

51036-377

2/12/2003

1/24



U.S. ENVIRONMENTAL PROTECTION AGENCY  
Office of Pesticide Programs  
Registration Division (7505C)  
401 "M" St., S.W.  
Washington, D.C. 20460

EPA Reg. Number:

51036-377

Date of Issuance:

FEB 12 2003

Term of Issuance:

Conditional

Name of Pesticide Product:

Triclopyr Ester 4A  
Rangeland

NOTICE OF PESTICIDE:  
 Registration  
 Reregistration

(under FIFRA, as amended)

Name and Address of Registrant (include ZIP Code):

Mr. Morris Gaskins  
Manager of Registrations  
Micro Flo Co. LLC  
P.O. Box 772099  
Memphis, TN 38117

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered under the Federal Insecticide, Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is conditionally registered in accordance with FIFRA sec. 3(c)(7)(A) provided that you:

1. Submit and/or cite all data required for registration of your product under FIFRA sec. 3(c)(5) when the Agency requires all registrants of similar products to submit such data; and submit acceptable responses required for reregistration of your product.
2. Add the phrase "EPA Registration No. 51036-377".
3. Environmental Hazards, replace "Do not ...washwaters with:  
  
Do not contaminate water when cleaning equipment or disposing of equipment washwaters.
4. On page 10, include an asterisk to beside the following plants to correspond to footnote.  
  
cherry, maple, milkweed, pepper vine, saltbush, trumpet creeper, and virginia creeper
5. On page 5, under the heading "Swath Adjustment", replace windward with "downward".

Signature of Approving Official:

Date:

2-12-03

6. On page 6, remove "Forestry Restriction".
7. On page 18, under the heading "Aerial Spray Drift Management", remove the following sentence.

The following drift management...agricultural rice patties.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

Submit three (3) copies of your final printed labeling before you release the product for shipment.

Enclosed for your records is a copy of your label stamped "Accepted with Comments".

3/24

**TRICLOPYR ESTER 4A RANGELAND**  
Specialty Herbicide

For the control of woody plants and broadleaf weeds on rangeland, permanent grass pastures, and conservation reserve program (CRP) acres (including fence rows and non-irrigation ditch banks within these areas)

**ACTIVE INGREDIENT:**

Triclopyr BEE: (3,5,6-trichloro-2-pyridinyl) oxyacetic acid, butoxyethyl ester 61.6%

**INERT INGREDIENTS:** 38.4%  
**TOTAL:** 100.0%

Acid Equivalent: triclopyr - 44.3% - 4 lb/gal  
Contains petroleum distillates

**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.)

**FIRST AID**

**IF INHALED:**

- Move person to fresh air.
- If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.
- Call a poison control center or doctor for further treatment advice.

**IF ON SKIN OR CLOTHING:**

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

**IF IN EYES:**

- Hold eye open and rinse slowly and gently with water for 15-20 minutes.
- Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
- Call a poison control center or doctor for treatment advice.

**IF SWALLOWED:**

- Call a poison control center or doctor immediately for treatment advice.
- Have person sip a glass of water if able to swallow.
- Do not induce vomiting unless told to do so by the poison control center or doctor.
- Do not give anything by mouth to an unconscious person.

EPA Reg. No. 51036- *GTT*

EPA Est. No. XXXX-XX-XXX

**ACCEPTED**  
**with COMMENTS**  
**In EPA Letter Dated:**  
**FEB 12 2003**

Manufactured By:  
MICRO FLO COMPANY  
P.O. BOX 772099  
MEMPHIS, TN 38117

**Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. No. 51036-377**

**PRECAUTIONARY STATEMENTS**

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**CAUTION.** Harmful if Swallowed, Inhaled or Absorbed Through Skin. Avoid contact with eyes, skin, or clothing. Avoid breathing mists or vapors. Avoid contamination of food. This product may cause sensitization reactions in some people.

**EMERGENCY NUMBERS:**

- Transportation or spill, call CHEMTREC 800-424-9300.
- Human health, call Poison Control Center at 800-900-4044.
- Animal health, call ASPCA at 800-345-4735.

**ENVIRONMENTAL HAZARDS**

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

This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow may result in groundwater contamination.

**PHYSICAL OR CHEMICAL HAZARDS**

Do not use or store near heat or open flame.

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

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

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

**WPS Uses:** Applicators and other handlers who handle this pesticide for any use covered by the Worker Protection Standard (40 CFR Part 170) in general, agricultural plant uses are covered, must wear:

1. Long-sleeved shirt and long pants
2. Chemical-resistant gloves such as Barrier Laminate, Nitrile Rubber, Neoprene Rubber, or Viton
3. Shoes plus socks

**Non-WPS Uses:** Applicators and other handlers who handle this pesticide for any use NOT covered by the Worker Protection Standard (40 CFR Part 170) - in general, only agricultural-plant uses are covered by the WPS - must wear:

1. Long-sleeved shirt and long pants
2. Shoes plus socks

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

**ENGINEERING CONTROLS**

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

**USER SAFETY RECOMMENDATIONS**

Users should:

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

**DIRECTIONS FOR USE**

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

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

**AGRICULTURAL USE REQUIREMENTS**

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

product that are covered by the Worker Protection Standard.

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

1. Coveralls.
2. Chemical-resistant gloves such as Barrier Laminate, Nitrile Rubber, Neoprene Rubber, or Viton.
3. Shoes plus socks.
4. Protective eyewear.

**NON-AGRICULTURAL USE REQUIREMENT**

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

Do not enter or allow others to enter the treated area until sprays have dried.

Use Requirements for Non-cropland Areas: No Worker Protection Standard worker entry restrictions or worker notification requirements apply when this product is applied to non-cropland.

**GENERAL INFORMATION**

TRICLOPYR ESTER 4A RANGELAND herbicide is recommended for the control of listed susceptible woody plants and annual and perennial broadleaf weeds on rangelands, permanent grass pastures, and conservation reserve program (CRP) acres (including fence rows and non-irrigation ditch banks within these areas). TRICLOPYR ESTER 4A RANGELAND is an oil soluble, emulsifiable liquid product containing the herbicide triclopyr. TRICLOPYR ESTER 4A RANGELAND may be applied to woody or herbaceous broadleaf plants as a foliar spray or as a basal bark or to cut stump application to woody plants. As a foliar spray, TRICLOPYR ESTER 4A RANGELAND will control only herbaceous plants that have emerged from the soil or woody plants that are in full leaf at the time of application.

**GENERAL USE PRECAUTIONS AND RESTRICTIONS**

Be sure that use of this product conforms to all applicable regulations.

**In Arizona:** The state of Arizona has not approved TRICLOPYR ESTER 4A RANGELAND for use on plants grown for commercial production; specifically on designated grazing areas.

**Chemigation:** Do not apply this product through any type of irrigation system.

When tank mixing, follow all applicable use directions, precautions, and limitations on the respective product labels.

Many forbs (herbaceous broadleaves) are susceptible to TRICLOPYR ESTER 4A RANGELAND. Do not spray pastures containing desirable forbs, especially legumes such as clover, unless injury or loss of such plants can be tolerated. However, the stand and growth of established grasses usually is 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. Do not reseed treated areas for a minimum of three weeks after treatment.

Do not apply TRICLOPYR ESTER 4A RANGELAND directly to, or otherwise permit it to come into direct contact with cotton, grapes, peanuts, soybeans, tobacco, vegetable crops, flowers, citrus or other desirable broadleaf plants and do not permit spray mists containing it to drift onto them.

Do not apply directly to irrigation ditches or water used for irrigation or domestic purposes.

**GRAZING AND HARVESTING RESTRICTIONS**

For use on rangeland and pasture sites, including rights of way, fence rows, or any area where grazing or harvesting is allowed.

- Do not make more than one application per growing season and do not exceed one quart per acre (1 lb. acid equivalent/acre).
- Do not graze lactating dairy cattle until the next growing season after application.
- Do not harvest grass hay for 14 days after application.
- Withdraw livestock from grazing treated grass or consumption of treated hay at least 3 days before slaughter. This restriction applies to grazing during the season following treatment or hay harvested during the season following treatment.

**FORESTRY RESTRICTIONS**

Do not exceed 6 quarts per acre per year (6 lbs. acid equivalent/acre).

**ALL OTHER RESTRICTIONS**

Do not exceed 8 quarts per acre per year (8 lbs. acid equivalent/acre).

**AVOID INJURIOUS SPRAY DRIFT**

Applications should be made only when there is little or no hazard from spray drift. Very small quantities of spray, which may not be visible, may seriously injure susceptible plants. Do not spray when wind is blowing toward susceptible crops or ornamental plants near enough to be injured. It is suggested that a continuous smoke column at or near the spray site or a smoke generator on the spray equipment be used to detect air movement, lapse conditions, or temperature inversions (stable air). If the smoke layers or indicates a potential of hazardous spray drift, do not spray.

**Ground Equipment:** With ground equipment, spray drift can be lessened by keeping the spray boom as low as possible; by applying 20 gallons or more of spray per acre; by the use of a drift control and deposition aid cleared for application to growing crops; by keeping the operating spray pressures at the lower end of the manufacturers recommended pressures for the specific nozzle type used (low pressure nozzles are available from spray equipment manufacturers); by spraying when the wind velocity is low (Follow state regulations). Avoid calm conditions which may be conducive to air inversions. In handgun applications, select the minimum spray pressure that will provide adequate plant coverage (without forming a mist). Do not apply with hollow cone-type insecticide or other nozzles that produce a fine-droplet spray. Do not use a mistblower.

**Aerial Application:** TRICLOPYR ESTER 4A RANGELAND may be aerially applied by fixed wing aircraft or helicopter. Avoid calm conditions which may be conducive to air inversions.

**FOR AERIAL APPLICATIONS, FOLLOW THE SPRAY DRIFT ADVISORY INSTRUCTIONS AT THE END OF THIS LABEL.**

**MIXING DIRECTIONS**

Spray volume should be sufficient to obtain complete and uniform foliar coverage. For aerial application apply at least 2 gallons of total spray volume per acre. For ground application, apply 10 or more gallons of total spray volume per acre. Use higher spray



9/24

volumes for ground or aerial application to ensure adequate coverage with increased depth and density of foliage, particularly for treatment of woody plants or as indicated in the "Treatment Recommendations" section of this label.

TRICLOPYR ESTER 4A RANGELAND may be foliar applied by diluting with water or by preparing an oil-water emulsion. For woody plant control, an oil-water emulsion will perform more dependably under a broader range of conditions than a straight water dilution and is especially recommended for aerial applications.

#### **Oil-Water Emulsions**

Oil-water emulsions may be prepared using diesel fuel, fuel oil, or kerosene plus an emulsifier such as Sponto 712 or Triton X-100. Use a jar test to check spray mix compatibility before preparing oil-water emulsion sprays in the mixing tank.

**Ground Application:** Add oil to the spray mix at a rate of 5 to 10% of the total mix, up to a maximum of 1 gallon of oil per acre, using agricultural spray emulsifiers according to mixing instructions below.

**Aerial Application:** Use oil and water in the spray mixture in a 1:5 ratio (1 part oil to 5 parts water), up to a maximum of 1 gallon of oil per acre according to mixing instructions below.

#### **Water Dilutions**

For water dilutions, an agricultural surfactant at the manufacturer's recommended rate may be added to the spray mixture to provide improved wetting of foliage. To help minimize spray drift, a drift control and deposition aid cleared for application to growing crops is recommended.

#### **TANK MIXING**

TRICLOPYR ESTER 4A RANGELAND may be applied in tank mix combination with labeled rates of other herbicides 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. If products containing the same active ingredient are tank mixed, do not exceed the maximum allowable active ingredient use rates.

For direct injection or other spray equipment where the product formulations will be mixed in undiluted form, special care should be taken to ensure tank mix compatibility.

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 TRICLOPYR ESTER 4A RANGELAND and other herbicides or spray carriers. Use a clear glass quart jar with lid and mix the tank mix ingredients in 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.

**Mixing Order:**

1. Add half the needed water to the mixing tank and start agitation.
2. Add water-soluble herbicide (if used).
3. Prepare a premix of oil, emulsifier (if oil-water emulsion) and TRICLOPYR ESTER 4A RANGELAND plus other oil-soluble herbicide (if used), e.g. 2,4-D ester. Continue agitation and add premix to the spray tank.
4. Note: Do not allow water or mixtures containing water to get into the premix or TRICLOPYR ESTER 4A RANGELAND since a thick "invert" (water in oil) emulsion may be formed that will be difficult to break. Such an emulsion may also be formed if the premix or TRICLOPYR ESTER 4A RANGELAND is put in the mixing tank before the addition of water.
5. Add the remaining water. Also during final filling of the tank add a drift control and deposition aid cleared for application to growing crops (if used), plus an agricultural surfactant (if a water dilution rather than an oil-water emulsion spray is used).
6. Continuous agitation of the spray mixture during both mixing and application is necessary to ensure spray uniformity.

**MIXING WITH LIQUID FERTILIZER FOR BROADLEAF WEED CONTROL**

TRICLOPYR ESTER 4A RANGELAND may be combined with liquid nitrogen fertilizer suitable for foliar application to accomplish weed control and fertilization of grass pastures in one operation. Use TRICLOPYR ESTER 4A RANGELAND in accordance with recommendations for weed control in grass pastures as given on this label. Use liquid fertilizer at rates recommended by

supplier or Extension Service Specialist. Note: TRICLOPYR ESTER 4A RANGELAND is not recommended for use with liquid fertilizer on woody plants (brush). Foliage burn caused by liquid fertilizer may reduce herbicide effectiveness on woody plants.

**Compatibility with Liquid Fertilizer:** Prior to mixing in spray tank, conduct a "jar test" for spray mixture compatibility by mixing each component in the required order and proportion in a clear glass jar. See procedure for Tank Mixing Compatibility Testing, above. A compatibility aid such as Unite or Compex may be needed in some situations. Compatibility is best with straight liquid nitrogen fertilizer solutions.

Mixing with N-P-K solutions or suspensions may not be satisfactory even with the addition of compatibility aid. Premixing TRICLOPYR ESTER 4A RANGELAND with 1 to 4 parts water may help in difficult situations.

Fill in the spray tank about half-full with the liquid fertilizer, then add the herbicide with agitation and complete filling the tank with fertilizer. Apply immediately and continue agitation in the spray tank during application.

**Precautions:** Do not store liquid fertilizer spray mixtures.

Application with liquid fertilizer during very cold weather (near freezing) is not advisable. The likelihood of mixing or compatibility problems with liquid fertilizer increases under cold conditions.

**Note:** Do not use broadcast spray equipment used for application of TRICLOPYR ESTER 4A RANGELAND for other applications to susceptible crops or desirable plants, or land planted to such plants, unless it has been determined that all phytotoxic herbicide residue has been removed by thorough cleaning of the equipment.

**Oil Mixture Sprays for Basal Treatment:** When preparing oil-based spray mixtures, use either diesel fuel, No. 1 or No. 2 fuel oil, kerosene or a commercially available basal oil. Substitute other oils or diluents only as recommended by the oil or diluents manufacturer. When mixing with a basal oil or other oils or diluents, read and follow the use directions and precautions on the manufacturer's product label. Add TRICLOPYR ESTER 4A RANGELAND to the required amount of oil in the spray tank or mixing tank and mix thoroughly. If the mixture stands over 4 hours, reagitation is required.

PLANTS CONTROLLED BY TRICLOPYR ESTER 4A RANGELAND

WOODY PLANTS

alder	granjeno	poison oak
ash	guajillo	poplar
aspen	guava	saltbush (silver ✓
beech	hawthorn	myrtle)
birch	huisache (suppression)	sassafras
blackberry	lantana	sumac
blackbrush	locust	trumpet creeper ✓
cascara	maple (except bigleaf, ✓	twisted acacia
ceanothus	and vine)	Virginia creeper ✓
cherry ✓	milkweed vine ✓	wax myrtle (top
cottonwood	oaks	growth)
dogwood	osage orange	wild roses
elderberry	pepper vine ✓	willow
elm (except winged	persimmon, eastern	willow primrose
elm)	poison ivy	

\*basal or dormant stem applications only

ANNUAL, BIENNIAL AND PERENNIAL BROADLEAF WEEDS

black medic	dogfennel	tropical soda apple
burdock	lambquarters	vetch
chicory	lespedeza	wild carrot (top
cinquefoil	mustard	growth)
clover	plantain	wild violet
curly dock	sericea lespedeza	yarrow
dandelion (top growth)	sulfur cinquefoil	

APPLICATION METHODS AND TREATMENT RECOMMENDATIONS

RANGELAND AND PERMANENT GRASS PASTURE

High-Volume Foliar Treatment Of Individual Plants Using Ground Equipment

For control of susceptible woody plants, use TRICLOPYR ESTER 4A RANGELAND alone or in tank-mix combination at the recommended rate to make 100 gallons of spray mixture. To control a broader spectrum of woody plants and broadleaf weeds, TRICLOPYR ESTER 4A RANGELAND may be tank-mixed with recommended rates of other herbicides (see application rates table below). When tank mixing, follow all applicable use directions, precautions, and limitations on the respective product labels. (See Tank-Mixing Precautions under Mixing Directions)

APPLICATION RATES PER 100 GALLONS OF SPRAY			
TRICLOPYR ESTER 4A RANGELAND		TANK-MIX PRODUCT	RATE
1 - 4 qt	-	-	-
1 - 2 qt	plus	Grazon P+D herbicide	4 qt
1 - 2 pt	plus	2,4-D low volatile ester herbicide	1 - 2 qt
1 - 2 qt	plus	Tordon* 22K herbicide	1 - 2 qt
2 qt	plus	Reclaim <sup>1,2</sup> herbicide	2 qt

<sup>1</sup>Reclaim herbicide is registered for use only in Texas, Oklahoma and New Mexico.

<sup>2</sup>See directions for "Mesquite control using high volume foliar (also called leaf spray) application" below.

Depending on the size and density of the woody plants involved, apply sufficient spray volume to thoroughly wet all leaves, stems, and root collars. To minimize spray drift, select the minimum spray pressure that will provide adequate plant coverage without forming a mist and direct sprays no higher than tops of target woody plants. A drift control additive cleared for application to growing crops is recommended to reduce spray drift. Before using any recommended tank mixture read the directions and all use precautions on both labels.

For best results, foliar spray applications should be made when woody plants and weeds are actively growing. Note: See "Foliar Broadcast Treatment" section for information on environmental factors influencing control results as well as recommendations concerning application timing.

**Mesquite Control Using High Volume Foliar (Also Called Leaf Spray) Application:**

For control of mesquite infestations of low to moderate density, TRICLOPYR ESTER 4A RANGELAND and Reclaim may be applied in tank-mixture to individual plants with backpack or hand-held sprayers or a vehicle-mounted sprayer with handheld spray wand or spray gun. For individual plant treatment, use 2 quarts of TRICLOPYR ESTER 4A RANGELAND in combination with 2 quarts of Reclaim per 100 gallons of total spray solution (1/2% v/v of each product). Apply in water or as an oil-water emulsion as described in "Mixing Directions". 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. Do not apply when mesquite foliage is wet. The total amount of Reclaim applied should not exceed 1 1/3 pints per acre. For best results, follow information given below concerning effect of environmental

conditions and application timing on control. 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.

**FOLIAR BROADCAST TREATMENT USING AERIAL OR GROUND EQUIPMENT**

Environmental conditions and application timing influence brush and weed control results.

**General:** For best results, foliar applications should be made when woody plants and weeds are actively growing. For woody species, make applications after the rapid growth period of early spring when leaf tissue is fully expanded and terminal growth has slowed. Brush regrowth should be at least 4 ft. in height prior to treatment to insure adequate foliage for herbicide absorption. Adequate soil moisture before and after treatment as well as the presence of healthy foliage at the time of application are important factors contributing to optimal herbicidal activity.

**Mesquite:** The herbicidal response of mesquite is strongly influenced by foliage condition, stage of growth and environmental conditions. For best results, apply when new growth foliage has turned from light to dark green, when the soil temperature is above 75OF at a depth of 12 to 18 inches, and soil moisture is adequate for plant growth. Application should be made within 60 days after the 75OF minimum soil temperature at the 12 to 18 inch depth has been reached. Product performance may be adversely affected if application is made before mesquite foliage has turned from light to dark green or if foliage has been injured or removed by late frost, insects, hail or plant diseases. 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. Mesquite regrowth should be at least 4 ft. in height prior to treatment to insure adequate foliage for herbicide absorption.

**Mesquite Only**

Apply TRICLOPYR ESTER 4A RANGELAND at 1/2 to 1 pint per acre in combination with 2/3 to 1 1/3 pint per acre of Reclaim. See label for Reclaim for additional treatment recommendations and information on mesquite control. Apply aerially as a oil:water emulsion in 4 or more gallons total volume per acre or in 1 0 or

more gallons total volume per acre using ground equipment. Use a maximum of 1 gallon of oil per acre for aerial or ground application.

### **Mesquite And Pricklypear Cactus**

Where pricklypear cactus is a target species in association with mesquite, apply a tank mix of 1/2 to 1 pint of TRICLOPYR ESTER 4A RANGELAND with 1 to 2 pints of Tordon 22K per acre. (The 2-pint per acre rate of Tordon 22K will provide a higher and more uniform plant kill of pricklypear.) Tordon 22K may also be applied in combination with Reclaim to control pricklypear while providing improved control of mesquite. See labels for Tordon 22K and Reclaim for additional information and treatment recommendations. Apply aerially as a oil:water emulsion in 4 or more gallons total volume per acre or in 10 or more gallons total volume per acre using ground equipment. If mesquite canopy is dense, use higher spray volumes. Use a maximum of 1 gallon of oil per acre for aerial or ground application.

### **South Texas Mixed Brush**

(Mesquite, Pricklypear Cactus, Blackbrush, Twisted Acacia and Granjeno)

Use 1 to 2 pints of TRICLOPYR ESTER 4A RANGELAND in a tank mix with 2 pints of Tordon 22K per acre where pricklypear is a problem or with 2/3 - 1 1/3 pints of Reclaim per acre where mesquite is the prevalent species. TRICLOPYR ESTER 4A RANGELAND will contribute to control of non-legume species such as granjeno and oaks. However, where woody legume species are predominate Tordon 22K at 2 pints per acre may be applied in combination with Reclaim at 2/3 to 1 1/3 pints per acre for improved control. See labels for Tordon 22K and Reclaim for additional information and recommendations. Apply aerially in a oil:water r more gallons total volume per acre or in 15 or more emulsion in 4 or more gallons total volume per acre using ground equipment. Use a maximum of 1 gallon of oil per acre for aerial or ground application. The use of an oil:water emulsion is critical and good spray coverage is essential for acceptable brush control.

### **Sand Shinnery Oak Suppression**

In Texas, New Mexico and Oklahoma, apply TRICLOPYR ESTER 4A RANGELAND alone at a rate of 1/2 to 2 pints per acre for suppression of shinnery oak growing on sandy soils. Grass response following suppression may be impressive where rainfall is adequate. Grazing deferment following application together with proper grazing management is recommended to allow for the reestablishment of grass stands.

### **Post Oak and Blackjack Oak - Regrowth Stands**

Apply in the late spring (May) to early summer (June-July) when oak leaves are fully developed (expanded). Use 2.0 quarts of

TRICLOPYR ESTER 4A RANGELAND alone or in tank mix combination with 0.5 to 1.0 pints of 2,4-D low-volatile ester herbicide per acre. Apply in an oil:water emulsion or water surfactant dilution (see mixing instructions) in sufficient total volume per acre to assure thorough coverage; usually 5 gallons per acre or more by fixed wing aircraft or helicopter or 15 to 25 gallons per acre by ground equipment. Use a maximum of 1 gallon of oil per acre for aerial or ground application. Lower rates may be used for suppression only. Control will require at least 3 consecutive treatments.

**Note:** Regrowth plants have a large root mass relative to top growth when compared to undisturbed plants. In order for top growth to intercept and translocate enough herbicide to control the roots, broadcast treatment should be delayed until top growth is at least four feet tall.

**High volume foliar treatment:** For regrowth less than four feet tall, apply 2 quarts of TRICLOPYR ESTER 4A RANGELAND per 100 gallons of water and 2 quarts of Ag surfactant alone or in tank mix combination with 1 gallon of Grazon P+D or 1 quart of Tordon 22K. Apply as a high volume leaf-stem treatment to individual plants using ground equipment.

**Post Oak and Blackjack Oak - Mature Stands**

For control of mature stands (greater than 5 feet tall), apply TRICLOPYR ESTER 4A RANGELAND at 2 quarts per acre in late spring (May) to early summer (June - July) when oak leaves are fully developed (expanded). Understory species such as winged elm, buckbrush, tree huckleberry and ash occurring in some areas will not be controlled (only suppressed or defoliated) by TRICLOPYR ESTER 4A RANGELAND alone. Where these understory species occur, control may be improved by tank mixing 2 quarts of TRICLOPYR ESTER 4A RANGELAND with 1 quart of Tordon 22K or 4 quarts of Grazon P+D per acre. For best results, apply as a oil:water emulsion in a total volume of 5 gallons per acre or more by fixed-wing aircraft or helicopter.

**Other Susceptible Woody Plants**

(See Listing of Woody Plants Controlled by TRICLOPYR ESTER 4A RANGELAND)

Use 2 to 4 pints of TRICLOPYR ESTER 4A RANGELAND alone or in combination with 2 to 3 quarts of 3.8 lb/gal 2,4-D low volatile ester or amine formulation. When difficult-to-control species such as ash, choke cherry, elm, maple or oaks are prevalent, and during applications made when plants are mature late in the summer or during drought conditions, use the higher rates of TRICLOPYR ESTER 4A RANGELAND, alone or with 2,4-D. TRICLOPYR ESTER 4A RANGELAND may also be applied in tank-mixture with Grazon P+D or Tordon 22K for increased control of certain species. See labels for Grazon P+D and Tordon 22K for additional information and treatment recommendations. Apply aerially in 4



or more gallons total volume per acre or in 10 or more gallons total volume per acre using ground equipment. For best results on blackberry, apply during or after bloom.

For management of kudzu, apply TRICLOPYR ESTER 4A RANGELAND at 1 quart per acre. Repeat application may be necessary to achieve desired level of control.

### Susceptible Broadleaf Weeds

(See Listing Of Annual, Biennial And Perennial Broadleaf Weeds Controlled by TRICLOPYR ESTER 4A RANGELAND)

General: Use TRICLOPYR ESTER 4A RANGELAND at 2 pints per acre in a water spray. Apply as a broadcast spray in a total volume of 10 or more gallons per acre by ground equipment or aerially in a total volume of 2 or more gallons per acre. Apply at anytime the weeds are actively growing. TRICLOPYR ESTER 4A RANGELAND at 1/2 to 3 pints may be tank-mixed with 1 to 2 quarts of 3.8 lb/gal 2,4-D amine or low volatile ester.

### Recommendations for Specific Broadleaf Weeds:

WEEDS CONTROLLED	RATE PER ACRE	SPECIFIC USE RECOMMENDATIONS
sericea lespedeza	1-2 pt	For best results, apply after maximum foliage development in the late spring to early summer, but prior to bloom
sulfur cinquefoil	1-2 pt	For best results, apply to plants in the rosette stage
tropical soda apple	2 pt	

Apply when tropical soda apple plants reach the first flower stage. For best results, apply in a total spray volume of 40 gallons per acre using ground equipment. An agricultural surfactant may be added at the manufacturer's recommended rate to provide more complete wetting and coverage of the foliage. Spot treatments may be used to control sparse plant stands. For spot treatment use a 1 to 1.5% solution of TRICLOPYR ESTER 4A RANGELAND in water (1 to 1 1/2 gallons of TRICLOPYR ESTER 4A RANGELAND in 1 00 gallons total spray mixture) and spray the entire plant to completely wet the foliage.

In Florida, control of tropical soda apple may be improved by using the following management practices:

- Mow plants to a height of 3 inches every 50 to 60 days or whenever they reach flowering. Continue the mowing operation through April.
- In late May to June (50 to 60 days after the April mowing) apply TRICLOPYR ESTER 4A RANGELAND as a broadcast treatment as recommended above.
- Use spot treatment as recommended above to control any remaining plants or thin stands of plants that germinate following a broadcast treatment.

**INDIVIDUAL PLANT TREATMENT NON-FOLIAR APPLICATIONS**

**Low Volume Basal Bark Treatment (Also called Stem Spray Method)**

Susceptible woody plants such as mesquite, huisache, red maple, red and white oak, birches and aspen, with stems less than 6 inches in basal diameter, can be controlled by low volume basal applications of TRICLOPYR ESTER 4A RANGELAND. Mix 20 to 30 gallons of TRICLOPYR ESTER 4A RANGELAND in enough oil to make 100 gallons of total spray mixture. Apply with a backpack or knapsack (but not with a mistblower) using low pressure and a solid cone or flat-fan nozzle. Spray the basal parts of the brush and tree trunks to a height of 12 to 15 inches from the ground in a manner which thoroughly wets the lower stem, including the root collar area, but not to the point of runoff. Herbicide concentration should vary with size and susceptibility of species treated. Apply at any time, including the winter months, except when snow or water prevents spraying to the ground line.

**Streamline Basal Bark Treatment**

To control or suppress susceptible woody plants such as mesquite, huisache, red maple, white and red oak, elbowbush, greenbriar, hackberry, pricklyash, yaupon and wild grape, mix 25 to 30 gallons of TRICLOPYR ESTER 4A RANGELAND with 10% penetrant such as Cidekick in enough oil to make 100 gallons of spray mixture. Streamline basal bark treatments are most effective on stems less than 4 inches in basal diameter. Apply with a backpack or knapsack sprayer using equipment which provides a directed straight stream spray. Apply the spray in a 2 to 3 inch wide band to one side of stems less than 3 inches in basal diameter. Direct the spray to a point approximately 12 to 24 inches above the ground. Treat both sides of stems which are 3 or more inches in basal diameter. Better control is achieved when spray is applied to thin juvenile bark and above rough thickened mature bark. Vary herbicide concentration with size and susceptibility of the brush being treated. Apply at any time, including winter months, except when snow or water prevents spraying to the desired height above the ground level. Note: Best results with some hardwood species occur when applications are made from approximately 6 weeks prior to leaf expansion in the spring until approximately 2 months after leaf expansion is completed.

**Treatment of Cut Stumps in California**

To control resprouting, apply undiluted TRICLOPYR ESTER 4A RANGELAND to wet the area adjacent to the cambium and bark around the entire circumference of freshly cut Stumps.

Treatments may be applied throughout the year; however, control may be reduced with treatment during periods of moisture stress as in late summer. Stumps should be cut so that they are

19/24

approximately level to facilitate uniform TRICLOPYR ESTER 4A RANGELAND coverage. Use an applicator which can be calibrated to deliver the small amounts of material required.

### **Cut Stump Treatment**

To control resprouting of freshly cut stumps of susceptible species, mix 20 to 30 gallons of TRICLOPYR ESTER 4A RANGELAND in enough oil to make 100 gallons of spray mixture. Apply with a backpack or knapsack sprayer using low pressures and a solid cone or flat fan nozzle. Spray the sides of the stump and the outer portion of the cut surface, including the cambium in a manner which thoroughly wets the stem and root collar area, but not to the point of runoff. Spray mixture concentration should vary with the size and susceptibility of species treated. Apply at any time, including in winter months, except when snow or water prevent spraying to the ground line.

### **Dormant Stem Treatment**

Mix 3 to 6 quarts of TRICLOPYR ESTER 4A RANGELAND in enough oil to make 100 gallons of spray. Apply with knapsack or power spraying equipment, using low pressure (20-40 psi). Treat anytime when brush is dormant and most of the foliage has dropped. Do not apply when snow or water prevents spraying to the ground line. Thoroughly wet the upper parts of the stems and use the remainder needed to wet the lower 12 to 15 inches above the ground to the point of run-off. For root suckering species such as sumac, sassafras and locust, also spray the ground under the plant to cover small root suckers which may not be visible above the soil surface. For oil-water mixture application, mix 6 quarts of TRICLOPYR ESTER 4A RANGELAND, 25 gallons of oil and 1.5 gallons of an approved agricultural spray emulsifier such as Sponto 712 or Triton X-100 as indicated in the mixing directions. Treat as above.

### **Thinline Basal Bark Treatment**

Control of susceptible woody plants such as red maple, blackberry, dogwood, red and white oak, with stems less than 6 inches in diameter, can be achieved with applications of undiluted TRICLOPYR ESTER 4A RANGELAND in a thin stream to all sides of the stems about 6 inches above the base of the plants. The stream should be directed horizontally to apply a narrow band of TRICLOPYR ESTER 4A RANGELAND around each stem or clump. From 2 to 15 ml of chemical is required for treatment of single stems and from 25 to 100 ml to treat clumps of stems. Use an applicator metered or calibrated to deliver the small amounts required.

**Growing Point and Leaf Base (Crown) Treatment of Yucca**

Prepare a 2% v/v solution of TRICLOPYR ESTER 4A RANGELAND in diesel or fuel oil (13 oz of TRICLOPYR ESTER 4A RANGELAND in 5 gallons of spray mixture). Thoroughly wet the center of the plant including growing point and leaf bases to the soil surface. Complete coverage of leaves is not necessary.

**TREATMENT OF CONSERVATION RESERVE PROGRAM (CRP) ACRES  
(Established Permanent Grass Stands)**

Use TRICLOPYR ESTER 4A RANGELAND on CRP acres only after perennial grasses are well established (see precaution for newly seeded grasses under General Use Precautions).

**Restrictions:** When applying to CRP lands, follow all applicable state and federal regulations. Follow the most severe grazing restriction imposed by the pesticide label or by the USDA Acreage Conservation Reserve Program. After that time period, follow local (CRP) guidelines regarding cropping and haying restrictions. Do not use TRICLOPYR ESTER 4A RANGELAND if damage or loss of existing legumes or other desirable broadleaf plants cannot be tolerated.

**Broadcast Application (Ground or Air):** For control of listed broadleaf weeds, apply TRICLOPYR ESTER 4A RANGELAND as a broadcast spray at 1 - 2 pints/acre or up to 1 1/2 quarts per acre for deep-rooted perennial broadleaf and susceptible woody species. Use a total spray volume of 10 or more gallons per acre for ground broadcast or 2 or more gallons per acre by air. For other woody plant treatment methods, including high volume foliar, basal bark or cut stump treatment, refer to the preceding "Application Methods and Treatment Recommendations" for appropriate use directions.

On CRP acres, apply no more than 1 1/2 quarts/acre of TRICLOPYR ESTER 4A RANGELAND per growing season.

**AERIAL SPRAY DRIFT MANAGEMENT**

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

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

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

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

### **AERIAL DRIFT REDUCTION ADVISORY**

#### **IMPORTANCE OF DROPLET SIZE**

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

#### **CONTROLLING DROPLET SIZE**

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

**Pressure** - Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.

**Number of Nozzles** - Use the minimum number of nozzles that provide uniform coverage.

**Nozzle Orientation** - Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.

**Nozzle Type** - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produces larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produces the largest droplets and the lowest drift.

#### **BOOM LENGTH**

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

**APPLICATION HEIGHT**

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

**SWATH ADJUSTMENT**

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

**WIND**

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

**TEMPERATURE AND HUMIDITY**

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

**TEMPERATURE INVERSIONS**

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

**SENSITIVE AREAS**

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

**STORAGE AND DISPOSAL**

Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited.

**PESTICIDE STORAGE:** Store above 28 F or agitate before use.

**PESTICIDE DISPOSAL:** Pesticide, spray mixture, or rinse water that cannot be used according to label instructions must be disposed of according to applicable federal, state, or local procedures.

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

**METAL CONTAINER DISPOSAL:** Triple rinse (or equivalent). 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. Consult federal, state, or local disposal authorities for approved alternative procedures.

**WARRANTY DISCLAIMER**

Micro Flo Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. Micro Flo Company MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

**INHERENT RISKS OF USE**

It is impossible to eliminate all risks associated with use of this product. Plant injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperature, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of

which are beyond the control of Micro Flo Company or the seller. All such risks shall be assumed by buyer.

**LIMITATION OF REMEDIES**

The exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at Micro Flo Company' election, one of the following:

- 1. Refund of purchase price paid by buyer or user for product bought

or

- 2. Replacement of amount of product used

Micro Flo Company shall not be liable for losses or damages resulting from handling or use of this product unless Micro Flo Company is promptly notified of such loss or damage in writing. In no case shall Micro Flo Company be liable for consequential or incidental damages or losses.

The terms of the "Warranty Disclaimer" above and this "Limitation of Remedies" cannot be varied by any written or verbal statements or agreements. No employee or sales agent of Micro Flo Company or the seller is authorized to vary or exceed the terms of the "Warranty Disclaimer" or this "Limitation of Remedies" in any manner.