghum, mint, onions, safflower, strawberry	10.5 months	10.5 months
dry beans, soybean, sunflower	10.5 months	18 months (2)
lentils, peas, potatoes (including potatoes grown for seed), and broadleaf crops grown for seed (excluding <i>Brassica</i> species)	18 months (2)	18 months (2, 3)

1. A field bioassay is recommended prior to planting any broadleaf crops that are not listed. Do not rotate to unlisted crops prior to 10.5 months following application.
2. An 18-month crop rotation is recommended due to the potential for crop injury unless previous experience has shown no crop injury with the minimum 10.5 month rotation interval. **Note:** For these crops, a minimum 10.5 month rotation interval must be observed to avoid illegal residues in the harvested crop.
3. A field bioassay is also recommended prior to planting these sensitive crops. See instructions above.

**Crop Rotation Intervals for California, Idaho, Nevada, Oregon, Utah and Washington Only**

Rotation Crops (1)	Rotation interval† (Areas receiving greater than 18 inches of rainfall – not including irrigation)	Rotation interval† (Areas receiving less than 18 inches of rainfall – not including irrigation)
barley, canola (rapeseed), cole crops (includes <i>Brassica</i> species grown for seed), flax, garden beet, grasses, field corn, oats, popcorn, spinach, sugarbeet, sweet corn, turnip, wheat	Anytime	Anytime
asparagus, grain sorghum, mint, onions, strawberry	12 months	12 months
alfalfa, dry beans, soybean, sunflower	12 months	18 months (2, 3)
broadleaf crops grown for seed (excluding <i>Brassica</i> species), carrot (2), celery (2), cotton (2), lentils, lettuce (2), melons (2), peas, potatoes (including potatoes grown for seed) safflower and tomato (2)	18 months (2)	18 months (2, 3)

1. A field bioassay is recommended prior to planting any broadleaf crops that are not listed. Do not rotate to unlisted crops prior to 12 months following application.
2. An 18-month crop rotation is recommended due to the potential for crop injury unless previous experience has shown no crop injury with the minimum 12 month rotation interval. **Note:** For these crops, a minimum 12 month rotation interval must be observed to avoid illegal residues in the harvested crop.
3. Crop injury and/or yield loss may occur up to 4 years after application. A field bioassay is also recommended prior to planting these sensitive crops. See instructions above.





**NOTE:** The above intervals are based on average annual precipitation, regardless of irrigation practices. Observance of recommended crop rotation intervals should result in adequate safety to rotational crops. However, this product is dissipated in the soil by microbial activity and the rate of microbial activity is dependent on several interrelating factors including soil moisture, temperature and organic matter. Therefore, accurate prediction of rotational crop safety is not possible. In areas of low organic matter (<2.0%) and less than 15 inches average annual precipitation, potential for crop injury may be reduced by burning or removal of plant residues, supplemental fall irrigation and deep moldboard plowing prior to planting the sensitive crop.

## 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 and the grower are responsible for considering all these factors when making decisions.

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications:

1. The distance of the outer most operating nozzles on the boom must not exceed 3/4 the length of the rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downward more than 45 degrees.

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

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

### Aerial Drift Reduction Advisory

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

#### Controlling Droplet Size:

- **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure** - Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of Nozzles** - Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle Orientation** - Orienting nozzles so that the spray is released parallel to the air stream 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 should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

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

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

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

**Temperature Inversions:** Applications should not occur during a local, low level 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 the smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

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

## MIXING INSTRUCTIONS

### Water Dilutions

1. Add 3/4 of the required spray volume to the spray tank and start agitation.
2. Add the required amount of this product.
3. Add any surfactants, crop oils, adjuvants or drift control agents according to manufacturer's label.
4. Agitate during final filling of the spray tank and maintain sufficient agitation during application to ensure uniformity of the spray mixture.

**Note:** Allow time for thorough mixing of each spray ingredient before adding the next. If allowed to stand after mixing agitate spray mixture before use.

### Oil-Water Emulsions

1. Add 1/2 of the required water to be used to the spray tank and start agitation.
2. Add the required amount of this product.
3. Pre-mix the amounts of oil and emulsifier. Refer to the emulsifier manufacturer's label for use directions but always verify the amount of emulsifier by conducting a compatibility test. Ensure proper agitation of the spray mix and then add the oil-emulsifier premix slowly to the mixing tank.
4. Add the remaining amount of water required to bring the spray batch to the desired volume. If using a drift control additive, meter this ingredient into the water being added during this final filling step and check spray mixture for complete dispersion.
5. Agitate during final filling of the spray tank and maintain sufficient agitation during application to ensure uniformity of the spray mixture.

**Note:** Allow time for thorough mixing of each spray ingredient before adding the next. If allowed to stand after mixing agitate spray mixture before use.

**Tank Mixing:** This product may be applied in tank mix combination with labeled rates of other products provided (1) the tank mix product is labeled for the timing and method of application for the use site to be treated; and (2) tank mixing is not prohibited by the label of the tank mix product.





### Tank Mixing Precautions:

- Read carefully and follow all applicable use directions, precautions, and limitations on the respective product labels.
- Do not exceed recommended application rates. Do not tank mix with another pesticide product that contains the same active ingredient as this product unless the label of either tank mix partner specifies the maximum dosages that may be used.
- For products packaged in water soluble packaging, do not tank mix with products containing boron or mix in equipment previously used to apply a product mixture containing boron unless the tank and spray equipment has been adequately cleaned. (See instructions for Sprayer Clean-Out.)
- Always perform a (jar) test to ensure the compatibility of products to be used in tank mixture.

**Tank Mix Compatibility Testing:** A jar test is recommended prior to tank mixing to ensure compatibility of this product and other pesticides. Use a clear glass quart jar with lid and mix the tank mix ingredients in the required order and their relative proportions. Invert the jar containing the mixture several times and observe the mixture for approximately 1/2 hour. If the mixture balls-up, forms flakes, sludges, gels, oily films or layers, or other precipitates, it is not compatible and the tank mix combination should not be used.

## APPLICATION DIRECTIONS - CROPS

**Application Timing:** Apply to actively growing weeds. Extreme growing conditions such as drought or near freezing temperatures prior to, at, and following application may reduce weed control and increase the risk of crop injury at all stages of growth. **Only weeds that have emerged at the time of application will be affected.** Wet foliage at the time of application may decrease control. The treatment with this product will be rainfast within 6 hours after application.

**Application Rate Ranges:** Generally, lower labeled application rates will be satisfactory for young, succulent growth of susceptible weed species. Higher labeled rates will generally be required for more tolerant species, perennials, weeds in dense stands or in advanced stages of growth, or under conditions of plant stress such as drought or extreme temperatures.

Crop Use Site	Rate Range (pt/acre)	Maximum Use Rate <sup>†</sup> (pt/acre/growing season)
spinach	1/6 to 1/3	1/2
barley, oats, wheat	1/4 to 1/3	1/3
Christmas tree and cottonwood/poplar and eucalyptus tree plantations, fallow cropland, field corn, grasses grown for seed, sugar beet	1/4 to 2/3	2/3
garden beet, canola (rapeseed), crambe	1/4 to 1/2	1/2
mint, stone fruits, popcorn, sweet corn	1/3 to 2/3	2/3
turnip	1/3 to 1/2	1/2
permanent grasses on CRP land, noncropland, non-leguminous trees, rangeland and permanent grass pastures	1/3 to 1-1/3	1-1/3
asparagus	1/2 – 2/3	2/3

<sup>†</sup>Do not exceed maximum rate in rate range per growing season.

**Use of Adjuvants:** Addition of surfactants, crop oils, or other adjuvants is not usually necessary when using this product except as specified in other sections of this label such as for use in Rangeland and Permanent Grass Pastures. Adding a surfactant to the spray mixture may increase effectiveness on weeds but may reduce selectivity to the crop, particularly under conditions of plant stress. If an adjuvant is added to the spray solution, follow all manufacturer use guidelines. Addition of surfactants, crop oils, or other adjuvants may increase effectiveness of this product. If an adjuvant is added to the spray solution, follow all manufacturer use guidelines.

**Spray Coverage:** Use sufficient spray volume to provide thorough and uniform spray coverage of target weeds. Do not broadcast apply in less than 2 gallons of total spray volume per acre. For best results and to minimize spray drift, apply in a spray volume of 10 or more gallons per acre. In general, spray volume must be increased as vegetative canopy, crop canopy, height and weed density increase in order to obtain equivalent weed control. Use only nozzle types and spray equipment designed for herbicide application. To reduce spray drift, follow precautions under "Avoiding Injury to Non-target Plants" of this label.

### Spot Treatments

To prevent misapplication, it is recommended that spot treatments be applied only with a calibrated boom or with hand sprayers according to directions provided below.

**Hand-Held Sprayers:** Hand held sprayers may be used for spot applications. Care should be taken to apply the spray uniformly and at an equivalent to a broadcast application. Application rates in the table are based on an area of 1,000 sq ft. Mix the amount of this product (fl oz or mL) corresponding to the desired broadcast rate in 1 or more gallons of spray. To calculate the amount of this product required for larger areas, multiply the table value (fl oz or mL) by the area to be treated in "thousands" of square feet, e.g., if the area to be treated is 3,500 sq ft, multiply the table value by 3.5 (calc.  $3,500 \div 1,000 = 3.5$ ). An area of 1,000 sq ft is approximately 10.5 x 10.5 yards (strides) in size.

Amount of this product per Gallon of Spray to Equal Specified Broadcast Rate					
1/4 pt/acre	1/3 pt/acre	1/2 pt/acre	2/3 pt/acre	1 pt/acre	1 1/3 pt/acre
1/10 fl oz <sup>†</sup> (2.7 mL)	1/8 fl oz (3.6 mL)	1/5 fl oz (5.4 mL)	1/4 fl oz (7.3 mL)	3/8 fl oz (11 mL)	0.5 fl oz (15 mL)

<sup>†</sup>1 fl oz = 29.6 (30 mL)

Use the following table for converting pints to fluid ounces.

Conversion Chart – Pints to Fluid Ounces	
Pints	Fluid Ounces
1/3	5
1/4	4
1/2	8
2/3	11



Band Application

This product may be applied as a band treatment. Use the formulas below to determine the appropriate rate and volume per treated acre.

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

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

BROADLEAF WEEDS CONTROLLED† - CROPS

**Note:** Letter in parentheses (-) after listed weed indicates if life cycle is annual (a), biennial (b), or perennial (p).

Artichoke, Jerusalem (p)	Coffeeweed (a)	Knapweed, spotted (b)	Ragweed, giant (a)	Thistle, musk (b)
Buckwheat, wild (a)	Cornflower (bachelor button)(a)	Ladysthumb(a)††	Salsify, meadow (goatsbeard)(b)	Vetch (a)
Buffalobur (a)††	Dandelion, (p)	Lettuce prickly (a)	Sicklepod (a)	Volunteer alfalfa (p)
Burdock, common (b)	Dock, curly (p)	Locoweed, Lambert (p)	Smartweed, green (a)††	(from seed only)
Chamomile, false (scentless)(a)	Galinsoga (a)	Locoweed, white (p)	Sorrel, red (p)	Volunteer beans (a)
Chamomile, mayweed (dogfennel)(a)	Groundsel, common (b)	Marshelder (a)	Sowthistle, annual (a)	Volunteer lentils (a)
Clover, black medic (a)	Hawksbeard, narrowleaf (a)	Nightshade, black	Sowthistle, perennial (p)††	Volunteer peas (a)
Clover, hop (a)	Hawkweed, orange (p)	Nightshade, Eastern black (a)	Starthistle, yellow (a)	Wormwood, biennial (a,b)†††
Clover, sweet (b)	Hawkweed, yellow (p)	Nightshade, cutleaf (a)	Sunflower (a)	
Clover, red (p)	Horseweed (a)	Nightshade, hairy (a)	Teasel, common (b)	
Clover, white (p)	Jimsonweed (a)	Oxeye daisy (p)	Thistle, bull (b)	
Cocklebur, common (a)	Knapweed, diffuse (b)	Pineappleweed (a)	Thistle, Canada (p)	
	Knapweed, Russian (p)††	Ragweed, common (a)		

† See Guidelines for Control of Specific Weeds for additional information on application timing and application rates.

†† These weeds may only be suppressed. Suppression is a visual reduction in weed competition (reduced population or vigor) as compared to untreated areas. The degree and duration of weed control will vary with weed size and density, application rate and coverage, and growing conditions before, during, and after treatment. For **perennial weeds** such as Russian knapweed and perennial sowthistle, this product will control the top growth and inhibit regrowth during the season of application (season-long control). At higher use rates shown on this label, this product may cause a reduction in shoot regrowth in the season following application; however, plant response may be inconsistent due to inherent variability in shoot regrowth from perennial root systems.

††† Not approved for use in California.

GUIDELINES FOR CONTROL OF SPECIFIC WEEDS†

Weed Species	Stage of Growth	Rate Range to Control†† (pt/acre)
Clover Cocklebur Jerusalem artichoke Jimsonweed Marshelder other annual and biennial weeds Ragweeds Sunflower Vetch Volunteer soybean	Up to 5 leaf	1/4 to 1/2
Wild buckwheat	1 to 3 leaf stage, but before vining	1/2
Buffalobur Nightshade sp. Smartweeds (suppression)	2 to 4 leaf 2 to 4 leaf 2 to 3 leaf	
Canada thistle Sowthistle (suppression)	Rosette up to bud stage	Degree of infestation: Light to 1/3 Moderate to heavy to 1/2 to 2/3
Knapweeds, spotted/diffuse	Up to bud stage	1/2 to 2/3
Knapweed, Russian†††		2/3 to 1-1/3

† This table is provided as a general reference only. Refer to use directions for specific crop or use site for recommended application rates.

†† Where rate range is provided, use the lower rate for light to moderate infestations under good growing conditions and the higher rate for dense infestations or under less favorable growing conditions such as drought.

††† Provides suppression only.



CROP USE

**Agricultural Use Requirements for Crop Uses:** For use of this product in tree plantations, follow PPE and Reentry restrictions in the Agricultural Use Requirements section of this label.

**ASPARAGUS**  
**(Not registered for use in Florida)**

**Application Timing**

This product will provide postemergence control specific annual and perennial broadleaf weeds in asparagus. Apply this product before or during the asparagus cutting season, or after harvest in complete but prior to fern growth. Treat annual weeds before they send up a flower stalk. For best results on perennial weeds such as Canada thistle, apply this product after the majority of basal leaves have emerged up to bud stage. Following application, wait at least 2 weeks before cultivating. NOTE: Postharvest (layby) applications should be made as soon as possible after cutting provided weeds are in the proper stage of growth for treatment. Malformed ferns may result from application when sears are longer than 3 inches or with open seed heads.

**Application Rate**

Apply 1/2 to 2/3 pint per acre of this product in a total spray volume of 10 to 40 gallons per acre. Use the higher rate for more effective control of perennial weeds. A second application may be made as long as the total amount applied does not exceed 2/3 pint per acre during the growing season.

**Specific Use Restrictions**

- **Preharvest Interval:** Do not harvest for a minimum of 48 hours after applications.
- When this product is applied during the cutting season, some crooking (twisting) of asparagus spears may occur. Do not apply during the cutting season if crooking cannot be tolerated. Clear-cutting of spears just before applying this product may reduce the occurrence of crooking.

**Tank Mixtures for Asparagus**

This product may be applied in tank mix combination with labeled rates of other products registered for use on asparagus to broaden the spectrum of weeds controlled. See Tank Mixing Precautions under Mixing Instructions. When tank mixing, do not exceed recommended application rates and use only in accordance with the most restrictive precautions and limitations on the respective product labels.

**BARLEY, OATS AND WHEAT**  
**(Not registered for use in Florida)**

**Application Rate**

Apply 1/4 to 1/3 pint per acre of this product when crop is from the 3-leaf stage up to early boot stage of growth. For control of perennial weeds such as Canada thistle, 1/3 pint per acre of this product should be used. Russian knapweed will only be suppressed at this rate.

**Specific Use Restrictions**

Do not permit lactating dairy animals or meat animals being finished for slaughter to forage or graze treated grain fields within 1 week after treatment. Do not harvest hay from treated grain fields.

**Tank Mixtures for Barley, oats and Wheat**

This product may be applied in tank mix combination with labeled rates of other products registered for post-emergence application in wheat, barley and oats. See Tank Mixing Precautions under Mixing instructions. When tank mixing, do not exceed recommended application rates and use only in accordance with the most restrictive precautions and limitations on the respective product labels.

**BRASSICA (COLE) LEAFY VEGETABLES†**

**For Use and Distribution Only in Arizona, California, Georgia, New York, North Carolina, South Carolina, Texas and Wisconsin**  
**(Not for Sale, Use or Distribution in Nassau and Suffolk Counties in the State of New York)**

†*Brassica* (Cole) Leafy Vegetables, including: Broccoli, Brussels Sprouts, Cabbage, Cauliflower, Cavalo Broccolo, Chinese Broccoli, Chinese Mustard Cabbage, Chinese (Napa) Cabbage, Kohlrabi, Mustard Greens.

Target Broadleaf Weeds	Application Rate (pint/acre)	Use Restrictions
Buckwheat, wild Chamomile Clover Cocklebur, common Dandelion Galinsoga Lettuce, prickly Pineappleweed Ragweed Smartweed	1/4 to 1/2 (0.09375 to 0.187 lb ai/acre)	<ul style="list-style-type: none"><li>• Make 1 to 2 broadcast applications per crop per year, not to exceed a total of 1/2 pint per acre (0.187 lb ai/acre) per year.</li><li>• <b>Preharvest interval:</b> Do not apply within 30 days of harvest.</li><li>• <b>In New York and California,</b> the maximum application rate for this product is 2/3 pint per acre per growing season. Do not exceed the cumulative amount of 2/3 pint [0.25 lb acid equivalent (a.e.)] of clopyralid per acre per crop year.</li></ul>
Sowthistle annual† Thistle, Canada†	1/3 to 1/2 (0.125 to 0.187 lb ai/acre)	

†Suppression only.

**Broadcast Application Rates:** Apply uniformly with ground equipment in a minimum of 10 to 40 gallons of water per acre. For suppression of Canada thistle, apply after the majority of basal leaves have emerged but prior to bud stage and at least 30 days prior to harvest.

**Tank Mixtures:** This product may be tank mixed with other herbicides labeled for use on mustard greens. Follow the Directions for Use of the labeling for any tank mix partner used in tank mixture with this product.



**Specific Use Restrictions:**

- Do not permit lactating dairy animals or meat animals being finished for slaughter or forage or graze treated grain fields within 1 week after treatment.
- Do not harvest hay from treated grain fields.

**CANOLA (RAPESEED) AND CRAMBE**  
**(Not registered for use in California and Florida)**

**Application Timing**

Apply to canola or crambe in the 2 to 6 leaf stage of crop growth. Apply uniformly with ground equipment in 10 to 20 gallons of water per acre or in a minimum of 5 gallons per acre by air. For control of Canada thistle, apply this product after the majority of basal leaves have emerged but prior to bud stage. Use the higher rate in the rate range for heavy infestations or when greater residual control is desired.

**Target Broadleaf Weeds and Application Rates**

Target Broadleaf Weeds	Application Rate (pint/acre)
Thistle, Canada	1/3 for top growth suppression
Thistle, Canada Sowthistle, perennial	1/2 for season long control
Buckwheat, wild Chamomile, false Chamomile, mayweed Dandelion Dock, curly Nightshade species Smartweed, green Sowthistle, annual Sunflower Wormwood, biennial	1/4 to 1/2

**Specific Use Precautions:**

- **Preharvest Interval:** Do not apply within 50 days of harvest
- Make 1 broadcast application per crop per year.

**Tank Mixtures for Canola (Rapeseed) and Crambe**

This product may be tank mixed with other herbicides labeled for use on canola and crambe. When tank mixing, do not exceed recommended application rates and use only in accordance with the most restrictive precautions and limitations on the respective product labels.

**CORN (FIELD, POP AND SWEET)**  
**(Not registered for use in Florida)**

This product is recommended for post-emergence control of Canada, thistle, Jerusalem artichoke, annual sowthistle, common sunflower, common cocklebur, giant and common ragweed, jimsonweed and other broadleaf weeds infesting field corn. Apply this product at suggested timing and rates for field, pop and sweet corn as indicated below.

**General Weed Control**

For control of common cocklebur, giant ragweed, common ragweed, sunflower, other annual weeds and Jerusalem artichoke, apply 1/4 to 1/2 pint per acre of this product from weed emergence up to the 5 leaf stage of growth. Use a higher rate listed for heavy infestations or when greater residual control is desired. Consult the table entitled Guidelines for Control of Specific Weeds for additional information.

**Control of Canada Thistle**

For effective control of Canada thistle, apply 1/3 to 2/3 pint per acre of this product as a broadcast treatment to the entire infested area. Apply when the majority of thistle plants have emerged (rosette to 8 inches) and thistles are at least 6 to 8 inches in diameter or height up to bud stage. Cultivation can disrupt translocation to the roots of Canada thistle. For best long-term control, do not cultivate before or after application. If cultivation is necessary, wait 14 to 20 days after application before cultivating to allow for thorough translocation.

Control of Canada thistle is influenced by growing conditions, density and size of thistle plant at application, tillage practices used, etc. Light infestations (less than 10 plants per square yard) will generally be adequately controlled with a rate of 1/3 pint per acre. For medium to heavy infestations (more than 10 plants per square yard), rates of 1/2 to 2/3 pint per acre are generally more effective since these Canada thistle stands involve an extensive rhizome system.

The following are general descriptions of control to be expected from each rate of application given a medium to heavy population of Canada thistle. Control of lighter infestations may be better than that described.

- A rate of 1/3 pint per acre will suppress top growth of Canada thistle for 6 to 8 weeks. Some regrowth may occur by the end of the season, but this will not interfere with harvesting of the crop.
- A rate of 1/2 pint per acre will generally provide season long control of Canada thistle. Not all rhizomes will be killed and some regrowth may occur by the end of the growing season.
- A rate of 2/3 pint per acre will provide season long control of Canada thistle plus suppression into the following season, resulting in a reduction of the total number of Canada thistle plants in the treated area.

**FIELD CORN**

**Application Timing**

Apply this product to actively growing broadleaf weeds any time after corn emergence through 24 inch tall corn. Apply with ground equipment as a post-emergence broadcast or directed spray in 10 gallons or more of spray volume per acre to ensure uniform and thorough spray coverage of the Weed foliage. Use only spray nozzles designed for herbicide application. The use of flat fan nozzles provides the best coverage and distribution of chemical on the plant foliage. Use spray pressures (at the boom) recommended by nozzle manufacturers to obtain desired spray volume. Use higher spray volumes when weed foliage is dense.



**Specific Use Restrictions for Field Corn**

- Re-treat as necessary, but do not apply more than 2/3 pint per acre of this product per year.
- Do not apply to field corn greater than 24 inches tall.
- Do not allow livestock to graze treated areas or harvest treated corn silage as feed within 40 days after last treatment.

**Tank Mixtures or Sequential Applications for Field Corn**

See Tank Mixing Precautions under Mixing Instructions. When tank mixing, do not exceed recommended application rates and use only in accordance with the most restrictive precautions and limitations on the respective product labels. If this product is applied sequentially or in combination with Hornet® or Scorpion® III herbicides to the current corn crop, the maximum application rate for this product is indicated in the following tables:

Rate of Hornet Applied to Current Corn Crop (fl oz/acre)	Maximum Application Rate for This Product (fl oz/acre)
1.6	8.1
2.4	6.8
3.2	5.4
4.0	4.0

Rate of Scorpion III Applied to Current Corn Crop (lb/acre)	Maximum Application Rate for This Product (fl oz/acre)
0.25	8.1

**Note:** Maximum use rate for coppyralid is 0.25 lb a.e. per acre. One ounce of Hornet contains 0.039 lb of coppyralid. One-fourth pound of Scorpion III contains 0.0625 lb of coppyralid. One ounce of this product contains 0.023 lb of coppyralid.

**Corn Inbred Lines or Breeding Stock**

Susceptibility of corn to injury from this product is highly related to varietal response. Inbred lines or any breeding stock may be injured by this product. Contact your seed production agronomist for advice before applying this product to inbred lines or breeding stock.

**Hand-Held Sprayers**

This product may be applied as a spot treatment using a hand-held sprayer at an equivalent broadcast rate of 2/3 pint per acre. Refer to instructions for Spot Treatment and Hand-held Sprayers under Application Directions in the General Information section. Applications should be made on a spray-to-wet basis with spray coverage uniform and complete. Do not spray to the point of runoff.

**POPCORN AND SWEET CORN**  
**(Not registered for use in California)**

**Application Timing**

**Popcorn:** Apply this product any time after popcorn emergence through 24 inch tall popcorn.

**Sweet corn:** Apply this product any time after sweet corn emergence through 18-inch tall sweet corn.

**Application Rate**

Apply 1/3 to 2/3 pint per acre of this product uniformly with ground equipment as a broadcast or directed spray in 10 to 20 gallons total spray volume per acre. For control of Canada thistle, apply this product when the majority of thistle plants have emerged and thistles are at least 6 to 8 inches in diameter or height, but before bud stage. For control of Jerusalem artichoke, common cocklebur, jimsonweed, ragweed (common and giant), annual sowthistle and sunflower, apply this product from weed emergence up to the 5 leaf stage of growth. Use a higher rate listed for heavy infestations or when greater residual control is desired. Consult the table entitled Guidelines for Control of Specific Weeds for additional information.

**Specific Use Precautions for Popcorn and Sweet Corn:**

- **Preharvest Interval:** Do not apply within 30 days of harvest for **ears and forage** and 60 days of harvest for **stover**.
- Make up to 2 broadcast applications per crop per year, not to exceed a total of 2/3 pint per acre.
- **Re-treatment Interval:** 21 days.
- Do not apply to popcorn greater than 24 inches tall or sweet corn greater than 18 inches tall.

**Tank Mixtures for Popcorn and Sweet Corn**

This product may be tank mixed with other herbicides labeled for use on popcorn and sweet corn. When tank mixing, do not exceed recommended application rates and use only in accordance with the most restrictive precautions and limitations on the respective product labels.

**FALLOW CROPLAND**  
**(Not registered for use in Florida)**

**Application Timing**

This product can be applied either postharvest, in the spring/summer (during fallow period), or to set-aside acres to control or suppress listed weeds (refer to rotation restrictions). Apply to young, emerged weeds under conditions that promote active growth. For best results on perennial weeds such as Canada thistle, apply after the majority of the basal leaves have emerged up to bud stage. Later applications may result in less consistent control. Extreme growing conditions (such as drought or near freezing temperatures) prior to, at, or following application may reduce weed control.

For best results, wait 14 to 20 days after application before cultivating or fertilizing with shank-type applicators to allow for thorough translocation.

**Application Rate**

Apply 1/4 to 2/3 pint per acre of this product. Use the higher rate on perennial weeds or when the condition of weeds at treatment may prevent optimum control.

**Tank Mixtures for Fallow Cropland**

To improve control of certain broadleaf weeds, this product may be applied with 0.5 to 2.0 lb acid equivalent (a.e.) per acre of 2,4-D. See Tank Mixing Precautions under Mixing Instructions. When tank mixing, do not exceed recommended application rates and use only in accordance with the most restrictive precautions and limitations on the respective product labels.





## GARDEN BEET

**(Not registered for use in California and Florida)**

This product is recommended for post-emergence control of wild buckwheat, sweet clover, prickly lettuce, common ragweed, nightshade (black, cutleaf, Eastern black and hairy), Galinsoga, and sowthistle, infesting garden beet.

**Application Timing**

Apply to garden beet in the 2 to 8 leaf stage of crop growth when weeds are young and actively growing. Apply this product to wild buckwheat at the 1 to 3 leaf stage of growth, before vining begins. Apply this product to common ragweed and sweet clover from weed emergence up to the 5 leaf stage of growth. Apply this product to all species of nightshade at the 2 to 4 leaf stage of growth. Apply this product to sowthistle from rosette up to bud stage. Apply in 10 gallons or more total spray volume per acre with ground equipment.

**Application Rate**

Apply 1/2 pint per acre of this product with ground equipment in 10 gallons or more total spray volume per acre.

**Specific Use Precautions:**

- **Preharvest Interval:** Do not apply within 30 days of harvest.
- Make 1 broadcast application per crop year.

**Tank Mixtures for Garden Beet**

This product may be tank mixed with other herbicides labeled for use on garden beet. When tank mixing, do not exceed recommended application rates and use only in accordance with the most restrictive precautions and limitations on the respective product labels.

## GRASSES GROWN FOR SEED

**(Not registered for use in Florida)**

**Application Timing**

Apply only to established grasses before the boot stage of growth. Applications in the boot stage and beyond can result in increased potential for injury. Do not apply to bentgrass unless injury can be tolerated. For control of late emerging Canada thistle, a preharvest treatment may be made after grass seed is fully developed. Treatment of Canada thistle at the bud stage or later may result in less consistent control. Post-harvest fall treatments may be made to actively growing Canada thistle after the majority of basal leaves have emerged.

**Application Rate**

Use 1/4 to 2/3 pint per acre of this product for control of annual weeds and Canada thistle. Re-treat as necessary, but do not exceed 2/3 pint per acre of this product per season.

**Tank Mixtures for Grasses Grown for Seed**

This product may be tank mixed with 2,4-D, MCPA, dicamba, or bromoxynil to control additional broadleaf weeds. Refer to the manufacturer's label for use rates and tank mix guidelines. See Tank Mixing Precautions under Mixing Instructions. When tank mixing, do not exceed recommended application rates and use only in accordance with the most restrictive precautions and limitations on the respective product labels. **Note:** Dicamba or bromoxynil tank mixes may be useful in broadening the annual weed control spectrum, but may reduce long-term control of perennials such as Canada thistle. Do not tank mix this product with 2,4-D, MCPA, or dicamba unless the risk to crop injury is acceptable.

## MINT (SPEARMINT AND PEPPERMINT)

**(Not registered for use in Florida)**

This product may be used for selective post-emergence control of specific annual and perennial broadleaf weeds infesting mint.

**Application Timing**

Treat annual weeds when they are small and actively growing before they send up a flower stalk. For Canada thistle, apply this product after the majority of basal leaves have emerged but prior to bud stage.

**Application Rate**

Apply as a broadcast foliar spray in 10 gallons or more per acre total spray volume using ground equipment only. A nonionic surfactant of at least 80% active ingredient may be added at a rate of 1 pint per 100 gallons of spray solution.

**Broadcast Application Rates, Timing and Weeds Controlled:**

Application Timing and Weeds Controlled	Application Rate (pint/acre)
fall treatment only (Sept. 15 to first frost)	
annuals	1/2
perennials	2/3
hard-to-kill perennials (Canada thistle, dandelion)	1
spring treatment only	
annuals	1/3
perennials	1/2
fall plus spring treatment	Maximum of 2/3 in fall plus 1/3 in spring

**Specific Use Precautions,**

- **Preharvest interval:** Do not apply within 45 days of harvest.
- Do not apply more than 1 pint per acre per growing season.
- Treated mint may be used for distillation (oil extraction) only.
- Do not feed spent mint hay slugs to livestock.
- Mint straw, hay or spent hay (slugs) from treated areas cannot be used for composting or mulching. If hay slugs are disposed of on cropland, distribute in a thin layer and incorporate. Do not dispose of hay slugs on land to be rotated to a susceptible crop. (See Residues in Plants or Manure section.)
- Discoloration or malformation of mint leaves may occur following treatment. This effect is generally temporary and does not reduce oil yields.
- This product will not control many broadleaf weeds such as mustards, henbit, chickweed, kochia, lambsquarters, pigweed, Russian Thistle and field bindweed.





**SPINACH**  
**(Not registered for use in California and Florida)**

Target Broadleaf Weeds	Application Rate (pint/acre)	Use Restrictions
Sowthistle, annual Thistle, Canada	1/3 (0.125 lb ai/acre) for top growth suppression	<ul style="list-style-type: none"><li>• Make 1 to 2 broadcast applications per crop per year, not to exceed a total of 1/3 pint/acre (0.125 lb ai/acre).</li><li>• <b>Preharvest interval:</b> Do not apply within 21 days of harvest.</li></ul>
Nightshade, black; hairy Sowthistle, annual Thistle, Canada	1/3 (0.125 lb ai/acre) for season long control	
Clover Cocklebur, common Groundsel, common Jimsonweed Lettuce, prickly Pineappleweed Ragweed	1/4 to 1/3 (0.09375 to 0.125 lb ai/acre)	

**Application Timing**

Apply this product to spinach in the 2 to 5 leaf stage of crop growth. Apply this product to clover, prickly lettuce, common cocklebur, Galinsoga, common groundsel, jimsonweed, pineappleweed, and ragweed from weed emergence up to the 5 leaf stage of growth. For suppression of annual sowthistle and Canada thistle, apply this product from rosette up to bud stage.

**Broadcast Application:** Apply to spinach in the 2 to 5 leaf stage of crop growth. Apply uniformly in 10 to 20 gallons of water per acre (minimum of 5 gallons per acre by air). For control of Canada thistle, apply after the majority of basal leaves have emerged but prior to bud stage and at least 21 days prior to harvest.

**Tank Mixtures for Spinach**

This product may be tank mixed with other herbicides labeled for use on spinach. When tank mixing, do not exceed recommended application rates and use only in accordance with the most restrictive precautions and limitations on the respective product labels.

**STONE FRUITS**

**Including but not limited to: Apricot, Chickasaw Plum, Damson Plum, Fresh Prune, Japanese Plum, Nectarine, Peach, Plum, Plumcot, Sweet Cherry, Tart Cherry**  
**(Not registered for use in California and Florida)**

This product is recommended for post-emergence control of clover, dandelion, horseweed, nightshade (black and hairy), annual sowthistle, Canada thistle, musk thistle, and vetch infesting stone fruits.

**Application Timing**

Apply this product to clover and vetch from weed emergence up to the 5 leaf stage of growth. Apply this product to nightshade (black and hairy) at the 2 to 4 leaf stage of growth. For control of Canada thistle and annual sowthistle, apply this product after the majority of basal leaves have emerged but prior to bud stage and at least 30 days prior to harvest.

**Application Rate**

Apply 1/3 to 2/3 pint per acre of this product with ground equipment in 10 gallons or more total spray volume per acre. Use a higher rate listed for heavy infestations or when greater residual control is desired.

**Specific Use Precautions:**

- **Preharvest Interval:** Do not apply within 30 days of harvest.
- Make 1 to 4 broadcast applications per crop per year, not to exceed a total of 2/3 pint per acre.

**Tank Mixtures for Stone Fruits**

This product may be tank mixed with other herbicides labeled for use on stone fruits. When tank mixing, do not exceed recommended application rates and use only in accordance with the most restrictive precautions and limitations on the respective product labels.

**SUGARBEET**

**(Not registered for use in Florida)**

This product is recommended for the control of various annual and perennial broadleaf weeds infesting sugarbeet.

**Application Rate**

Apply 1/4 to 2/3 pint per acre of this product with ground equipment as a broadcast foliar spray or band treatment. See instructions for band application under Application Directions in the General Information section. Apply in 10 gallons or more total spray volume per acre when the sugarbeets are in the cotyledon to 8-leaf stage of growth and the weeds are young and actively growing.

For annual weed control apply 1/4 to 1/2 pint per acre of this product from weed emergence up to the 5-leaf stage of growth.

Application to wild buckwheat should be made at the 1 to 3 leaf stage of growth, before vining begins.

For the most effective control of perennials such as Canada thistle and sowthistle, apply 1/2 to 2/3 pint per acre of this product as a broadcast treatment to the entire infested area. Apply when the majority of basal leaves have emerged up to the bud stage. Cultivation can disrupt translocation to the roots of perennials such as Canada thistle. For best results do not cultivate thistle patches.

To promote herbicidal efficacy, wait a minimum of 7 days after application before flood or furrow irrigation.

**Specific Use Precautions**

- **Preharvest Interval:** Do not apply within 45 days before harvest of beet roots and tops.
- Re-treat as necessary but do not exceed 2/3 pint per acre of this product per season.





#### Tank Mixtures for Sugarbeet

To control additional broadleaf weeds and provide consistent control of difficult to control weeds such as wild buckwheat, this product may be applied in combination with labeled rates of Betamix, Betanex, UpBeet, or other products registered for post-emergence application in sugar beets. For best results, tank mix 1/4 pint per acre of this product with Betamix or Betanex followed 1 to 2 weeks later by a second application of 1/4 to 1/3 pint per acre of this product tank mixed with Betamix or Betanex. This product may also be tank mixed with grass herbicides such as Poast. Crop oil or Dash surfactant may be added to the tank mixture to optimize grass weed control. See Tank Mixing Precautions under-Mixing Instructions. When tank mixing, do not exceed recommended application rates and use only in accordance with the most restrictive precautions and limitations on the respective product labels.

#### Aerial Broadcast Application of This Product in Sugar Beets

**(For Distribution and Use Only in the States of Colorado, Idaho, Michigan, Minnesota, Montana, Nebraska, North Dakota, Oregon, Washington, and Wyoming)**

This product may be aerially applied to sugar beets in the states of Colorado, Idaho, Michigan, Minnesota, Montana, Nebraska, North Dakota, Oregon, Washington, and Wyoming. Supplemental labeling may be obtained at point of purchase, by visiting our web site at [www.nufarm.com](http://www.nufarm.com), or from your local Nufarm representative.

Refer to the product label for this product for specific weeds controlled, application rates and recommended tank mixes. When tank mixing with a companion herbicide, read and follow each manufacturer's label for weeds controlled, applicable use directions, precautions and limitations before use.

**Aerial Application:** Apply the recommended rate of this product in 5 or more gallons of total spray volume per acre when weeds are at the recommend stage of growth for control.

**Note:** Before aerially applying this product, read and understand Spray Drift Management and Aerial Drift Reduction Advisory information.

### TURNIP ROOTS AND GREENS (Not registered for use in California and Florida)

This product is recommended for post-emergence control of wild buckwheat, sweet clover, prickly lettuce, common ragweed, and Galinsoga, and post-emergence suppression of sowthistle, infesting turnip harvested for roots and tops.

#### Application Timing

Apply this product to wild buckwheat at the 1 to 3 leaf stage of growth, before vining begins. Apply this product to common ragweed, prickly lettuce and sweet clover from weed emergence up to the 5 leaf stage of growth. For suppression of sowthistle, apply this product from rosette up to bud stage.

#### Application Rate

Apply 1/2 pint per acre of this product with ground equipment in 10 gallons or more total spray volume per acre. Use the higher rate listed for heavy infestations or when greater residual control is desired.

#### Specific Use Precautions

- **Preharvest Interval:** Do not apply within 30 days of harvest of turnip roots or within 15 days of turnip tops.
- Make 1 broadcast application per crop per year.

#### Tank Mixtures for Turnip

This product may be tank mixed with other herbicides labeled for use on turnip roots and tops. When tank mixing, do not exceed recommended application rates and use only in accordance with the most restrictive precautions and limitations on the respective product labels.

### CONSERVATION RESERVE PROGRAM (CRP) FOR SEEDING TO PERMANENT GRASSES ONLY

Do not use this product if legumes or bentgrass are a desired cover during CRP.

Conditions of plant stress, such as drought, will increase potential for injury to grasses at all stages of growth. Do not apply to newly seeded areas until grass is established.

#### Application Timing

This product should be applied when perennial grasses are well established as indicated by vigorous growth and development of tillers and secondary roots. At this stage, most perennial grasses have shown adequate tolerance to this product. Application prior to the flowering stage is recommended (still in the bud stage).

#### Application Rate

For control of actively growing weeds such as musk thistle, Canada thistle, and knapweed (spotted, diffuse, and Russian), apply 2/3 to 1-1/3 pint per acre of this product after the majority of basal leaves have emerged up to bud stage. For control of wild buckwheat, volunteer sunflower, and musk thistle rosettes, apply 2/3 pint per acre of this product. For best results, use in 10 gallons or more of water per acre by ground. Increasing the rate of application can increase the risk of injury.

#### Tank Mixtures for CRP for Seeding to Permanent Grasses Only

This product can also be tank mixed with 1/2 to 1 lb per acre of 2,4-D where species present are sensitive to 2,4-D. See Tank Mixing Precautions under Mixing Instructions.

### RANGELAND, PERMANENT GRASS PASTURES (INCLUDING BUT NOT LIMITED TO RANCHETTE PASTURES), CRP AND NON-CROP USES (Not registered for use in Florida)

**Rotation to Broadleaf Crops:** Do not plant broadleaf crops in treated areas until an adequately sensitive bioassay shows that no detectable clopyralid is present in the soil. (See Crop Rotation Restrictions in General Information section.)

#### APPLICATION TIMING

**Timing:** Apply to actively growing weeds. Extreme growing conditions such as drought or near freezing temperatures prior to, at, and following application may reduce weed control. **Only weeds that have emerged at the time of application will be affected.** Wet foliage at the time of application may decrease control. The treatment with this product will be rainfall within 2 hours after application.

**Application Rate Ranges:** Generally, lower labeled application rates will be satisfactory for young, succulent growth of susceptible weed species. Higher labeled rates will generally be required for more tolerant species, perennials, weeds in dense stands or in advanced stages of growth, or under conditions of plant stress such as drought or extreme temperatures.

**Spray Coverage:** Use sufficient spray volume to provide thorough and uniform spray coverage of target weeds. Do not broadcast apply in less than 2 gallons of total spray volume per acre. For best results and to minimize spray drift, apply in a spray volume of 10 or more gallons per acre. In general, spray volume must be increased as crop canopy, height and weed density increase in order to obtain equivalent weed control. Use only nozzle types and spray equipment designed for herbicide application. To reduce spray drift, follow precautions under "Avoiding Injury to Non-target Plants" in "Advisory Statements" section of this label.



**Use of Adjuvants:** Addition of surfactants, crop oils, or other adjuvants may increase effectiveness of this product. If an adjuvant is added to the spray solution, follow all manufacturer use guidelines.

**Cut Surface Treatments**

Apply this product in rights-of-way and other non-crop areas to control unwanted trees and vines in the legume family such as mimosa, locust, redbud, or wisteria. This product can either be undiluted or diluted in a 1 to 1 ratio with water, as directed below.

**With Tree Injection Method**

Applications should be made by injecting 1/2 millimeter of undiluted product or 1 millimeter of the diluted solution through the bark at intervals of 3 to 4 inches between centers of the injector wound. The injections should completely surround the tree at any convenient height. Note: No Worker Protection Standard, worker entry restriction or worker notification requirements apply when this product is injected directly into plants.

**With Hack and Squirt Method:**

Make cuts with a hatchet or similar equipment at intervals of 3 to 4 inches between centers at convenient height around the tree trunk. Spray 1/2 milliliter of undiluted product or 1 milliliter of the diluted solution into each cut.

**With Frill or Girdle Method**

Make a single girdle through the bark completely around the tree at a convenient height. Wet the cut surface with undiluted or diluted solution.

**Stump Treatment**

Spray or paint the cut surface of freshly cut stumps with a 50/50 mix of this product and water. The cambium area next to the bark is the most vital area to wet. This should be done as soon as the tree or vine has been cut.

**BROADLEAF WEEDS CONTROLLED**

Acacias	Clover, white	Jimsonweed	Nightshade, cutleaf	Starthistle, yellow
Artichoke, Jerusalem	Cocklebur, common	Knapweed, diffuse	Nightshade, hairy	sunflower (common and wild)
Buckwheat, wild	Coffeeweed	Knapweed, Russian†	Oxeye daisy	Teasel, common
Buffalobur†	Cornflower	Knapweed, spotted	Pineappleweed	Thistle, bull
Burdock, common	(bachelor button)	Kudzu	Ragweed, common	Thistle, Canada
Chamomile, false	Dandelion	Ladysthumb†	Ragweed, giant	(rosette to bud)
(scentless)	Dock, curly	Lettuce, prickly	Salsify, meadow (goatsbeard)	Thistle, musk
Chamomile, mayweed	Groundsel, common	Locoweed, white	Sicklepod	(rosette to bud)
(dogfennel)	Hawksbeard, narrowleaf	Locoweed, lambert	Smartweed, green†	Vetch
Clover, black medic	Hawkweed, orange	Marshelder	Sorrel, red	
Clover, hop	Hawkweed, yellow	Mesquite	Sowthistle, annual	
Clover, red	Horseweed	Nightshade, eastern black	Sowthistle, perennial†	

†These weeds may only be suppressed. Suppression is a visual reduction in weed competition (reduced population or vigor) as compared to untreated areas. The degree and duration of weed control will vary with weed size and density, application rate and coverage, and growing conditions before, during, and after the time of treatment. For perennial weeds such as Russian knapweed, and perennial sowthistle, this product will control the initial top growth and inhibit regrowth during the season of application (season-long control). At higher use rates shown on this label, this product may cause a reduction in shoot regrowth in the season following application; however, plant response may be inconsistent due to inherent variability in shoot regrowth from perennial root systems.

**NON-CROPLAND USE (ALL STATES EXCEPT CALIFORNIA)**

This product may be applied in non-cropland areas such as equipment pathways, industrial manufacturing and storage sites, fencerows, around farm buildings, and rights-of-way such as along roadsides, electrical power lines, communication lines, pipelines and railroads, including grazed areas on these sites, maintenance of wildlife openings, wild parkland and wildlife management areas, and forest spot application adjacent to these sites. Note: This product is not registered for use in landscaping or on residential turfgrass or lawns.

**Broadcast Application (Ground or Aerial)**

For control of broadleaf weeds, apply 1/4 to 1-1/3 pints per acre of this product (equivalent to 0.09 to 0.5 lb acid equivalent per acre). Non-ionic surfactant should be used in spray mixtures at 1 to 2 quarts per 100 gallons of spray mixture. The lower rate of 1/4 pint per acre provides acceptable control of weeds only under highly favorable plant growing conditions and when plants are no larger than 3 to 6 inches tall. Where Canada thistle or knapweed is the primary pest, best results are obtained by applying 2/3 to 1-1/3 pints per acre of this product after basal leaves are produced. This product can be applied in an invert emulsion using oil and an appropriate inverting agent. Follow label directions of the inverting agent. Established grasses are tolerant to this product but new grass seedlings may be injured to varying degrees until the grass has become well established as indicated by vigorous growth and development of tillers and secondary roots.

**Tank Mixtures for Non-Cropland**

To improve spectrum of weed control or to increase control of more mature weeds, this product may be tank mixed with 0.5 to 2.0 lb a.e. per acre of 2,4-D amine or low volatile ester herbicide or other herbicides registered for this use site. See Tank Mixing Precautions under Mixing Instructions. When tank mixing, do not exceed recommended application rates and use only in accordance with the most restrictive precautions and limitations on the respective product labels.

**High-Volume Leaf Stem Treatment (Ground Application)**

For control of broadleaves and certain woody plants (e.g., mesquite), use 1 to 3 quarts of this product per 100 gallons of total spray. Thorough coverage is necessary for good results, therefore, apply as a complete spray-to-wet foliar application, including all leaves, stems, and root collars but not to exceed a total application rate more than 1-1/3 pints per acre of this product. To minimize drift, use low spray pressure and keep sprays no higher than the tree crowns. Trees taller than 8 feet in height may be difficult to treat efficiently and obtain thorough coverage.

Unsatisfactory control may result if application is made when brush and weeds are under severe drought stress or other adverse conditions that inhibit plant growth. Environmental conditions may significantly influence results. For best results on mesquite, apply in the spring or early summer, 40 to 90 days after the first green growth appears and when soil moisture is adequate for active growth. A soil temperature of 75° to 83°F at a depth of 12 to 18 inches is optimal for good plant kills. Soil temperature of less than 75°F at this depth will reduce the ultimate root kill of mesquite.

**Florida Specific:** In Florida, this product can only be used for control of kudzu in forests, utility rights-of-way, roadsides, fence lines, and other non-crop areas in the following counties: Baker, Bay, Bradford, Calhoun, Columbia, Escambia, Franklin, Gadsden, Gulf, Hamilton, Holmes, Jackson, Jefferson, Lafayette, Leon, Liberty, Madison, Okaloosa, Santa Rosa, Suwannee, Taylor, Union, Wakulla, Walton, and Washington. For postemergence control of kudzu in established plantings of tolerant tree species as a broadcast foliar spray over trees, as a banded or direct spray (in a spray volume of 10 gallons or more per acre), or as a spot application. Applications of this product are most effective between late June and early October, as long as the kudzu is actively growing and not under drought stress. The ideal application time is during vigorous growth and just prior to or during flowering. Only kudzu that has emerged at the time of application will be affected. See Application Timing section.



## NON-CROPLAND USE (CALIFORNIA ONLY)

For use on non-cropland areas such as industrial manufacturing and storage sites and rights-of-way such as along roadsides, fencerows, around farm buildings, electrical power lines, communication lines, pipelines and railroads, including grazed areas on these sites and forest spot application adjacent to these sites.

### Weeds Controlled

knapweed, diffuse	knapweed, spotted	thistle, musk (rosette to bud)
knapweed, Russian†	starthistle, yellow	thistle, Canada (rosette to bud)

†These weeds may only be suppressed. Suppression is a visual reduction in weed competition (reduced population or vigor) as compared to untreated areas. The degree of weed control and duration of effect will vary with weed size and density, spray rate and coverage, and growing conditions before, during, and after the time of treatment.

### Tank Mixtures for Non-Cropland

To improve spectrum of weed control or to increase control of more mature weeds, this product may be tank mixed with 0.5 to 2.0 lb a.e. per acre of 2,4-D amine or low volatile ester herbicide or other herbicides registered for this use site. See Tank Mixing Precautions under Mixing Instructions. When tank mixing, do not exceed recommended application rates and use only in accordance with the most restrictive precautions and limitations on the respective product labels.

### Broadcast Application (Ground or Aerial)

For control of broadleaf weeds, apply 1/4 to 2/3 pint per acre of this product (equivalent to 0.09 to 0.25 lb a.e. per acre). Non-ionic surfactant should be used in spray mixtures at 1 to 2 quarts per 100 gallons of spray mixture. The lower rate of 1/4 pint per acre provides acceptable control of weeds only under highly favorable plant growing conditions and when plants are no larger than 3 to 6 inches tall. Where Canada thistle or knapweeds are the primary pest, best results are obtained by applying 2/3 pint per acre of this product after basal leaves are produced. Spray volumes of 20 gallons or more per acre for ground roadside and rights-of-way applications and spray volumes 5 gallons or more per acre or more for aerial applications will ensure adequate coverage. This product can be applied in an invert emulsion using oil and an appropriate inverting agent. Follow label directions of the inverting agent. Established grasses are tolerant but new grass seedlings may be injured to varying degrees until the grass has become well established.

## RANGELAND AND PERMANENT GRASS PASTURES (INCLUDING BUT NOT LIMITED TO RANCHETTE PASTURES)

Use this product to control susceptible broadleaf weeds and woody brush species on rangeland areas or established forage grasses in permanent grass pastures. Best results on most weeds are obtained when weeds are small and actively growing (see specific information below) and application is made in 10 or more gallons per acre of water using ground equipment.

There are no grazing or haying restrictions following this product's applications when used at labeled rates.

### Additional Broadleaf Weeds Controlled

In addition to the list of broadleaf weeds listed above, this product controls acacias, kudzu and mesquite in non-crop areas.

### Application Rates

Apply this product at a rate of 1/3 to 1-1/3 pint per acre (1/8 to 1/2 fl. oz. per 1,000 sq. ft. in 2 gallons of water) when weeds are young and actively growing. This product may be applied as described below for control of spotted and diffuse knapweed, Canada thistle, musk thistle, yellow starthistle and suppression of Russian knapweed. Use the lower labeled application rate for young, actively growing weeds. The higher rate should be used under less favorable growing conditions, or on dense weed stands and/or larger weeds. This product may also be tank mixed with 2,4-D at 1/2 to 1 lb acid equivalent per acre where weed species present are susceptible to 2,4-D.

**Advisory:** In California, the maximum application rate is 2/3 pint per acre (1/4 fl. oz. per 1,000 sq. ft.) per annual use season.

### Control of Woody Species in Arizona, Iowa, New Mexico, Oklahoma and Texas

In addition to the list of broadleaf weeds listed above, this product controls acacias (catclaw and twisted) and mesquite on rangeland and permanent grass pastures. To maximize woody plant control, do not disturb treated plants or remove by mechanical means or by fire for at least 1 year after application. Apply as a coarse low pressure spray using ground equipment or aircraft. Use sufficient spray volume to provide uniform coverage of target vegetation. Oil-water emulsions (use diesel fuel, fuel oil or kerosene) perform more reliably than water or water plus surfactant dilutions. Air applications: add 1 part oil and 5 parts water to the spray mix using an agricultural spray emulsifier (such as Sponto 712 or Triton X-100). Apply in a total spray volume of 4 or more gal/A. Ground applications: add oil as 5 to 10% of the total volume. The maximum rate is 1 gal of oil per acre. Apply in a total spray volume of 10 or more gal/A. In South Texas for mixed brush control, apply a total spray volume of 20 gal/A or more. Use higher spray volumes for higher brush density and height. Do not use more than 1 gal of oil per acre by ground or air application.

**Application to Control Mesquite:** The degree of mesquite control depends on its stage of growth, condition of foliage and other environmental conditions. Best results are obtained from applications to new growth that is dark green, when soil temperatures are above 75°F (12-18 inches below the soil surface) and if sufficient moisture is available for plant growth. Time the application to occur no later than 60 days after soil temperatures reach 75°F (12-18 inches below the soil surface). Adequate control may not be achieved if applications are made under conditions where new growth that has not turned dark green (that is, terminal growth that is still light green) or when foliage has been injured from late frost, hail, insects or disease. Do not treat if mesquite exhibits new (light green) terminal growth in response to recent heavy rainfall during the growing season. Rate of soil warm-up at the 12 to 18-inch depth may vary with soil texture and drainage. Coarse-textured (sandy) soils warm up sooner than fine-textured (clay) soils and dry soils warm up more quickly than wet soils.

The herbicidal symptoms of mesquite treated with Clean Slate are often different from those resulting from application of other herbicides. In some years, complete browning and leaf drop of treated mesquite may be delayed and not occur before the first frost. Other herbicidal symptoms often observed could include discoloration and rupture and/or bleeding of bark on branches and trunks. Reapplication during the same growing season is not recommended. Re-treatment will not be effective until woody plants have developed sufficient new foliage to intercept the spray and provide uptake adequate to control the plant when translocated to the root system. Following mechanical removal, regrowth mesquite should be at least 4 feet tall before application of Clean Slate. Control of rangeland brush or weeds may be unsatisfactory under adverse growing conditions such as severe drought stress.

**Mesquite Control in Stands of Live Oak:** For the control of mesquite growing within stands of live oak, apply Clean Slate alone at 1-1/3 pint/Acre. Apply only as a water dilution containing surfactant (0.25% v/v) at a total spray volume of 4 or more gal/A by air. Live oak oversprayed with Clean Slate may show a 10-20% canopy reduction the year of treatment but will recover. Application of Clean Slate in tank mix combination with other herbicides may result in increased injury to live oak.

**Mesquite Individual Plant Treatment – Leaf Spray Method:** For control of mesquite infestations of low to moderate density, Clean Slate may be applied to individual plants with backpack or hand-held sprayers or a vehicle-mounted sprayer with hand-held spray wand or spray gun. For individual plant treatment, use 2 quarts of Clean Slate in combination with 2 quarts of Tahoe 4E per 100 gal of total spray solution (1/2% v/v of each product), or use Clean Slate alone at 3 quarts per 100 gal of total spray solution. Apply in water or as an oil-water emulsion as described above. If using an oil-water emulsion, add the oil at a rate of 5% of the total spray volume. Apply as a complete spray-to-wet foliar application, including all leaves. Thorough coverage is necessary for good results, but it is not necessary to spray to the point of runoff. The total amount of Clean Slate applied should not exceed 1-1/3 pint/Acre. For best results, follow information in the section "Application to Control Mesquite" above and do not spray when mesquite foliage is wet. This application method works best for brush less than 8 feet tall since efficient treatment and thorough coverage of taller brush is difficult to achieve with this method. To minimize





drift, select a spray nozzle and pressure that will provide good coverage while forming a coarse spray. Additionally, drift may be reduced by using the minimum pressure necessary to obtain plant coverage without forming a mist and by directing sprays no higher than tops of target plants. If desired, a spray dye may be added to the spray mixture to mark the treated plants.

Weed Species	Rate per Acre (1000 sq ft)	Application Timing
Spotted & Diffuse Knapweed	2/3 to 1 pint (1/4 to 3/8 fl. oz.)	Apply any time plants are actively growing, including fall regrowth. Optimum time is from mid bolt to late bud stage of growth.
Russian Knapweed (suppression)	1 to 1-1/3 pint (3/8 to 1/2 fl. oz.)	Apply from bud to mid-flower growth stage or treat fall regrowth.
Canada Thistle	2/3 to 1-1/3 pint (1/4 to 1/2 fl. oz.)	Apply after the majority of basal leaves have emerged through the beginning of the bud stage. Treatment may also be applied to fall regrowth.
Musk Thistle	1/3 to 1 pint <sup>1</sup> (1/8 to 3/8 fl. oz.)	Apply from rosette to early bolt growth stage.
Yellow Starthistle	1/2 to 1 pint (3/16 to 3/8 fl. oz.)	Apply from rosette to mid-bolt growth stage.
Mesquite	1-1/3 pint or 2/3 to 1-1/3 pint plus 1/2 to 1 pint Relegate or 2/3 to 1-1/3 pint plus 2 pints Trooper22K	See directions under <b>Control of Woody Species in Arizona, Iowa, New Mexico, Oklahoma and Texas</b> above for application timing. For control of Pricklypear cactus, tank-mix of Clean Slate plus Trooper 22K will provide improved control.
South Texas: mixed brush including mesquite, pricklypear, blackbrush, twisted acacia, catclaw acacia, granjeno and guajillo	2/3 to 1-1/3 pint plus 2 pints Trooper 22K	See directions under <b>Control of Woody Species in Arizona, Iowa, New Mexico, Oklahoma and Texas</b> above for application timing. For best results, apply as an oil-water emulsion. If the majority of non-legume species are granjeno, oaks and hackberry, a tank-mix of Clean Slate with Relegate will provide improved control.

<sup>1</sup>This product may be applied to musk thistle in the rosette stage at 1/3 pint per acre only when applied in tank mixture with 2,4-D at 1/2 to 1 lb acid equivalent per acre. Otherwise, apply this product to musk thistle at 2/3 to 1 pint per acre.

**Precautions:**

- Some desirable broadleaf plants (forbs) are susceptible to this product. Do not spray pastures containing desirable forbs, especially legumes, unless injury can be tolerated. However, the stand and growth of established perennial grasses is usually improved after treatment, especially if rainfall is adequate for active plant growth and grazing is deferred.
- Established grasses are tolerant to this product, but new grass seedlings may be injured to varying degrees until well established as evidenced by development of secondary roots and tillering (multiple stems).
- Do not use hay or straw from treated areas for composting or mulching on susceptible broadleaf crops See Residues in Plants or Manure section.).
- **Rotation to Broadleaf Crops:** Do not plant broadleaf crops in treated areas until an adequately sensitive bioassay crop such as soybean or other legume shows that no detectable clopyralid is present in the soil.

**CROP USE**

**Agricultural Use Requirements for Crop Uses:** For use of this product in tree plantations, follow PPE and Reentry restrictions in the Agricultural Use Requirements section of this label.

**COTTONWOOD/POPLAR AND EUCALYPTUS TREE PLANTATIONS  
(Not registered for use in Florida)**

This product may be used for selective postemergence control of labeled broadleaf weeds in new and established plantings of cottonwood/poplar and eucalyptus tree plantations. Apply as a broadcast foliar spray over trees or as a banded or directed spray at a rate of 1/3 to 2/3 pints/acre. Apply in 10 or more gallons per acre total spray volume using ground equipment only. Multiple applications may be made as long as the total rate per annual use season does not exceed 1-1/3 pints/acre. Apply to new plantings only after they are well-established as indicated by several inches of new healthy growth.

See Guidelines for Control of Specific Weeds for recommended rates and timing for specific susceptible annual, biennial, and perennial weeds.

**Advisory:** In California, the maximum use rate is 2/3 pint per acre per annual use season.

**Hand-Held Sprayers:** Spot applications using hand held equipment are also allowed, but contact with tree foliage should be avoided or limited to lower branches. Apply to weeds on spray-to-wet basis with spray coverage uniform and complete. Do not spray to point of run-off. Prepare a spray solution by adding 1/4 fl oz of this product per gallon of water. When applied at 1 gallon of spray per 1,000 sq ft, this spray concentration is equivalent to a broadcast rate of 2/3 pt/acre.

**Use Precautions:**

- Do not tank mix this product with other herbicides labeled for this use unless spray avoids all contact with tree foliage.
- This product will not control certain broadleaf weeds, including mustards, henbit, chickweed, kochia, lambsquarters, pigweed, Russian thistle and bindweed.



**CHRISTMAS TREE PLANTATIONS**  
**(Not registered for use in Florida)**

**Application Timing**

This product is recommended for over the top application to actively growing balsam fir, blue spruce, Douglas fir, Fraser fir, grand fir, lodgepole pine, noble fir, ponderosa pine, and white pine. In the Pacific Northwest, do not apply in the first year of transplanting. (Some needle curling has been observed on first year transplants). Apply to actively growing weeds. For control of annual weeds apply this product from weed emergence up to the 5-leaf stage of growth (for wild buckwheat, application at 3 to 5 leaf stage of growth, before vining) is recommended. For control of weeds such as Canada thistle and knapweeds, apply after the majority of the basal leaves have emerged up to bud stage. Later application may result in less consistent control.

**Application Rate**

Apply 1/4 to 1/2 pint per acre of this product for control of annual weeds. Apply 1/2 to 2/3 pint per acre of this product for difficult to control weeds such as Canada thistle and knapweeds. Apply as a broadcast or band application in a minimum of 10 gallons per acre by ground application. Use the formulas under Band Application to determine the appropriate rate and volume per treated acre.

This product may be applied as a spot treatment using a hand-held sprayer at an equivalent broadcast rate of 1/2 to 2/3 pint per acre. Refer to instructions for Spot Treatment and Hand-held Sprayers under Application Directions in the General Information section.

**Specific Use Precautions:**

- Re-treat as necessary, but do not exceed 2/3 pint per acre of this product per annual growing season.
- **Blue spruce:** Do not exceed 1/2 pint per acre per annual growing season.
- Tree injury may occur with the addition of a surfactant or crop oil with this product. Do not use unless previous experience shows injury is tolerable
- Do not apply with an air blast sprayer.

**FOREST SITES, INCLUDING USE IN TREE PLANTINGS**  
**(Not registered for use in Florida)**

This product may be applied for control of certain problem weeds growing in forest sites, including tree plantings. This product should be applied either at the site preparation or after trees are planted (tree release). Applications of this product over-the-top of tolerant tree species may be made anytime during the season, however some needle/leaf curling may occur if applied during active tree growth. This effect is transient and trees should recover by the end of the same growing season or early in the following growing season.

**Examples of tolerant tree species:**

Loblolly pine Lodgepole pine Longleaf pine Ponderosa pine Red pine Scotch pine Slash pine Shortleaf pine Virginia pine White pine Douglas fir	Grand fir Noble fir Pacific silver fir Incense cedar Eastern red cedar Western red cedar Western hemlock Norway spruce White spruce Green ash White ash	Hybrid aspen Choke cherry Cherry Cottonwood Crab apple Hackberry Hickory European larch Sugar maple Bur oak Cherry bark oak	Red oak Sawtooth oak White oak Russian olive Hybrid poplar Sumac Sycamore Black walnut
---	---	---	---

**Broadcast Applications:** Apply the required amount of this product in 5 or more gallons of water per acre to achieve thorough and uniform spray coverage of target weeds using ground equipment or helicopter.

**Broadcast Application Rates, Weeds Controlled and Timing to Weeds**

Generally, lower labeled application rates will be satisfactory for young, succulent growth of susceptible weed species. Higher labeled rates will generally be required for more tolerant species, perennial weeds in dense stands or in advanced stages of growth, or under conditions of plant stress such as drought or extreme temperatures. Only weeds that have emerged at the time of application will be affected. Wet foliage at the time of application may decrease control.

This product will not control mustards, henbit, chickweed, kochia, lambsquarters, pigweed, Russian thistle and bindweed. **Note:** In California, the maximum use rate for this product is 2/3 pt per acre per use season.

Weed Species	This Product (pt/acre)	Specific Use Directions
General weed control	1/4 to 1-1/3 pint	Apply when weeds are small and actively growing. The lower rate of 1/4 pt/acre provides acceptable control of weeds only under highly favorable plant growing conditions and when weeds are no more than 3 to 6 inches tall.
Canada thistle Diffuse knapweed potted knapweed	1/3 to 1-1/3 pint	For best results, apply after the majority of basal leaves have emerged, up to early bud stage. Treatments applied prior to the emergence of the majority of basal leaves or at later growth stages may result in only partial control.
Bull thistle Musk thistle Yellow starthistle Hawkweeds	2/3 to 1-1/3 pint	For best results, apply from rosette to bolting stage of growth.
Kudzu	2/3 to 1-1/3 pint	Applications of this product are most effective between late June and early October, as long as the kudzu is actively growing and not under drought stress. The ideal time to apply this product is during vigorous growth and just prior to or during flowering.

**Spot Application:** Spot applications should be applied at an equivalent broadcast rate. Follow instructions for hand-held sprayers below. Direct spray onto weeds and avoid spraying trees where possible.





**Hand-Held Sprayers:** Hand-held sprayers may be used for spot applications of this product if care is taken to apply the spray uniformly and at a rate equivalent to a broadcast application. Application rates in the table are based on an area of 1,000 sq ft. Mix the amount of this product (fl oz or mL) corresponding to the desired broadcast rate in one or more gallons of spray. To calculate the amount of this product required for larger areas, multiply the table value (fl oz or mL) by the area to be treated in “thousands” of square feet, e.g., if the area to be treated is 3,500 sq ft, multiply the table value by 3.5 (calculation, 3,500 ÷ 1,000 = 3.5). An area of 1,000 sq ft is approximately 10.5 x 10.5 yards (strides) in size.

Amount of this product to Treat an Area of 1,000 sq ft (Mix in one or more gallons of spray)		
2/3 pt/acre	1 pt/acre	1-1/3 pt/acre
1/4 fl oz (7.3 mL)	3/8 fl oz (11 mL)	1/2 fl oz (15 mL)

1 fl oz = 29.6 (30) mL

**Tank-Mixing:** This product may be applied in tank mix combination with Tahoe 4E, Tahoe 3A, 2,4-D, atrazine, Spyder or Velpar DF herbicides as per label directions for forest site uses. Carefully follow applicable directions for use, precautions and limitations on the product labels of each tank mix product used, because products other than this product may cause injury when this product could be used alone without injury.

**Precautions and Restrictions:**

- Applications of this product over actively growing conifers may cause some needle curling. Tree injury in the form of needle curling may be increased by the addition of a surfactant or crop oil with broadcast applications of this product. Do not use a surfactant or crop oil unless previous experience shows such injury can be tolerated.
- Application of this product to broadleaf (hardwood) tree species may cause some leaf burning and malformation. This injury is transient in nature, except plants, in the legume family (see below). Addition of surfactant or crop oil may increase the severity of this injury.
- True firs (grand, noble, and pacific silver firs) show more needle curling than other conifers when higher rates are used. Use lower rates in rate range for broadcast applications or use directed sprays where possible if needle curling is undesirable.
- Application of this product to plants in the legume family (such as locust, redbud, mimosa and lupine) or to box elder, persimmon or sassafras will cause severe damage or destruction of such plants.
- Do not use in forest nursery beds.

**CONTROL OF SICKLEPOD AND OTHER SUSCEPTIBLE BROADLEAF WEEDS IN SOUTHERN PINE SEEDBEDS IN FOREST NURSERIES**

**For Distribution and Use Only in the States of Alabama, Arkansas, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas and Virginia**

This product may be applied over-the-top of loblolly pine, slash pine, and longleaf pine to control sicklepod and other susceptible broadleaf weeds in southern pine seedbeds in forest nurseries. Apply as a broadcast or spot treatment from May through July when weeds are actively growing. Refer to the product label for this product for a complete listing of weeds controlled.

**Application Timing**

**General broadleaf weed control:** For best results, apply when weeds are small and actively growing.

**Sicklepod:** For best results, apply after the majority of basal leaves have emerged.

**Application Rate**

Apply at a broadcast rate of 1/4 to 1/2 pt per acre in a spray volume of 20 or more gallons per acre. Application may be made any time after May 1, but some needle curling may occur if applied during active conifer growth. When making spot applications, use a calibrated boom, or if a hand-held sprayer is used, care should be taken to apply the spray uniformly and at a rate equivalent to a broadcast application (See guidelines in the label for this product for use of hand-held sprayers). Otherwise, do not use more than 1/5 fl oz (1 tsp.) of this product per gallon of spray and direct spray onto weeds and avoid spraying pine seedlings whenever possible.

**Precautions:**

- Application of this product during active growth of conifers may cause some needle curling.
- Do not use surfactants or crop oils in spray mixtures as the potential for tree injury in the form of needle curling may be increased.

**CONTROL OF KUDZU IN FORESTS, UTILITY RIGHTS-OF-WAY, ROADSIDES, AND OTHER NON-CROP AREAS**

Pints of this product per Acre Equivalent to Rates in fl oz or mL per 1,000 sq ft		
2/3 pt/acre	1 pt/acre	1-1/3 pt/acre
1/4 fl oz (7.3 mL)	3/8 fl oz (11 mL)	1/2 fl oz (15 mL)

**Application Timing**

For control of kudzu, apply this product between late June and early October, as long as the kudzu is actively growing and not under drought stress. The ideal time to apply this product is during vigorous growth and just prior to or during flowering. For best results on control of all other labeled weed species, apply this product when weeds are small and actively growing. Extreme growing conditions such as drought or near freezing temperatures prior to, at, and following time of application may reduce weed control. Only weeds that have emerged at the time of application will be affected. Wet foliage at the time of application may decrease control.

The treatment with this product will be rainfast within 2 hours after application.

**Broadcast Application (Ground or Aerial)**

Apply at a rate of 2/3 to 1-1/3 pt/acre of this product. Sequential applications may be made as long as the total rate per annual use season does not exceed 1-1/3 pt/acre. The lower rate of 2/3 pint per acre provides acceptable control of weeds only under highly favorable plant growing conditions and when plants are no larger than 3 to 6 inches tall. Spray volumes of 20 gallons or more per acre for ground, roadside and rights-of-way applications and spray volumes of 5 gallons or more per acre or more for aerial applications will ensure adequate coverage. This product can be applied in an invert emulsion using oil and an appropriate inverting agent. Follow label directions of the inverting agent.





### Spot Applications to Control Labeled Weed Species

Hand held sprayers may be used for spot applications of this product if care is taken to apply the spray uniformly and at a rate equivalent to a broadcast application. When applied as a spot treatment, apply to weeds on a spray-to-wet basis (not to runoff). Contact with foliage of cottonwood/poplar trees should be avoided or limited to lower branches. Application rates in the above table are based on an area of 1,000 sq ft. Mix the amount of this product (fl oz mL) corresponding to the desired rate in one or more gallons of spray. To calculate the amount of this product required for larger areas, multiply the table value (fl oz or mL) by the area to be treated in "thousands" of square feet. For example, if the area to be treated is 3,500 sq ft, multiply the table value by 3.5 (calculation:  $3,500 \div 1,000 = 3.5$ ).

### Use Precautions and Restrictions:

- Applications of this product over actively growing conifers may cause some needle curling. Tree injury in the form of needle curling may be increased by the addition of a surfactant or crop oil with broadcast applications of this product. Do not use a surfactant or crop oil unless previous experience shows such injury can be tolerated.
- Application of this product to broadleaf (hardwood) tree species may cause some leaf burning and malformation. This injury is transient in nature, except plants in the legume family (see below). Addition of surfactant or crop oil may increase the severity of this injury.
- True firs (grand, noble and Pacific silver firs) show more needle curling than other conifers when higher rates are used. Use lower rates in rate range for broadcast applications or use directed sprays where possible if needle curling is undesirable.
- Application of this product to plants in the legume family (such as locust, mimosa, redbud and lupine) or to box elder, persimmon or sassafras will cause severe damage or destruction of such plants.
- Do not use in forest nursery beds.

## TURF AND ORNAMENTALS

This product is recommended for selective, postemergence control of broadleaf weeds in non-residential turf, including turf grown for seed or sod farms, and certain woody ornamental plantings, such as conifers, non-leguminous woody species, and ornamental grasses in landscapes and nurseries.

### USE PRECAUTIONS AND RESTRICTIONS

- In California, Florida and New York, the maximum use rate is 2/3 pint per acre per growing season. The sale and use of this product in Suffolk and Nassau counties in the state of New York is prohibited.
- In California and Washington, turfgrass and lawn uses are restricted to golf courses only.
- In Oregon, use of this product is limited to golf courses, nurseries, and grass grown for seed or sod farms.
- Do not use on residential turf. Turfgrass and lawn uses are restricted to non-residential sites.
- Do not contaminate irrigation ditches or water use for irrigation or domestic purposes.
- Do not collect runoff water from treated areas for use as irrigation water.
- Do not apply by aircraft.
- Do not use in greenhouses.
- Do not make broadcast applications to ornamental plantings in commercial and residential landscape settings; however, spot and directed applications are permissible.
- To avoid plant injury, do not apply to exposed roots of shallow rooted trees and shrubs such as legumes (pod bearing plants such as acacia, locust, mimosa, redbud, or mesquite) or littleleaf linden (*Tilia cordata* and other *Tilia* species).
- Do not allow sprays of this product to contact exposed suckers and/or roots of susceptible trees or shrubs or injury may occur.
- Do not reseed turf for 3 weeks after application.
- This product is not recommended for use on golf course putting greens or tees.
- Do not apply this product in tank mix to woody ornamental plants.
- Do not send grass clippings to a compost facility.
- Applicator must give notice to landowners/property managers to not use grass clippings for composting.
- **Chemigation:** Do not apply this product through any type of irrigation system.

### Crop Rotation Restrictions:

Residues of this product in treated plant tissues which have not completely decayed may affect succeeding susceptible crops. Do not rotate to susceptible broadleaf plantings for 10.5 months after application of this product or 18 months if soil contains less than 2% organic matter. A field bioassay is recommended prior to planting certain plant species that may be highly sensitive to clopyralid, such as members of the legume family. These recommendations are based on average annual precipitation, regardless of irrigation practices. Use of this product in accordance with these rotational recommendations, if followed, is not expected to result in crop injury. However, because this product is dissipated in the soil by microbial activity and the rate of microbial activity is dependent on soil moisture, temperature, and organic matter, accurate prediction of potential rotational crop injury is impossible. In areas of low organic matter (<2.0%) and less than 15 inches average annual precipitation, potential for crop injury may be reduced by removal of plant residues, supplemental fall irrigation and deep tillage prior to planting a sensitive crop.

**Field Bioassay Instructions:** Using typical tillage practices, and established practices for a particular crop, make limited plantings of the potentially sensitive plant variety across the area previously treated with this product. Plants should also be located so that different field conditions are encountered, including differences in soil texture, pH, and drainage. If the intended crop does not show visible symptoms of injury within 90 to 120 days, the sensitive crop in question can be established in the treated area in the growing season following the bioassay. If visible injury occurs, the intended sensitive crop should not be planted and the bioassay repeated the following growing season.

**Treatment of Plant Species not Listed on the Label (Nursery and Turfgrass Use Only):** Users who wish to use this product on ornamental plant and Turfgrass species not recommended on this label may determine the suitability for use by treating a small area of turf or small number of ornamental plants at a recommended rate. Prior to treatment of larger areas, treated plants should be observed for any symptoms of herbicidal injury, such as foliar damage, reduced vigor or stand reduction, during 30 to 60 days of normal growing conditions to determine if the treatment is non-injurious. The user assumes responsibility for any plant damage or other liability resulting from the use of this product on ornamental plant species not recommended on this label.

This product can affect susceptible broadleaf plants directly through foliar contact and indirectly by root uptake from soil in treated areas. Do not apply this product direct to, or allow spray drift to come in contact with, vegetables, flowers, grapes, tomatoes, potatoes, beans, lentils, peas, alfalfa, sunflowers, soybeans, safflower, or other susceptible broadleaf crops or ornamental plants or soil where sensitive crops will be planted the same season.

Avoid spray drift since very small quantities of the spray, which may not be visible, may severely injure susceptible crops during active growth or dormant periods. Use coarse sprays to minimize drift. To aid in further reducing drift, a drift control or deposition agent suitable for agricultural use may be used with this product. If used, follow all use recommendations and precautions on the product label.





To minimize spray drift, apply this product in a total spray volume of 20 or more gallons per acre keeping the operating spray pressures at the manufacturer's minimum recommended pressures for specified nozzle type used (low pressure nozzles are available from spray equipment manufacturers), and spraying when the wind velocity is low (follow state regulations). Avoid application under completely calm conditions which may be conducive to air inversion. In hand-gun applications, select the minimum pressure required to obtain adequate plant coverage without forming a mist. Do not apply with a mist blower.

**Sprayer Clean-Out and Mixing Instructions**

**Tank Mixing (Turf Only)**

This product may be applied in tank mix combination with labeled rates of other products provide (1) the tank mix product is labeled for the timing and method of application for the use site to be treated; and (2) tank mixing is not prohibited by the label of the tank mix product.

**Tank Mixing Precautions**

- Read carefully and follow all applicable use directions, precautions, and limitations on the respective product labels.
- Do not exceed recommended application rates. If products containing the same active ingredient are tank mixed, do not exceed the maximum allowable active ingredient use rates.
- For products packaged in water soluble packaging, do not tank mix with products containing boron or mix in equipment previously used to apply a product mixture containing boron unless the tank and spray equipment has been adequately cleaned (See Instructions for Sprayer Clean-Out).
- Always perform a (jar) test to ensure the compatibility of products to be used in tank mixture.

**Tank Mix Compatibility Testing:** A jar test is recommended prior to tank mixing to ensure compatibility of this product and other pesticides. Use a clear glass quart jar with lid and mix the tank mix ingredients in the required order and their relative proportions. Invert the jar containing the mixture several times and observe the mixture for approximately 1/2 hour. If the mixture balls-up, forms flakes, sludges, gels, oily films or layers, or other precipitates, it is not compatible and the tank mix combination should not be used.

**APPLICATION DIRECTIONS**

**Application Timing**

Apply to actively growing weeds. Extreme growing conditions such as drought or near freezing temperatures prior to, at, or following application may reduce weed control and increase the risk of crop injury at all stages of growth. Only weeds that have emerged at the time of application will be affected. Wet foliage at the time of application may decrease control. Applications of this product are rainfast within 2 hours of application.

**Use of Adjuvants**

Addition of surfactants, crop oils, or other adjuvants is not usually necessary when using this product. Adding a surfactant to the spray mixture may increase effectiveness on weeds but may reduce selectivity to the crop, particularly under conditions of plant stress. If an adjuvant is added to the spray solution, follow all manufacturer use guidelines.

**Spray Coverage**

Use sufficient spray volume to provide thorough coverage and a uniform spray pattern. For best results and to minimize spray drift, apply in a spray volume of 20 gallons or more per acre. As vegetative canopy and weed density increase, spray volume should be increased to obtain equivalent weed control. Use only nozzle types and spray equipment designed for herbicide application. To reduce spray drift, follow precautions under Avoiding Injury to Non-Target Plants.

**Spot Treatments**

To prevent misapplication, spot treatments should be applied with a calibrated boom or with hand sprayers using a fixed spray volume per 1000 sq. ft. as indicated below.

**Hand-Held Backpack Sprayer Application**

Hand-held sprayers may be used for treatment of smaller areas if care is taken to apply the spray uniformly and at a rate equivalent to a broadcast application. Application rates in the table are based on an area of 1000 sq. ft. Mix the amount of this product (fl. oz. or ml) corresponding to the desired broadcast rate in the spray volume needed to treat 1000 sq. ft. To calculate the amount required for larger areas, multiply the table value (fl. oz. or ml) by the area to be treated in "thousands" of square feet, e.g., if the area to be treated is 3500 sq. ft, multiply the table value by 3.5 (cal. 3500 ÷ 1000 = 3.5). An area of 1000 sq. ft. is approximately 10.5 x 10.5 yards (strides) in size.

Amount of Clean Slate per 1000 sq. ft. to Equal Specified Broadcast Rate					
1/4 pt/acre	1/3 pt/acre	1/2 pt/acre	2/3 pt/acre	1 pt/acre	1 1/3 pt/acre
1/10 fl oz <sup>1</sup> (2.7 ml)	1/8 fl oz (3.6 ml)	1/5 fl oz (5.4 ml)	1/4 fl oz (7.3 ml)	3/8 fl oz (11 ml)	1/2 fl oz (15 ml)

<sup>1</sup> 1 fl oz = 29.6 (30 ) ml

**WEEDS CONTROLLED AND USE RATE RECOMMENDATIONS**

For best results, apply this product when weeds are small and actively growing. For control of weeds such as Canada thistle and knapweeds, apply after the majority of the basal leaves have emerged, but before bud stage. Later application may result in less consistent control.

Note: Use higher rates when hard to control species are prevalent or when applications are made in late summer or on mature weeds or during periods of drought stress.

In California, Florida and New York, the maximum use rate is 2/3 pint/acre per growing season.

Weeds Controlled		Suggested Application Rate	
		(pt/acre)	(fl oz/1000 sq ft)‡
black medic dock (curly, broadleaf) galinsoga goldenrod	mayweed, stinking nightshade (Eastern, black, cutleaf, hairy) pineappleweed	1/4 - 1/3	1/10 – 1/8 (2.7 – 3.6 ml)
burnweed, American burnweed, lawn clover (red, hop, white, sweet)	dogfennel	1/3 – 1/2	1/8 – 1/5 (3.6 – 5.4 ml)

(continued)



Weeds Controlled		Suggested Application Rate	
		(pt/acre)	(fl oz/1000 sq ft)‡
artichoke, Jerusalem aster, seaside burdock, common chamomile, false (mayweed) cocklebur, common coffeedweed cornflower daisy, oxeye hawksbeard, narrowleaf hawkweed, orange hawkweed, yellow inula sp. jimsonweed lettuce, prickly	locoweed, white locoweed, lambert marshelder salsify, meadow sicklepod sorrel, red sowthistle, annual speedwell starthistle, yellow sunflower teasel, common thistle, bull thistle, musk vetch, common	1/2	1/5 (5.4 ml)
carrot, wild cudweed dandelion, common groundsel, common horseweed knapweed, spotted knapweed, diffuse	knotweed, prostrate pimpernel, scarlet plantain, narrowleaf spurry, corn ragwort, tansy thistle, Canada ‡‡	2/3	1/4 (7.3 ml)
Ragweed (common, giant) Smartweed Buckwheat, wild		1	3/8 (11 ml)
<b>Weeds Suppressed</b> <b>(Repeat treatment may be necessary):</b> buffalo bur buttercup, hairy buttonweed, Virginia dollarweed knapweed, Russian	kudzu ladythumb mesquite plantain, broadleaf sowthistle, perennial	1 1/3	1/2 (15 ml)

‡ For treatment of small areas, see instructions for spot treatment and use of hand-held or backpack sprayers, above

‡‡ See specific use directions for control of Canada thistle under Ornamentals

1 fl oz = 29.6 (30 ) ml = 2 tablespoons = 6 teaspoons

USES

Turfgrasses (Including Turf Grown for Seed or Sod)

Apply this product in enough water to deliver 20 gallons or more of total spray mix per acre. Higher application volumes may be used when tank mixed with fertilizers. Spot applications may be applied at equivalent broadcast rates using hand-held application equipment (see Instructions in Application Information section). See Weeds Controlled and Use Rate Recommendations in General Information section.

This product is recommended for use on the following turf species:

ESTABLISHED COOL SEASON TURFGRASSES

Common Name	Scientific Name
bentgrass (including bentgrass fairways)	<i>Agrostis species</i>
bluegrass, Kentucky	<i>Poa pratensis</i>
fescue, chewing	<i>Festuca rubra</i> var. <i>commutata</i>
fescue, creeping red	<i>Festuca rubra</i>
fescue, sheeps	<i>Festuca ovina</i>
fescue, tall	<i>Festuca arundinaceae</i>
ryegrass, perennial	<i>Lolium perenne</i>

ESTABLISHED WARM SEASON TURFGRASSES

Common Name	Scientific Name
bahiagrass	<i>Paspalum notatum</i> var. <i>saurae parody</i>
bermudagrass (including bermudagrass fairways)	<i>Cynodon spp</i>
buffalograss	<i>Buchloe dactyloides</i>
centipededgrass	<i>Eremochloa ophiuroides</i>
kikuyugrass	<i>Pennisetum clandestinum</i>
seashore paspalum	<i>Paspalum vaginatum</i>
zoysiagrass	<i>Zoysia japonica</i>



ESTABLISHED WARM SEASON TURFGRASSES (continued)

Common Name	Scientific Name
zoysiagrass	<i>Zoysia tenuifolia</i>
St. Augustinegrass	<i>Stenotaphrum secundatum</i>
fescue, tall (growing in warm season areas)	<i>Festuca arundinaceae</i>

**Note:** This product may discolor and/or stunt turf that is not well established or is stressed or weakened due to unfavorable climatic conditions, temperature extremes, drought, nematodes, or other factors that damage or weaken turf. To avoid unacceptable turf injury, apply this product only to healthy, well-established turf that has a well-anchored root system.

**Specific Use Restrictions**

- **Do not** use on residential turf. Turfgrass and lawn uses are restricted to non-residential sites.
- **Do not** send grass clippings to a compost facility.
- **Do not** collect grass clippings for mulch or compost.
- Applicator must give notice to landowners/property managers to not use grass clippings for composting.
- In the states of **California, Oregon** and **Washington**, Turfgrass and lawn uses are restricted to golf courses only.

**Ornamentals (Landscape and Nurseries)**

This product may be used for selective postemergence control of labeled broadleaf weeds in new and established plantings of selected ornamentals. See Weeds Controlled and Use Rate Recommendations in General Information section.

**Specific Use Precautions**

- In **Oregon**, use is not permitted in landscapes except for golf courses.
- Due to the wide variety of plants found in commercial and residential landscape settings and to avoid injury to non-target species, use only spot and directed sprays on labeled ornamental species in landscape settings.
- Do not apply this product to legumes (pod bearing plants such as acacia, locust, mimosa, redbud or mesquite) or little leaf linden (*Tilia cordata* and other *Tilia* species). This product is also highly active on composites such as perennial daisies and sunflowers, and solanaceae (nightshade) species such as potato vine and Jerusalem cherry. Do not allow spray or spray drift to come in contact with desirable plants belonging to these families or severe plant injury or death may occur.
- **Do not** tank mix this product with other herbicides labeled for use in ornamentals.
- **Do not** apply to container grown ornamentals.
- For treatment of nursery ornamentals not found in this section refer to Precautions and Restrictions.

**Broadcast Application – Nursery**

Apply as an over-the-top broadcast foliar spray or as a directed spray. Apply in 20 gallons or more per acre total spray volume using ground equipment only. Multiple applications may be made as long as the total rate per growing season does not exceed 1 1/3 pint per acre. In California, Florida, and New York the maximum use rate is 2/3 pint per acre per growing season. Apply to new plantings only after they are well established. See Weeds Controlled and Use Rate Recommendations in General Information section.

**Spot Treatment – Landscape and Nursery**

Spot treatments using hand-held equipment are allowed, but avoid contact with tree foliage or limit contact to lower branches. Apply to weeds on a spray-to-wet basis with a uniform and complete spray coverage. See additional instructions for spot applications using hand-held application equipment in Application Directions section.

**Control of Canada Thistle in Landscapes and Nurseries:** For effective control of Canada thistle, apply this product at the rate of 2/3 pint per acre when the majority of thistle plants have emerged and are from 6 to 8 inches in height or diameter to bud stage. In landscape settings, apply only as a directed spot application as described above to avoid injuring non-target plants. In nurseries, a spot treatment or broadcast application may be made as described above.

**Cultivation:** For best results, do not cultivate areas before or after application since cultivation can disrupt translocation of the herbicide to the roots of Canada thistle and reduce control. If cultivation is necessary following application, it should be delayed 14 to 20 days.

This product may be used in established plantings of the following ornamental trees, shrubs, and ornamental grasses:

**TREES**

Common Name	Scientific Name	Recommended Method of Application ‡
dogwood, flowering	<i>Cornus florida</i>	D
fir, balsam	<i>Abies balsamea</i>	O,D
fir, douglas	<i>Pseudotsuga menziesii</i>	O,D
fir, fraser	<i>Abies fraseri</i>	O,D
fir, grand	<i>Abies grandis</i>	O,D
fir, noble	<i>Abies procera</i>	O,D
maple, red	<i>Acer rubrum</i>	D
oak, red	<i>Quercus rubra</i>	D
oak, willow	<i>Quercus phellos</i>	D
pine, lodgepole	<i>Pinus contorta</i>	O,D
pine, ponderosa	<i>Pinus ponderosa</i>	O,D
pine, Scotch	<i>Pinus strobes</i>	O,D
pine, white	<i>Pinus sp.</i>	O,D
spruce, Norway	<i>Picea abies</i>	O,D
spruce, white	<i>Picea glauca</i>	O,D
spruce, Colorado (blue)	<i>Picea pungens</i>	O,D
sycamore, American	<i>Plantanus occidentalis</i>	D

‡ O=Overtop spray; D=Directed spray







**SHRUBS**

Common Name	Scientific Name	Recommended Method of Application ‡
arborvitae, American	<i>Thuja occidentalis</i>	O,D
arborvitae, nigra-dark American	<i>Thuja occidentalis</i>	O,D
azalea, hino-crimson	<i>Rhododendron obtusum</i>	O,D
boxwood, littleleaf	<i>Buxus microphylla</i>	O,D
cinquefoil	<i>Potentilla fruticosa</i>	D
juniper, shore	<i>Juniperus conferta</i>	O,D
juniper, blue rug	<i>Juniperus horizontalis</i>	O,D
juniper, blue star	<i>Juniperus squamata</i>	O,D
juniper, mugo-mugo	<i>Pinus mugo</i>	O,D
rhododendron, rosum elegans	<i>Rhododendron catawbiense</i> "roseumelegans"	O,D
spiraee, Anthony Waterer	<i>Spiraea bumalda</i>	D
yew	<i>Taxus meida</i>	O,D

‡ O=Overtop spray; D=Directed spray

**ORNAMENTAL GRASSES**

Common Name	Scientific Name	Recommended Method of Application ‡
adagio miscanthus	<i>Miscanthus sinensis</i> var. 'Adagio'	O,D
autumn moor	<i>Stipa tenuissima</i> var. 'Ponytails'	O,D
autumn red flame	<i>Miscanthus sinensis</i> var. 'Purpurascens'	O,D
blaze little bluestem	<i>Schizachyrium scoparium</i> var. 'Blaze'	O,D
blue grama	<i>Bouteloua gracilis</i>	O,D
blue lyme	<i>Leymus arenarius</i>	O,D
blue moor	<i>Sesleria caerulea</i>	O,D
bottle-brush	<i>Hystrix patula</i>	O,D
common quaking	<i>Briza media</i>	O,D
dwarf's garters ribbon	<i>Phalaris arundinaceae</i> var. 'Woods dwarf'	O,D
feathertop	<i>Pennisetum vilosum</i>	O,D
fountain grass	<i>Pennisetum alopecuroides</i>	O,D
gardener's garters	<i>Phalaris arundinaceae</i> var. 'Picta'	O,D
hamein fountain grass	<i>Pennisetum alopecuroides</i> var. 'Hameln'	O,D
Japanese blood grass	<i>Imerata cylindrical</i> var. 'red baron'	O,D
Karl Foerster feather reed	<i>Calamagrostis acutiflora</i> var. 'Foerster'	O,D
Korean feather reed	<i>Calamagrostis brachytricha</i>	O,D
maiden	<i>Miscanthus sinensis</i> var. 'Gracillimus'	O,D
moudry fountain	<i>Pennisetum alopecuroides</i> var. 'Moudry'	O,D
northern sea oats	<i>Chasmanthium latifolium</i>	O,D
pampas	<i>Cortaderia selloana</i>	O,D
pink crystals ruby	<i>Rhynchelytrium nerviglume</i> var. 'Pink'	O,D
ponytails feather Mexican	<i>Stipa tenuissima</i> var. 'Ponytails'	O,D
purple fountain	<i>Pennisetum setaceum</i> var. 'Rhubrum'	O,D
ravenna	<i>Saccharum ravennae</i>	O,D
rosea pampas	<i>Cortaderia selloana</i> var. 'Rosea'	O,D
sarabande miscanthus	<i>Miscanthus sinesniss</i> var. 'Sarabande'	O,D
strawberries & cream ribbon	<i>Phalaris arundinaceae</i> var. 'Feeseey'	O,D
striped tuber oat	<i>Arrhenatherum elatius</i> var. 'Variegatum'	O,D
trailblazer switch	<i>Panicum virgatum</i> var. 'Trailblazer'	O,D
trailway side-oats	<i>Bouteloua curtipendula</i> var. 'Trailway'	O,D
tufted hair	<i>Deschampsia cespitosa</i>	O,D
variegated miscanthus	<i>Miscanthus sinensus</i> var. 'Variegatus'	O,D
white flowering fountain	<i>Pennisetum alopecuroides</i> var. 'Caudatum'	O,D
zebra	<i>Miscanthus sinesniss</i> var. 'Zebrinus'	O,D

‡ O=Overtop spray; D=Directed spray





### Field Grown Lilies

This product may be applied as a broadcast foliar spray from early spring to fall. Refer to Weeds Controlled Use Rate Recommendation section for information on application timing, rates and weeds controlled. Only established weeds will be controlled. For spring planted bulbs, delay application until soil covering the newly planted bulbs has been settled by irrigation or rainfall.

### Dichondra Turf and Dichondra Grown for Seed

Apply as a broadcast foliar spray. Apply in 20 gallons or more per acre total spray volume on Dichondra Lawns and in 20 gallons or more per acre on Dichondra Grown for Seed using ground equipment only. See Weeds Controlled and Use Rate Recommendations in General Information section. Multiple applications may be made as long as the total rate per growing season does not exceed 2/3 pint per acre. Apply to new plantings only after they are well established.

## STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE:** Store above 28°F or warm to 40°F and agitate before use.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

### CONTAINER DISPOSAL:

**Nonrefillable Containers 5 Gallons or Less:** Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. **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. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration, or, if allowed by State and local authorities, by burning. If burned stay out of smoke.

## WARRANTY DISCLAIMER

The directions for use of this product must be followed carefully. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, (1) THE GOODS DELIVERED TO YOU ARE FURNISHED "AS IS" BY MANUFACTURER OR SELLER AND (2) MANUFACTURER AND SELLER MAKE NO WARRANTIES, GUARANTEES, OR REPRESENTATIONS OF ANY KIND TO BUYER OR USER, EITHER EXPRESS OR IMPLIED, OR BY USAGE OF TRADE, STATUTORY OR OTHERWISE, WITH REGARD TO THE PRODUCT SOLD, INCLUDING, BUT NOT LIMITED TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, USE, OR ELIGIBILITY OF THE PRODUCT FOR ANY PARTICULAR TRADE USAGE. UNINTENDED CONSEQUENCES, INCLUDING BUT NOT LIMITED TO INEFFECTIVENESS, MAY RESULT BECAUSE OF SUCH FACTORS AS THE PRESENCE OR ABSENCE OF OTHER MATERIALS USED IN COMBINATION WITH THE GOODS, OR THE MANNER OF USE OR APPLICATION, INCLUDING WEATHER, ALL OF WHICH ARE BEYOND THE CONTROL OF MANUFACTURER OR SELLER AND ASSUMED BY BUYER OR USER. THIS WRITING CONTAINS ALL OF THE REPRESENTATIONS AND AGREEMENTS BETWEEN BUYER, MANUFACTURER AND SELLER, AND NO PERSON OR AGENT OF MANUFACTURER OR SELLER HAS ANY AUTHORITY TO MAKE ANY REPRESENTATION OR WARRANTY OR AGREEMENT RELATING IN ANY WAY TO THESE GOODS.

## LIMITATION OF LIABILITY

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, IN NO EVENT SHALL MANUFACTURER OR SELLER BE LIABLE FOR SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, OR FOR DAMAGES IN THEIR NATURE OF PENALTIES RELATING TO THE GOODS SOLD, INCLUDING USE, APPLICATION, HANDLING, AND DISPOSAL. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, MANUFACTURER OR SELLER SHALL NOT BE LIABLE TO BUYER OR USER BY WAY OF INDEMNIFICATION TO BUYER OR TO CUSTOMERS OF BUYER, IF ANY, OR FOR ANY DAMAGES OR SUMS OF MONEY, CLAIMS OR DEMANDS WHATSOEVER, RESULTING FROM OR BY REASON OF, OR ARISING OUT OF THE MISUSE, OR FAILURE TO FOLLOW LABEL WARNINGS OR INSTRUCTIONS FOR USE, OF THE GOODS SOLD BY MANUFACTURER OR SELLER TO BUYER. ALL SUCH RISKS SHALL BE ASSUMED BY THE BUYER, USER, OR ITS CUSTOMERS. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BUYER'S OR USER'S EXCLUSIVE REMEDY, AND MANUFACTURER'S OR SELLER'S TOTAL LIABILITY SHALL BE FOR DAMAGES NOT EXCEEDING THE COST OF THE PRODUCT.

**If you do not agree with or do not accept any of directions for use, the warranty disclaimers, or limitations on liability, do not use the product, and return it unopened to the Seller, and the purchase price will be refunded.**

(RV031811)

Clean Slate, Relegate, Spyder, Tahoe and Trooper are registered trademarks of Nufarm Americas, Inc.

