



## OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

WASHINGTON, D.C. 20460

November 6<sup>th</sup>, 2025

Nikki Benson  
Regulatory Manager  
Nufarm Americas Inc.  
4020 Aerial Center Parkway  
Morrisville, NC 27560

Subject: Label Amendment - Registration Review Mitigation for Oryzalin  
Product Name: ET-029  
EPA Registration Number: 228-698  
Case Number: 476251  
Application Dates: July 8, 2022

Dear Nikki Benson:

The Agency, in accordance with the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, has completed reviewing all the information submitted with your application to support the Registration Review of the above referenced product in connection with the Oryzalin Interim Decision, and has concluded that your submission is acceptable. The label referred to above, submitted in connection with registration under FIFRA, as amended, is acceptable.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide, Fungicide, and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance Assurance.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling and must be used at your next label printing. You must submit one copy of the final printed labeling before you release the product for

shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may distribute or sell this product under the previously approved labeling for 12 months from the date of this letter. After 12 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3.

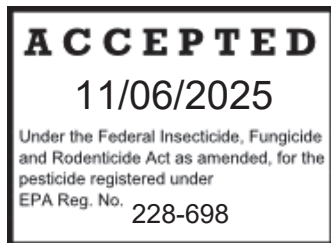
If you have any questions about this letter, please contact Caleb Carr by phone at 202-566-0636, or via email at [carr.caleb@epa.gov](mailto:carr.caleb@epa.gov).

Sincerely,

A handwritten signature in black ink, appearing to read 'M. K. Muhammad-Perch', with a long, sweeping horizontal line extending to the right.

Maryam K. Muhammad-Perch, Team Lead  
Risk Management and Implementation Branch 4  
Pesticide Re-Evaluation Division  
Office of Pesticide Programs

ENCLOSURE: Stamped label



ORYZALIN	GROUP	3	HERBICIDE
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ET-029

A preemergence surface-applied herbicide for control of annual grasses and many broadleaf weeds in:

Citrus	Ornamental Bulbs
Fruit and Nut Trees (Bearing and Non-Bearing)	Ground Covers/Perennials
Berries	Christmas Tree Plantations
Vineyards (Bearing and Non-Bearing)	Non-cropland and Industrial Sites
Established Trees Grown for Pulp	Established Warm Season Turf (including Bahiagrass,
Landscape Ornamentals	Bermudagrass, Buffalograss, Centipedegrass, St.
Container Grown Ornamentals	Augustinegrass and Zoysiagrass)
Field Grown Ornamentals	Tall Fescue (warm season areas)
Drainage Areas Under Shadehouse Benches	

**ACTIVE INGREDIENT:**

Oryzalin: 3,5-dinitro-N<sup>4</sup>, N<sup>4</sup>-dipropylsulfanilamide..... 40.4%

**OTHER INGREDIENTS** .....59.6%

**TOTAL** .....100.0%

Contains 4.0 pounds of active ingredient per gallon.

**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 in eyes:	<ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li><li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
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 1-800-424-9300 for emergency medical treatment information.	

**See inside label booklet for additional PRECAUTIONARY STATEMENTS**

**PRECAUTIONARY STATEMENTS**

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**CAUTION**

Causes moderate eye irritation. Avoid contact with eyes or clothing.

**ENVIRONMENTAL HAZARDS**

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

**EPA Reg. No. 228-698**

Manufactured by:  
Nufarm Americas Inc.  
4020 Aerial Center Parkway  
Morrisville, NC 27560

**EPA Est. No.**

**Net Contents:**

**Groundwater Advisory:** Oryzalin is known to leach through soil into groundwater under certain conditions as a result of label use. This chemical may leach into groundwater if used in areas where soils are permeable, particularly where the water table is shallow.

**Non-Target Organism Advisory:** This product is toxic to plants and may adversely impact the forage and habitat of non-target organisms, including pollinators, in areas adjacent to the treated site. Protect the forage and habitat of non-target organisms by following label directions intended to minimize spray drift.

#### **PERSONAL PROTECTIVE EQUIPMENT (PPE)**

**Applicators and other handlers must wear:**

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of barrier laminate, butyl rubber  $\geq 14$  mils, nitrile rubber  $\geq 14$  mils, neoprene rubber  $\geq 14$  mils, polyvinyl chloride  $\geq 14$  mils, or viton  $\geq 14$  mils.
- Shoes plus socks
- Mixers and loaders must wear a chemical-resistant apron in addition to other PPE

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. 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 STATEMENTS**

When handlers use closed systems or enclosed cabs 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:

- 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 clothing / 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. 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 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 24 hours. Exception: If the product is soil-injected or soil incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

Workers may enter treated areas without required PPE during the reentry interval following Y. to 1 inch of rainfall or irrigation, if they are performing tasks that do not involve contact with the soil subsurface; otherwise, 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 barrier laminate, butyl rubber ≥14 mils, nitrile rubber ≥14 mils, neoprene rubber ≥14 mils, polyvinyl chloride ≥14 mils, or viton ≥14 mils.
- 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 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.

**Entry Restrictions for Non-WPS Uses:** Keep all persons, children and pets out of treated area until sprays have dried.

#### GENERAL INFORMATION

ET-029 may be surface-applied preemergence in liquid sprays of water or liquid fertilizer (before or after transplanting of the crop) to control many annual grasses and broad leaf weeds. ET-029 may be tank mixed with other herbicides to control existing vegetation or to improve the spectrum of weeds controlled. Use of ET-029 on plant species not recommended in this label may determine the suitability for use by treating a small number of plants at a recommended rate prior to treatment of larger areas. For 30-60 days of normal growing conditions the treated plants should be observed for any sign of herbicidal injury to determine if the treatment is non-injurious to the target plant species. *The user assumes responsibility for any plant damage or other liability resulting from the use of ET-029 on plant species not recommended on this label.*

#### Use Precautions

- Do NOT graze or feed forage from treated areas to livestock.
- Do NOT apply this product aerially.
- For orchard crops (including citrus, pome fruits, stone fruits and tree nuts) apply product only as a strip treatment in the tree rows; do NOT apply to row middles or drive rows.
- ET-029 is orange in color and may cause temporary discoloration of sprayed surfaces. If this discoloration is undesirable, it may be altered by using a commercially available colorant such as

Blazon or removed by spraying surface with water or washing with an industrial cleaner immediately after application. ET-029 may also be applied with mulch colorants such as Mulch Magic or Nu-Mulch.

- If applied prior to transplanting: (1) disturbance of surface soil should be minimized to prevent loss of weed control; and (2) exposure of the roots of transplants to treated soil should be minimized to avoid any possibility of crop injury.
- Avoid spray drift to non-target areas; spray drift may result in reduced emergence of non-target plants adjacent to the treated area.
- Over-application of ET-029 may result in crop injury or excessive soil residue.

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## WEED RESISTANCE MANAGEMENT

For resistance management, this product is a Group 3 herbicide. Any weed population may contain or develop plants naturally resistant to this product and other Group 3 herbicides. The resistant biotypes may dominate the weed population if these herbicides are used repeatedly in the same field. Appropriate resistance-management strategies should be followed.

To delay herbicide resistance take one or more of the following steps:

- Rotate the use of this product or other Group 3 herbicides within a growing season sequence or among growing seasons with different herbicide groups that control the same weeds in a field.
  - Use tank mixtures with herbicides from a different group if such use is permitted; where information on resistance in target weed species is available, use the less resistance-prone partner at a rate that will control the target weed(s) equally as well as the more resistance-prone partner. Consult your local extension service or certified crop advisor if you are unsure as to which active ingredient is currently less prone to resistance.
  - Adopt an integrated weed-management program for herbicide use that includes scouting and uses historical information related to herbicide use and crop rotation, and that considers tillage (or other mechanical control methods), cultural (e.g., higher crop seeding rates; precision fertilizer application method and timing to favor the crop and not the weeds), biological (weed-competitive crops or varieties) and other management practices.
  - Scout after herbicide application to monitor weed populations for early signs of resistance development. Indicators of possible herbicide resistance include: (1) failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds; (2) a spreading patch of non-controlled plants of a particular weed species; (3) surviving plants mixed with controlled individuals of the same species. If resistance is suspected, prevent weed seed production in the affected area by an alternative herbicide from a different group or by a mechanical method such as hoeing or tillage. Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment when moving between fields, and planting clean seed.
  - If a weed pest population continues to progress after treatment with this product, discontinue use of this product, and switch to another management strategy or herbicide with a different mode of action, if available.
  - Contact your local extension specialist or certified crop advisors for additional pesticide resistance-management and/or integrated weed-management recommendations for specific crops and weed biotypes.
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## **MANDATORY SPRAY DRIFT MANAGEMENT**

### **Ground Boom Applications:**

- User must only apply with the release height recommended by the manufacturer, but no more than 4 feet above the ground or crop canopy.
- Applicators are required to use a medium or coarser droplet size according to the most current version of the American Society of Agricultural & Biological Engineers Standard 572 (ASAE S572).
- Do not apply when wind speeds exceed 15 miles per hour at the application site.
- Do not apply during temperature inversions.

### **Boomless Ground Applications:**

- Applicators are required to use a medium or coarser droplet size according to the most current version of the American Society of Agricultural & Biological Engineers Standard 572 (ASAE S572) for all applications.
- Do not apply when wind speeds exceed 10 miles per hour at the application site.
- Do not apply during temperature inversions.

## **SPRAY DRIFT ADVISORIES**

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT.

BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

## **IMPORTANCE OF DROPLET SIZE**

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

### **Controlling Droplet Size – Ground Boom**

- Volume - Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- Pressure - Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- Spray Nozzle - Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

**BOOM HEIGHT – Ground Boom** For ground equipment, the boom should remain level with the crop and have minimal bounce.

## **SHIELDED SPRAYERS**

Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

## **TEMPERATURE AND HUMIDITY**

When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

## **TEMPERATURE INVERSIONS**

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or 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. Avoid applications during temperature inversions.

**WIND**

Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS. Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

**WEEDS CONTROLLED BY ET-029****Annual Grasses**

<b>Common Name</b>	<b>Scientific Name</b>	<b>Common Name</b>	<b>Scientific Name</b>
barley, little	<i>Hordeum pusillum</i>	Johnsongrass	<i>Sorghum halepense</i>
barnyardgrass	<i>Echinochloa crus-galli</i>	(seedling only)	
(watergrass)		junglerice	<i>Echinochloa colonum</i>
bluegrass, annual	<i>Poa annua</i>		
crabgrass, large	<i>Digitaria sanguinalis</i>	lovegrass, Mexican	<i>Eragrostis Mexicana</i>
crabgrass, smooth	<i>Digitaria ischaemum</i>	lovegrass, orcutt	<i>Eragrostis orcuttiana</i>
crowfootgrass	<i>Dactyloctenium aegyptium</i>	oat, wild	<i>Avena fatua</i>
cupgrass,	<i>Eriochloa gracilis</i>	panicum, browntop	<i>Panicum fasciculatum</i>
southwestern		panicum, fall	<i>Panicum dichotomiflorum</i>
foxtail, bristlegrass	<i>Setaria magna</i>	(spreading panicgrass)	<i>Panicum texanum</i>
		panicum, Texas	
		(buffalograss)	
		(Coloradograss)	



### Annual Grasses

Common Name	Scientific Name	Common Name	Scientific Name
foxtail, giant	<i>Setaria faberi</i>	ryegrass, Italian	<i>Cenchrus incertus</i>
foxtail, green (pigeongrass)	<i>Setaria viridis</i>	signalgrass (Brachiaria)	<i>Brachiaria spp.</i>
foxtail, robust	<i>Setaria robusta</i>	sprangletop, red	<i>Leptochloa filiformis</i>
foxtail, yellow	<i>Setaria glauca</i>	witchgrass	<i>Panicum capillare</i>
goosegrass (silver crabgrass)	<i>Eleusine indica</i>		

### Broadleaf Weeds

Common Name	Scientific Name	Common Name	Scientific Name
bittercress	<i>Cardamine oligosperma</i>	pigweed, redroot	<i>Amaranthus retroflexus</i>
carpetweed	<i>Mollugo verticillate</i>	pigweed, spring	<i>Amaranthus hybridus</i>
chickweed, common	<i>Stellaria media</i>	pigweed, tumble	<i>Amaranthus albus</i>
fiddleneck, coast	<i>Amsinckia intermedia</i>	puncturevine	<i>Tribulus terrestris</i>
filaree, redstem	<i>Erodium cicutarium</i>	purslane, common	<i>Portulaca oleracea</i>
filaree, whitestem	<i>Erodium moschatum</i>	pusley, Florida (Florida purslane)	<i>Richardia scabra</i>
		(Mexican clover)	
		(pusley)	
groundsel, common	<i>Senecio vulgaris</i>	rocket, London	<i>Sisymbrium irio</i>
henbit	<i>Lamium amplexicaule</i>	rockpurslane, desert	<i>Calandrinia ciliate</i>
knotweed, prostrate	<i>Polygonum aviculare</i>	shepherdspurse	<i>Capsella bursa-pastoris</i>
lambsquarters	<i>Chenopodium album</i>	spurge, prostrate	<i>Euphorbia humistrata</i>
pigweed, prostrate	<i>Amaranthus blitoides</i>	woodsorrel, yellow	<i>Oxalis stricta</i>

### WEEDS SUPPRESSED BY ET-029

Control of the following weeds may be erratic, ranging from poor to excellent, depending upon soil temperature, time of germination, depth of seed in the soil, and amount and timing of soil moisture:

Common Name	Scientific Name	Common Name	Scientific Name
horseweed	<i>Conyza canadensis</i>	nightshade, black	<i>Solanum nigrum</i>
ladysthumb	<i>Polygonum persicaria</i>	ragweed, common	<i>Ambrosia artemisiifolia</i>
lettuce, prickly	<i>Lactuca serriola</i>	smartweed	<i>Polygonum</i>
mallow, common	<i>Malva neglecta</i>	sowthistle, annual	<i>pensylvanicum</i>
milkweed, climbing	<i>Sarcostemma</i>	spurge, spotted	<i>Sonchus oleraceus</i>
	<i>Cynanchoides</i>	teaweed (prickly sida)	<i>Euphorbia maculate</i>
morningglory	<i>Ipomoea spp.</i>		
		velvetleaf	<i>Sida spinosa</i>
mustard, black	<i>Brassica nigra</i>	wheat, volunteer	<i>Abutilon theophrasti</i>
mustard, wild	<i>Brassica kaber</i>		<i>Triticum spp.</i>

### MIXING INSTRUCTIONS

#### Shake Well Before Using

**Precaution:** Do NOT allow the spray mixture to siphon back into water source.

Make sure the spray tank is clean and use only clean water. Fill spray tank y, - ' ;' full. Start agitation and add the required amount of ET-029. Continue agitation and finish filling the spray tank. Maintain continuous agitation until application is completed.

#### Tank Mix Combinations

Prior to tank mixing, read and carefully follow all label instructions and precautions for each product added to the tank mixture. Vigorous, continuous agitation is required for all tank mixes of ET-029. Sparger pipe agitators generally provide the best agitation in spray tanks.

**Mixing Order**

Fill the tank 3/4 full with clean water. Start agitation and add different formulation types in the order indicated below, allowing time for complete mixing and dispersion after addition of each product. Be sure to allow extra mixing and dispersion time for dry flowable products.

Add different formulation types in the following order: dry flowables (DF); wettable powders (WP); ET-029 and other aqueous suspensions (AS); flowables (F) and liquids (L); solutions (S); and emulsifiable concentrates (EC).

Continue agitation and finish filling the spray tank with clean water. Maintain agitation until application is completed. If spraying and agitation must be stopped before the spray tank is empty, the materials may settle to the bottom. Settled materials must be completely resuspended before spraying is continued. A sparger agitator is particularly useful for this purpose.

**Premixing**

When tank mixing, initial mixing and dispersion of certain dry flowable or wettable powder products may be improved by premixing with water (slurrying). Adding the slurried material to the spray tank through a wetting screen of 20 or 35 mesh will help assure good initial dispersion.

**APPLICATION INSTRUCTIONS****Soil Preparation**

ET-029 controls weeds growing from seed and will NOT control emerged weeds. ET-029 does not control established weeds, weeds growing from stolens, rhizomes, or root pieces and areas to be treated should be free of emerged weeds. Weed residues, prunings, and trash should be thoroughly mixed into the soil or removed prior to treatment. In field applications, the soil should be in good tilth and free of clods at the time of application.

**Ground Application**

Apply ET-029 as a directed spray to the soil surface or over the top of plants. Use only a properly calibrated, low-pressure, herbicide sprayer that will apply the spray uniformly. Use screens no finer than 50 mesh in nozzles and in-line strainers. Apply the appropriate rate of ET-029, as outlined in the "Approved Uses" section of this label. In all cases, use sufficient water volume to obtain uniform coverage and deliver the desired rate of ET-029 to the treated area. The volume of water used is not critical as long as the desired rate of ET-029 is delivered uniformly across the area treated. When calibrating, determine the volume of water delivered by the sprayer to a given area (1,000 sq. ft, 1 acre, etc.). Then mix the desired rate of ET-029 in the amount of water required to cover the entire area to be treated. As the amount of water used (spray volume) decreases, the importance of accurate calibration and uniform application increases. Check the sprayer daily to ensure proper calibration and uniform application. Maintain continuous agitation from mixing through application. Avoid spray pattern skips and overlaps that may result in incomplete coverage or over-application.

**Hand-Held or Backpack Sprayer Application**

The amount of water used to apply ET-029 is not critical, but should be sufficient for uniform coverage of the target area. Calibrate by determining the volume of water required to treat 1,000 sq. ft. Use this calibration volume to determine the amount of water and ET-029 needed to treat the target area (see the following calibration example). Note: Sprayer calibration (volume of spray needed to treat 1,000 sq. ft.) will vary with each individual operator.

**Steps in Calibration:**

1. Mark an area of 1,000 sq. ft. (i.e., 20 by 50 feet, or 25 by 40 feet).
2. Place the sprayer on a level surface and add water noting the final level of water in the spray tank.
3. Spray the marked area with a sufficient volume of water to provide uniform coverage. Refill the sprayer to the same level as before measuring the amount of water added. The measured water added to the sprayer is the volume needed to cover 1,000 sq. ft.
4. Determine the application rate (fl. oz./1,000 sq. ft.) for ET-029 from the "Approved Uses" section of this label.

5. To each volume of water used, as measured in step 3, add the amount of ET-029 as determined in step 4.

Example: If the sprayer used 2 gallons of water to cover 1,000 sq. ft. and the desired ET-029 application rate is 3 fl. oz./1,000 sq. ft., then you would add 3 fl. oz. of ET-029 to every 2 gallons of water to be used.

### **Application through Irrigation Systems (Chemigation)**

ET-029 may be applied through properly equipped chemigation systems for weed control in fruit and nut orchards or vineyards and in tree plantations grown for pulp. Read and follow all label instructions outlined below concerning chemigation before applying ET-029 by this method.

#### **Chemigation Use Precautions:**

- Apply ET-029 only through solid set or hand move systems designed to distribute sprinkler irrigation beneath the tree canopy. Solid set systems utilizing tall risers for overhead application are excluded, except for dormant season applications of ET-029. Do not apply this product through any other type of irrigation system.
- Crop injury, lack of effectiveness, or illegal residues in the crop can result from non-uniform distribution of treated water.
- If you have any questions about calibration, you should contact State Extension Service specialist, equipment manufacturers or other experts.
- Do not connect an irrigation system (including greenhouse system) used for pesticide application to a public water system.
- A person knowledgeable of the chemigation system and responsible for its operation, or a person who is under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

**Chemigation Mixing Directions:** The injection mixture (slurry) with minimum volume may be prepared by adding the required amount of ET-029 to an equal amount of water in the injection tank (ratio ET-029 to water = 1:1). Meter the mixture into the irrigation system during the entire irrigation period. Additional dilution of ET-029 may be necessary for accurate calibration of equipment designed to deliver a larger injection volume per hour. Maintain supply tank agitation throughout the irrigation period. Undiluted ET-029 should not be injected into chemigation systems.

**Sprinkler Chemigation Directions:** The following directions must be followed for all recommended sprinkler irrigation systems (solid set and hand move systems):

1. The system must contain a functional check valve, vacuum relief valve and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
3. The pesticide injection pipeline must also contain a functional normally closed solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
5. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where the pesticide distribution is adversely affected.
6. Systems must use a metering pump such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
7. Do not apply when wind speed favors drift beyond the area intended for treatment.
8. Inject ET-029 continuously throughout the chemigation period. The chemigation metering pump should be checked periodically during application to ensure proper operation.

9. The injection metering pump must be calibrated as specified by the manufacturer.
10. During chemigation, maintain agitation in supply tank at all times.
11. ET-029 may cause some staining of plastic hoses and tanks.
12. Apply ET-029 in sprinkler irrigation equal to  $Y_o$  to 1 inch of water.

#### **Chemigation System Calibration:**

The following is an example calculation for applying ET-029 to 35 acres through an irrigation system.

1. Assume an application rate of 1 quart / acre. This equates to 35 quarts (8.75 gallons) for 35 acres.
2. Prepare a mixture of 1 part ET-029 and 1 part water by adding 8.75 gallons of ET-029 to 8.75 gallons of water (17.5 gallons total volume).
3. Set the injection system to deliver 17.5 gallons in the time required to apply 1 inch of water to 35 acres. If the system requires 5 hours to apply 1 inch of water to 35 acres, the injection rate is 3.5 gallons per hour and is calculated as follows:

$$\frac{17.5 \text{ gallons}}{5 \text{ hours}} = 3.5 \text{ gallons per hour}$$

Ounces per minute may be calculated as follows:

$$3.5 \text{ gallons per hour} = 448 \text{ fluid ounces per hour}$$

$$\frac{448 \text{ fl. oz. per hour}}{60 \text{ minutes per hour}} = 7.47 \text{ fluid ounces per minute}$$

#### **Activation and Cultivation**

ET-029 remains stable on the soil surface up to 21 days following application. In the absence of timely rainfall, irrigation can be used to activate ET-029. A minimum of to inch of rain or its equivalent in sprinkler irrigation is necessary to activate ET-029. If weeds begin to emerge due to lack of rainfall or irrigation, shallow cultivate 1-2 inches deep to destroy existing weeds, or remove them by hand. Shallow cultivation to a depth of 1-2 inches will enhance herbicidal effectiveness. Erratic weed control may result if ET-029 is not activated by rainfall, irrigation, or cultivation within 21 days of application, or existing weeds have not been removed.

#### **Equipment Cleanup**

If a buildup of material occurs on the walls of the spray tank, it should be removed between fillings by washing with soap and water and rinsing thoroughly. Tanks, lines, screens, and nozzles should be cleaned thoroughly after each use.

#### **ORNAMENTAL PLANTINGS**

ET -029 may be applied to the following landscape container-and field-grown established ornamental plants including: trees, shrubs, ground covers/perennials, flowers, non-bearing fruit and nut trees, non-bearing vineyards; and in the production of ornamental bulbs (See "Ornamental Bulbs" section for specific use directions):

**NOTE: Injury from ET-029 applications to the following plant species has been observed and use is NOT recommended:**

Begonia spp. (begonia)	Pseudotsuga menziesii (Douglas fir)
Coleus hybridus (coleus)	Thuja occidentalis "Techny" (Techny arborvitae)
Deutzia gracillis (slender deutzia)	Tsuga canadensis (eastern hemlock)

TREES

RECOMMENDED TREATMENT TYPES: F = Field Grown, C = Container Grown

Scientific Name	Common Name	Treatment	Scientific Name	Common Name	Treatment
<i>Abies balsamea</i>	Fir, balsam	F	<i>Heteromeles arbutiflora</i>	Toyon	F
<i>Abies concolor</i>	Fir, white	F	<i>Juniperus virginiana</i>	Redcedar, Eastern	F
<i>Abies fraseri</i>	Fir, fraser	F	<i>Koeleruteria paniculata</i>	Goldenrain tree	F
<i>Abies grandis</i>	Fir, grand	F	<i>Liquidambar styraciflua</i>	Sweetgum, American	C,F
<i>Abies veitchii</i>	Fir, Vietch	F	<i>Magnolia</i> spp.	Magnolia	F
<i>Abies lasiocarpa</i>	Fir, alpine	F	<i>Malus</i> spp.	Crabapple	F
<i>Abutilon hybridum</i>	Albus-flowering maple	F	<i>Morus alba</i>	White mulberry	F
	Luteus-flowering maple	F	<i>Picea abies</i>	Pendula-weeping Norway spruce	F
	Roseus-flowering maple	F		Repens-spreading Norway spruce	F
	Tangerine-flowering maple	F		Spruce, Norway	F
	Vesuvius red-flowering maple	F	<i>Picea engelmanni</i>	Spruce, Englemann	F
<i>Acer ginnala</i>	Flame maple	F	<i>Picea glauca</i>	Spruce, white	F
<i>Acer rubrum</i>	Red sunset maple	F		Conica-dwarf Alberta spruce	F
<i>Acer saccharinum</i>	Silver maple	F	<i>Picea glauca conica</i>	Dwarf Alberta spruce	F
<i>Acer</i> spp.	Maple	F	<i>Picea mariana</i>	Spruce, black	F
<i>Alsophila australis</i>	Australian tree fern	C,F	<i>Picea pungens</i>	Glauc-Colorado blue spruce	F
<i>Areacastrum romanzoffianum</i>	Queen palm	F		Hoopsii-Hoop's blue spruce	F
<i>Betula nigra</i>	Birch, river	F		Koster-Koster blue spruce	F
<i>Betula papyrifera</i>	Paper birch	F		Spruce, Colorado	C,F
<i>Betula pendula</i>	Birch, white	F	<i>Pinus aristata</i>	Bristlecone pine	F
<i>Bucida buceras</i>	Black olive	F	<i>Pinus canariensis</i>	Canary Island pine	F
<i>Carya</i> spp.	Pecan, ornamental	C,F	<i>Pinus contorta</i>	Shore pine, beach pine	F
<i>Cedrus, atlantica</i>	Atlas cedar	C,F	<i>Pinus eldarica</i>	Eldarica pine	F
<i>Cedrus deodara</i>	Deodar cedar	C,F	<i>Pinus halepensis</i>	Aleppo pine	C,F
<i>Ceratonia siliqua</i>	Carob	F	<i>Pinus radiata</i>	Monterey pine	F
<i>Cercidium floridum</i>	Palo Verde, blue	F	<i>Pinus</i> spp.	Pine	C,F
<i>Cercis canadensis</i>	Redbud	C,F	<i>Pinus strobus</i>	Eastern white pine	F
<i>Chamaecyparis lawsoniana</i>	Falsecypress, Lawson	F	<i>Pinus sylvestris</i>	Scotch pine	F
<i>Chamaecyparis</i>	Filicoides-	F	<i>Pinus</i>	Japanese black	F

**RECOMMENDED TREATMENT TYPES:** F = Field Grown, C = Container Grown

Scientific Name	Common Name	Treatment	Scientific Name	Common Name	Treatment
<i>obtusa</i>	fernspray cypress		<i>thunbergiana</i>	pine	
	Gracilis-slender	F	<i>Platanus</i>	American	F
	Hinoki cypress		<i>occidentalis</i>	sycamore	
<i>Chamaecyparis</i>	Sawara-false	F	<i>Platanus</i>	California	F
<i>pisifera</i>	cypress		<i>racemosa</i>	sycamore	
	Squarrosa-moss	F	<i>Podocarpus</i>	Podocarpus	F
	cypress		spp.		
<i>Chamaedorea</i>	Cat Palm	F	<i>Populus</i>	Cottonwood	F
<i>cataractarum</i>			<i>deltoicfes</i>		
<i>Chamaedorea</i>	Palm	F		Cottonwood	F
<i>costaricana</i>				(grown for pulp)	
<i>Chamaedorea</i>	Parlor palm	F	<i>Prunus</i>	Laurelcherry,	F
<i>etegans</i>			<i>caroliniana</i>	Carolina	
<i>Citrus</i> spp.	Citrus, ornamental	C,F	<i>Prunus</i>	Dwarf flowering	C,F
			<i>glandulosa</i>	almond	
<i>Cornus florida</i>	Dogwood,	F	<i>Prunus</i>	Laurelcherry,	F
	flowering		<i>laurocerasus</i>	English	
<b><i>Cryptomeria</i></b>	Cryptomeria,	C,F	<i>Prunus mahaleb</i>	Cherry, Mahaleb	F
<i>japonica</i>	Japanese				
<i>Cupaniopsis</i>	Carrot wood	F	<i>Prunus</i>	Yoshino	F
<i>anacardioides</i>			<i>yedoensis</i>	flowering cherry	
<i>Cupressus</i>	Cypress, Arizona	C,F	<i>Pyrus communis</i>	Pear	F
<i>arizonica (glabra)</i>					
<i>Cupressus glabra</i>	Arizona cypress	C,F	<i>Quercus</i>	Pin oak	F
			<i>palustris</i>		
<i>Cupressocyparis</i>	Leyland cypress	C,F	<i>Quercus phellos</i>	Willow oak	F
<i>feylandii</i>					
<i>Cupressus</i>	Cypress, Italian	C,F	<i>Quercus rubra</i>	Red oak	C,F
<i>sempervirens</i>					
<i>Dicksonia</i>	Tasmanian tree	C,F	<i>Quercus</i> spp.	<b>Oak</b>	C,F
<i>antarctica</i>	fern				
<i>Elaeagnus</i>	Russian olive	C,F	<i>Salix babylonica</i>	Babylon	F
<i>angustifolia</i>				weeping willow	
<i>Eucalyptus</i>	Red gum	F		Corkscrew	F
<i>camaldulensis</i>	eucalyptus			willow	
<i>Eucalyptus</i>	Eucalyptus, mealy	F	<i>Schfnus mo/le</i>	California	F
<i>cinerea</i>				pepper tree	
	Silver dollar	F		Redwood, coast	F
	eucalyptus		<i>Sequoia</i>		
<i>Eucalyptus</i>	Eucalyptus,	F	<i>sempervirens</i>		
<i>nichofii</i>	narrow-leaved		<i>Sequoiadendron</i>	Giant sequoia	F
<i>Eucalyptus</i>	Eucalyptus, red	F	<i>giganteum</i>		
<i>sidero1&lt;y/on</i>	ironbark		<i>Swietania</i>	Mahogany	F
<i>Ficus benjamina</i>	Ficus	F	<i>mahogani</i>		
			<i>Tabebuia</i>	Yellow tab	F
<i>Fraxinus</i> spp.	Ash	F	<i>caraiba</i>		
<i>Ginkgo biloba</i>	Ginkgo	C,F	<i>Tifia cordata</i>	Linden, little leaf	C,F
	(Maidenhair tree)		<i>U/mus parvifoNa</i>	Chinese elm	F
<i>Gteditsia</i>	Honey locust	F			
<i>triacanthos</i>			<i>Umbellularia</i>	California laurel	F
			<i>californica</i>		
			<i>Washingtonia</i>	Mexican fan	F
			<i>robusta</i>	palm	

SHRUBS

RECOMMENDED Scientific Name	TREATMENT TYPE: Common Name	: F = Field Grown, C = Container Grown	Treatment	Scientific Name	Common Name	Treatment
<i>Abelia grandiflora</i>	Glossy abelia	F		<i>Lonicera periclymenum</i>	Flowering woodbine	F
<i>Acacia redolens</i>	Acacia, prostrate	F			Serotina woodbine	F
<i>Agave americana</i>	Century plant	F		<i>Lonicera sempervirens</i>	Trumpet honeysuckle	F
<i>Agave macrocarpa</i>	Agave	F		<i>Lorpetalum chinense</i>	(No common name)	C,F
<i>Anisodonta hypomandarinum</i>	Cape mallow	C,F		<i>Mahonia aquifolium</i>	Oregon grape	F
<i>Arctostaphylos stanfordiana</i>	Manzanita, Stanford	F		<i>Myoporum parvifolium</i>	Myoporum, prostrate	F
<i>Aster chinensis</i>	Astilbe/false spirea	C,F		<i>Myrtus communis</i>	Myrtle, true	C,F
<i>Baccharis pilularis</i>	Coyotebush	F		<i>Nandina domestica</i>	Compacta-dwarf heavenly bamboo	C,F
<i>Berberis thunbergii</i>	Aurea-golden Japanese barberry	C, F			Harbour dwarf-heavenly bamboo	C, F
	Crimson pygmy barberry	C,F			Heavenly bamboo (Nandina)	C,F
	Atropurea-redleaf Japanese barberry	C,F			Nana compacta-heavenly bamboo	C,F
	Barberry, Japanese	C,F			Nana purpurea-heavenly bamboo	C,F
<i>Bougainvillea</i> spp.	Barbara Karst	F			Woods dwarf-heavenly bamboo	C,F
	California gold	F		<i>Nerium oleander</i>	Hardy red oleander	C,F
	Scarlet O'Hara	F			Oleander	C,F
	Texas dawn	F			Ruby lace oleander	C,F
<i>Buxus microphylla</i>	Littleleaf boxwood	F		<i>Osmanthus heterophyllus</i>	Osmanthus, holly-leaf	F
<i>Buxus microphylla japonica</i>	Boxwood, Japanese	C,F		<i>Pachysandra terminalis</i>	Japanese spurge	C,F
<i>Buxus sempervirens</i>	Boxwood, common	C,F		<i>Philadelphus</i> spp.	Mockorange	C, F
<i>Callistemon citrinus</i>	Bottlebrush, lemon	C,F		<i>Phoenix roe/oelenii</i>	Pigmy date palm	F
<i>Cassia artemisioides</i>	Cassia, feathery	F		<i>Photinia fraseri</i>	Fraser's photinia	C,F
<i>Ceanothus americanus</i>	Jerseytea, redroot	C,F			Photinia	C,F
<i>Ceanothus</i> spp.	Wild lilac	C,F		<i>Pieris japonica</i>	Lily-of-the-valley	F
<i>Chaenomeles japonica</i>	Flowering quince	C,F			Snowdrift lily-of-the-valley	F



**RECOMMENDED TREATMENT TYPES: F = Field Grown, C = Container Grown**

Scientific Name	Common Name	Treatment	Scientific Name	Common Name	Treatment
<i>Chamaecyparis obtusa</i>	Kosteri cypress	F		Temple bells lily-of-the-valley	<b>F</b>
	Nana-dwarf	F		Valley rose lily-of-the-valley	F
	Hinoki cypress			Andromeda	C,F
	Torulosa cypress	F		Pittosporum	C,F
<i>Chamaecyparis pisifera</i>	Squarrosa	F	<i>Pittosporum</i> spp.		
<i>Chamaecyparis pisifera</i> spp.	Minima cypress		<i>Pittosporum tobira</i>	Green pittosporum	F
<i>Chrysalidocarpus futescens</i>	Filifera-thread cypress	F		Japanese pittosporum	<b>F</b>
<i>Cleyera japonica</i>	Areca palm	F		Tobira	F
	Cleyera, Japanese	C,F		Wheeler's dwarf pittosporum	F
<i>Cofeonea pulchrum</i>	Pink breath of heaven	C,F		Arborvitae, Oriental	C,F
<i>Cornus alba</i>	Sibirica-Siberian dogwood	F	<i>P/atyca/adus orientalis</i>	Blue cape plumbago	F
<i>Cornus kousa</i>	Dogwood, kousa	C,F	<i>Plumbago ariculata</i>	Yewpine	<b>C,F</b>
<i>Cornus stolonifera</i>	Flaviramea-yellowtwig dogwood	F	<i>Podocarpus macrophyllus</i>		
<i>Cotoneaster adpressus</i>	Praecox-early cotoneaster	F	<i>Potentilla fragiformis</i>	Cinquefoil	F
<i>Cotoneaster apiculatus</i>	Cotoneaster, cranberry	C,F	<i>Potentilla fruticosa</i>	Cinquefoil	C,F
<i>Cotoneaster buxifolius</i>	Cotoneaster, brightbead	F	<i>Protea neriifolia</i>	Protea	F
<i>Cotoneaster congestus</i>	Cotoneaster, Pyrenees	F	<i>Pyracantha coccinea</i>	Firethorn, scarlet	C,F
<i>Cotoneaster dammeri</i>	Cotoneaster, bearberry	C,F	<i>Pyracantha fortuneana</i>	Lolendei Monrovia pyracantha Monon	C,F
<i>Cotoneaster himalayan</i>	Himalayan cotoneaster	F		pyracantha Red elf hybrid	C,F
<i>Cotoneaster horizontalis</i>	Cotoneaster, rock	C,F		pyracantha Rutgers hybrid	<b>C,F</b>
<i>Cotoneaster lacteus</i>	Cotoneaster, parney	C,F		pyracantha Santa Cruz	C,F
<i>Cotoneaster microphyllus</i>	Cotoneaster, rockspray	F		pyracantha Victory	C,F
<i>Cotoneaster salicifolia</i>	<b>Willowleaf</b> cotoneaster	C,F		pyracantha Firethorn, formosa	C,F
<i>Cytisus praecox</i>	Hollandia-warminster broom	<b>F</b>	<i>Pyracantha skoidzumi</i>	Flrethorn	<b>C,F</b>
<i>Cytisus scoparius</i>	Lena-Scotch broom	F	<i>Pyracantha fortuneana</i>		
<i>Dasyllron wheeleri</i>	Sotol, desert spoon	<b>F</b>	<i>Rhaphiolepis indica</i>	Enchantress-Moness	F
				rhaphiolepis	
<i>Deutzia crenata</i>	Nakiana-dwarf deutzia	<b>F</b>		Rhaphiolepis (India hawthorn)	C,F
<i>Dodonaea viscosa</i>	Hopseedbush, clammy	F		Springtime-Monme	<b>F</b>



RECOMMENDED TREATMENT TYPES: F =Field Grown, C = Container Grown					
Scientific Name	Common Name	Treatment	Scientific Name	Common Name	Treatment
	Hopseed bush	F	<i>Raphiolepis ovata</i>	Raphiolepis Roundleaf	F
<i>Escallonia exoniensis</i>	Escallonia	C,F	<i>Rhipsalis gaertnari</i>	Eastercactus	C,F
<i>Euonymus alata</i>	Euonymus, winged	F	<i>Rhododendron calendulaceum</i>	Flame azalea	F
<i>Euonymus fortunei</i>	Canadale gold euonymus	C,F	<i>Rhododendron campylocarpum</i>	Butterfly rhododendron	F
	Emerald 'ri gold euonymus	C,F	<i>Rhododendron carolinianum x dauricum</i>	PJM rhododendron	F
	Euonymus, stringybark	C,F	<i>Rhododendron catawbiense</i>	Catawba album rhododendron	C,F
	Wintercreeper	C,F		Catawba rhododendron	C,F
<i>Euonymus japonica</i>	Euonymus, evergreener,	C,F		Lord Roberts rhododendron	C,F
	Silver king euonymus	F		Rocket rhododendron	C,F
<i>Euonymus kiatschovica</i>	Spreading euonymus	F	<i>Rhododendron forrestii x grlersonianum</i>	Elizabeth rhododendron	F
<i>Euonymus vegetus</i>	Bigleaf wintercreeper	C,F	<i>Rhododendron hybrid spp.</i>	American rhododendron	F
<i>Fatsia lizei</i>	Fatsia	C,F		English Roseum rhododendron	F
<i>Fatsia japonica</i>	Japanese aralia	C,F		Nova Zembla rhododendron	F
<i>Felicia amelloides</i>	Blue marguerite	C,F		Scintillation rhododendron	F
<i>Forsythia intermedia</i>	Forsythia, border	F	<i>Rhododendron impeditum</i>	Rhododendron	F
<i>Gardenia jasminoides</i>	Gardenia	C,F	<i>Rhododendron indica</i>	Formosa azalea	C,F
<i>Genista pilosa</i>	Woadwaxen	F		Waucabusa azalea	C,F
<i>Hibiscus rosa-sinesis</i>	Ross Estey-hibiscus	F	<i>Rhododendron kerume</i>	Coral bells azalea	C,F
	Hibiscus, Chinese	F		Hino crimson azalea	C,F
<i>Hibiscus syriacus</i>	Rose of Sharon, Red Bird	F		Hino pink azalea	C,F
	Rose of Sharon, Red Heart	F		Snow azalea	C,F
	Rose of Sharon, Woodbridge	F	<i>Rhododendron maximum</i>	Rhodie max (rosebay)	C,F
	Rose-of-Sharon (Shrubalthea)	F	<i>Rhododendron mucronulatum</i>	Rhododendron	F
<i>Ilex aquifolium</i>	Balkans holly	F	<i>Rhododendron satsumi</i>	Gumpo pink azalea	F
	Gold coast holly	F		Higasa azalea	F
	Holly, English	F	<i>Rhododendron spp.</i>	Azalea	C,F

**RECOMMENDED TREATMENT TYPES; F = Field Grown, C = Container Grown**

Scientific Name	Common Name	Treatment	Scientific Name	Common Name	Treatment
<i>Ilex aquipernyi</i>	San Jose holly	C,F		Rhododendron	C,F
<i>Ilex comuta</i>	Dwarf Burford holly	C,F	<i>Rhododendron</i> spp. <i>Hybrids</i>	Carror azalea	C,F
	Holly, Chinese	C,F		Girard Roberta azalea	F
<i>Ilex crenata</i>	Compacta-dwarf Japanese holly	C,F		Golden flare exbury azalea	F
	Convexa holly	C,F	<i>Rhus Jancea</i>	Sumac, African	C,F
	Helleri-Heller's Japanese holly	C,F	<i>Rosa rugosa</i>	<b>Ramanas rose</b>	F
	Holly, Japanese	C,F	<i>Rosmarinus officinalis</i>	Rosemary	F
<i>Ilex glabra</i>	Nordica-inkberry holly	F	<i>Senecio cineraria</i>	Dusty miller	C,F
<i>Ilex meserveee</i>	Blue boy holly	F	<i>Spiraea vanhouttei</i>	Bridal wreath	F
	Blue girl holly	F	<i>Syn'nga vulgaris</i>	Lilac, common	C,F
	Ebony magic holly	F	<b>Syzygium</b> <i>paniculata</i>	Brush cherry	C,F
<i>Ilex vomitoria</i>	Nana-dwarf yaupon holly	C,F	<i>Taxus cuspidate</i>	Yew, Japanese	F
	Pendula-weeping yaupon holly	C,F	<i>Taxus media</i>	<b>Yew</b>	F
	Yaupon holly	C,F	<i>Thuja occidentalis</i>	<b>Arborvitae, American</b>	C,F
<i>Juniperus chinensis</i>	<b>Media-old</b> gold juniper	C,F		Emerald arborvitae	F
<i>Juniperus conferta</i>	Emerald sea shore juniper	F		Globosa-globe arborvitae	F
<i>Juniperus horizontalis</i>	Huntington blue juniper	C,F		<b>arborvitae</b>	F
	Wiltonli-blue carpet juniper	C,F		Little giant-dwarf arborvitae	F
				Nigra-dark American arborvitae	F
<i>Juniperus procumbens</i>	<b>Nana-dwarf</b> Japanese garden juniper	C,F		Pyramidalis arborvitae	F
<i>Juniperus prostrata</i>	Prostrata juniper	C,F		Rheingold arborvitae	F
<i>Juniperus sabina</i>	Broadmoor juniper	F		Woodwardii arborvitae	F
	Foemina-Hicks juniper	F	<i>Thuja orientalis</i>	Aureus nana-dwarf golden arborvitae	F
	Tamariscifolia-Tam juniper	F		Minima glauca-dwarf arborvitae	F
<i>Juniperus scopulorum</i>	Emerald green juniper	F	<i>Thuja plicata</i>	Red Cedar, Western	F
<i>Juniperus</i> spp.	Juniper	C,F	<i>Tracheospermum jasminoides</i>	Star Jasmine, Chinese	F
<i>Juniperus squamata</i>	Blue juniper	F	<i>Veitchia merrilli</i>	Christmas palm	F
	Blue <b>star</b> juniper	F	<i>Viburnum carlesii</i>	Koreanspice viburnum	C,F
	Parsonii juniper	F	<i>Viburnum davidii</i>	David viburnum	F

RECOMMENDED TREATMENT TYPES: F = Field Grown, C = Container Grown

Scientific Name	Common Name	Treatment	Scientific Name	Common Name	Treatment
<i>Justicia brandegeana</i>	Shrimp plant	C,F	<i>Viburnum japonicum</i>	Viburnum	F
<i>Justicia spicigera</i>	Honeysuckle, Mexican	F	<i>Viburnum judd</i> (V X Judii)	Viburnum	C,F
<i>Kalmia latifolia</i>	Laurel, mountain	F	<i>Viburnum opulus sterile</i>	Common snowball viburnum	F
<i>Lagerstroemia indica</i>	Crape myrtle	C,F	<i>Viburnum plicatum tomentosum</i>	Doublefile viburnum	F
<i>Lavandula angustifolia</i>	English lavender	C,F	<i>Viburnum setigerum</i>	Tea viburnum	F
<i>Leucothoe axillaries</i>	Leucothoe, coast	F	<i>Viburnum suspensum</i>	Viburnum, Sandankwa	F
<i>Leucothoe fontanesiana</i>	Leucothoe, drooping	F	<i>Viburnum tinus</i>	Viburnum, Laurustinus	C,F
<i>Ligustrum amurense</i>	Privet, amur	C,F		Compactum-spring bouquet viburnum	F
<i>Ligustrum japonicum</i>	Privet, Japanese	C,F	<i>Viburnum tinus compactum</i>	Spring bouquet viburnum	F
	Yellow tip ligustrum	C,F	<i>Viburnum trilobum compactum</i>	Dwarf cranberry bush	F
<i>Ligustrum lucidum</i>	Privet, glossy	C,F	<i>Viburnum x pragense</i>	Viburnum	F
<i>Ligustrum ovalifolium</i>	California privet	F	<i>Weigela florida</i>	Bristol ruby weigela	F
<i>Ligustrum texanum</i>	Howardi privet	F		Java red weigela	F
	Wax leaf privet	F		Minuet weigela	F
<i>Ligustrum vicaryi</i>	Privet, golden	C,F		Weigela, oldfashioned	F
	Vicary golden privet	C,F	<i>Xylosma congestum</i>	Xylosma	F
<i>LMstona chinensis</i>	Chinese fountain palm	F	<i>Yucca elata</i>	Yucca, soaptree	C,F
<i>Lonicera fragrantissima</i>	Winter honeysuckle	F	<i>Yucca recurvifolia</i>	Yucca, pendulous	F

#### GROUND COVERS/PERENNIALS

RECOMMENDED TREATMENT TYPES: F = Field Grown, C = Container Grown

Scientific Name	Common Name	Treatment	Scientific Name	Common Name	Treatment
<i>Agapanthus africanus</i>	Lily-of-the-Nile	C,F	<i>Hosta</i> spp.	Lily, plantain	C,F
<i>Ajuga</i> spp.	Carpet bugle	F	<i>Heuchera micrantha</i>	Coral bells	C,F
<i>Arctotheca calendula</i>	Cape weed	F	<i>Hypericum</i> spp.	St. Johnswort	C,F
<i>Asparagus retrofractus</i>	(No common name)	C,F	<i>Iberis sempervirens</i>	Evergreen candytuft	C,F
<i>Asparagus varieiegata</i>	Tree fern	C,F	<i>Lampranthus spectabilis</i>	Trailing iceplant	F
<i>Aster novae-angliae</i>	New England aster	C,F	<i>Leptospermum scoparium</i>	New Zealand teatree/Manuka	C,F

**RECOMMENDED TREATMENT TYPES: F= Field Grown, C = Container Grown**

Scientific Name	Common Name	Treatment	Scientific Name	Common Name	Treatment
<i>Aster novi-belgii</i>	New York aster	C, F	<i>Limonium perezii</i>	<b>Statice/Sea</b> lavender	C, F
<i>Athyrium nipponicum</i>	Japanese painter fern	C,F	<i>Liriope gigantea</i>	White lily turf	F
<i>Brassica oleracea</i>	Wild cabbage	C,F	<i>Liriope muscari</i>	Lilac beauty lily turf	C, F
<i>Callistephus chinensis</i>	China aster	C,F		Majestic lily turf	C,F
<i>Campanula</i>	Bellflower	C,F		Monroe white lily turf	C, F
<i>Carpobrotus edulis</i>	Ice plant, largeleaf	F		Silvery sunproof lily turf	C, F
<i>Clytostoma callistegioides</i>	Trumpet vine, violet	C,F		Variegated liriope lily turf	C,F
<i>Cortaderia selloana</i>	Pampas grass	F		Big blue lily turf	C,F
<i>Cuphea hyssopifolia</i>	False Mexican heather	C, F	<i>Lobelia erinus</i>	Edging lobelia	C,F
<i>Delosperma alba</i>	White iceplant	F	<i>Lonicera japonica</i>	Honeysuckle, Japanese	F
<i>Dietes vegeta</i>	Fortnight lily	C,F	<i>Mesembryanthemum crystallinum</i>	Ice plant (see label)	F
<i>Digitalis mertonensis</i>	Foxglove	C,F	<i>Ophiopogon japonicus</i>	Mondo grass	F
<i>Doronicum cordatum</i>	leopard's bane	C,F	<i>Osteospermum fruticosum</i>	Daisy, trailing African	F
<i>Drosera</i>	Trailing rosea iceplant	F	<i>Pachysandra terminalis</i>	Japanese spurge	F
<i>Erianthus ravennae</i>	Hardy pampas grass	C,F	<i>Pennisetum setaceum</i>	Fountaingrass	C,F
<i>Festuca ovina glauca</i>	Blue fescue	F	<i>Polystichum polybipharum</i>	Tassel fern	C,F
<i>Gai/Jardia grandiflora</i>	Blanket flower	C,F	<i>Sedum brevifolium</i>	Stonecrop	C,F
<i>Gazania rigens</i>	Gazania, trailing	C,F	<i>Sedum kamtschaticum</i>	Stonecrop	C,F
<i>Gazania</i> spp.	Gazania	F	<i>Sedum spurfum</i>	Stonecrop, <b>tworow</b>	C,F
<i>Hedera canariensis</i>	Ivy, Algerian	F	<i>Tulbaghia violacea</i>	Society garlic	C,F
<i>Hedera helix</i>	Ivy, English	F	<i>Verbena rigida</i>	Veined verbena	C,F
<i>Heliotropium fragrans</i>	Common heliotrope	C,F	<i>Veronica</i> spp.	<b>Speedwell</b>	C,F
<i>Hemerocallis</i> spp.	Daylily	C,F	<i>Vinca major</i>	Periwinkle, bigleaf	F
<i>Hosta Jancifolia</i>	Albo-marginata hosta	C,F	<i>Vinca minor</i>	Periwinkle, dwarf	F
<i>Hosta</i> spp.	Lily, plantain	C,F			

.,When establishing unrooted ice plant on coarse-textured soils in landscape plantings, do not exceed the 2-quart per acre rate of ET-029 or crop injury may occur.

# FLOWERS

RECOMMENDED TREATMENT TYPES: F = Field Grown, C = Container Grown

Scientific Name	Common Name	Treatment	Scientific Name	Common Name	Treatment
<i>Achillea</i> spp.	Yarrow	C,F	<i>Impatiens</i>	Impatiens (Busy lizzie)	F
<i>Antirrhinum majus</i>	Snapdragon	F	<i>wa/Jerana</i>	Iris, bearded	F
<i>Caladium bicolor</i>	Caladium, fancy leafed	F	<i>Iris</i> spp.		
<i>Chrysanthemum</i> spp.	Chrysanthemum	C,F	<i>Uatris spicata</i>	Blazing star	C,F
<i>Caladium bico/or</i>	Fancy-leafed caladium	F	<i>Pe/argon/um hortorum</i>	Geranium	F
<i>Coreopsis lanceolata</i>	Coreopsis	F	<i>Petunia</i> spp.	Petunia	C,F
<i>Coreopsis verticulata</i>	Threadleaf coreopsis	C,F	<i>Portulaca grandiflora</i>	Moss, rose	F
<i>Dianthus barbatus</i>	Sweet William	F	<i>Ranuncu/us asiaticus</i>	Ranunculus, Persian	F
<i>Dianthus gratianopolitanus</i>	Cheddar pink	C,F	<i>Rosa</i> spp.	Rose	F
<i>Dicentra spectabilis</i>	Bleeding heart	C,F	<i>Rudbeckia fulgida</i>	Blackeyed susan	C,F
<i>Dimorphotheca</i> spp.	Marigold, cape	F	<i>Rudbeckia hirta</i>	Daisy, gloriosa (black-eyed Susan)	F
<i>Echinacea purpurea</i>	Coneflower, purple	C,F	<i>Salvia</i> spp.	Salvia (Sage)	F
<i>Evolvulus nuttallianus</i>	Blue daze	C,F	<i>Stokesia laevis</i>	Aster, stokes	F
<i>Geum quelfyon</i>	Geum	F	<i>Streiffzia reginae</i>	Bird of paradise	F
<i>Gladiolus hortulanus</i>	Gladiolus	F	<i>Tagetes</i> spp.	Marigold	F
<i>Gypsophila paniculata</i>	Baby's breath	F	<i>Viola</i>	Pansy	F
			<i>wittrockiana</i>		
			<i>Zinnia elegans</i>	Zinnia, common	F

# NON-BEARING TREES AND VINES

almond	F	kiwi	F
apple	F	kumquat	C,F
apricot	F	lemon	F
avocado	F	loganberry	F
blackberry	F	macadamia nut	F
blueberry	F	nectarine	F
boysenberry	F	olive	F
cherry, sour	F	orange	C,F
cherry, sweet	F	peach	F
currant	F	pear	F
dewberry	F	pecan	C,F
elderberry	F	pistachio	F
fig	F	plum	F
filbert	F	pomegranate	F
gooseberry	F	prune	F
grape, American	F	raspberry	F

grape,	F	walnut, black	F
European grapefruit	F	walnut, English	F
† Non-bearing plants are plants that will not bear fruit for at least one year after treatment.			

#### Use Precautions:

- To avoid possible injury, do not apply ET-029 to:
  - Nursery, forest, or Christmas trees: seedling beds, cutting beds, or transplant beds.
  - Unrooted liners or cuttings that have been planted in pots for the first time.
  - Pots less than 4 inches wide.
  - Ground covers until they are established and well rooted.
  - Ornamental plantings where there is likelihood of runoff onto lawn areas.
  - Areas containing dichondra or cool season turfgrass species.
- For soils treated with ET-029 during the previous season, plant only the ornamental species listed on this label or injury may occur.
- Apply only to established plants that have been transplanted into their growing location for a sufficient period of time to allow the soil to be firmly settled around the roots from packing and rainfall or irrigation.
- Rooted liners should be removed from their original growing containers and placed in new containers at least two weeks prior to treatment or injury may occur.
- Applications of ET-029 over the top of plants with newly forming buds may cause injury. In this situation a directed spray is recommended.
- On container grown ornamentals where weed seed germination continues for extended periods of time, do NOT make repeat applications of ET-029 for at least 90 days or crop injury may occur.

#### Broadcast Application Rates

Application To	Length of Control	Application Rate		Minimum Reapplication Interval (months)	Maximum Amount / Year (qts./acre)
		(qts./acre)	(fl.oz./1,000 sq. ft.)		
Landscape Ornamentals	2-4 months	2	1.5	2	8
	3-6 months	3	2.2	4	12
	4-8 months	4	3	4	12
Field-grown and container-grown ornamentals	2-4 months	2	1.5	3	8
	3-6 months	3	2.2		9
	4-8 months	4	3		12

#### Tank Mixing

Tank mix combinations of ET-029 plus glyphosate, and many other labeled herbicides may be used to control undesirable vegetation in ornamental areas. ET-029 may also be tank mixed with Gallery herbicide and applied preemergence to broaden the spectrum of broadleaf weed control in ornamental areas. Applied as directed, these tank mixes of ET-029 will provide control of susceptible weed species listed on the respective labels. Refer to the tank mix product labels for specific use directions, precautions, and limitations before use.

**ET-029 with Glyphosate:** Tank mix combinations of ET-029 with glyphosate are recommended to control existing undesirable vegetation. Applied as directed, ET-029 plus glyphosate will provide postemergence control of susceptible weed species listed on the label for the product containing glyphosate and residual preemergence control of susceptible weed species listed on the label for ET-029. Refer to the label for the product containing glyphosate for specific use directions, precautions, and limitation before use.

**Specific Glyphosate Precautions:**

- o Do not apply sprays containing glyphosate over the top of ornamental plants.
- o Extreme care must be exercised to prevent sprays containing glyphosate from coming in contact with foliage and stems of turfgrasses, trees, shrubs, or other desirable vegetation since severe damage or death may result. If spraying with a product containing glyphosate in areas adjacent to desirable plants, use a shield to prevent spray from contacting foliage and stems of desirable plants.

**ORNAMENTAL BULBS**

ET-029 will control susceptible annual weeds in ornamental bulbs such as bulbous iris, daffodil (narcissus), hyacinth, and tulip. Apply ET-029 to the soil surface 2-4 weeks after planting but prior to the emergence of annual weeds. For fall planted bulbs, apply ET-029 again in late winter or early spring to weed-free soil surfaces.

**Use Precautions:**

- o Do not apply to tulip plants that have emerged to a height greater than 3/4 inch.
- o Do not apply to gladioli corms prior to emergence or less than one (1) inch in diameter.

**Broadcast Application Rates**

Time of Application	Soil Texture	Application Rate		Minimum Reapplication Interval (months)	Maximum Amount / Year (qts./acre)
		(qts./acre)	(fl.oz./1,000 sq. ft.)		
Fall	Coarse	0.75	0.5	3	1.5
Fall	Medium and Fine	1.5	1.0		2.25
Feb. – March	All Soil Textures	0.75	0.5		2.25

**SHADEHOUSE AREAS**

ET -029 may be applied to drainage areas under benches in open shadehouse-type structures where the natural flow of air is unimpeded.

**Use Precautions:**

- o Do not apply in enclosed greenhouses or in enclosed shadehouse-type structures.
- o Do not apply within 3 weeks prior to enclosure of greenhouse or poly-type structures.

**NONCROPLAND AREAS AND INDUSTRIAL SITES****Noncropland Areas - Tank Mix Combinations**

Tank mix combinations of ET-029 with glyphosate and many other labeled herbicides may be used to control undesirable vegetation in noncropland areas such as roadsides, rights-of-way, etc. When applied according to use directions, these tank mixes will provide control of susceptible weed species listed on the respective product labels. Refer to tank mix product labels for specific use directions, precautions, and limitations before use.

**Industrial Sites - Tank Mix Combinations**

Tank mix combinations of ET-029 with Spike herbicide, glyphosate, and many other labeled herbicides may be used as overtop sprays to control existing vegetation on industrial sites such as utility substations, highway guard rails, sign posts, and delineators. When applied according to use directions, these tank mixes will provide control of susceptible weed species listed on the respective product labels. Refer to tank mix product labels for specific use directions, precautions, and limitations before use.



## Broadcast Application Rates

Length of Control	Application Rate		Minimum Reapplication Interval (months)	Total Amount Allowed Per Year (qts./acre)
	(qts./acre)	(fl.oz./1,000 sq. ft.)		
2-4 months	2	1.5	2	6
4-8 months	4	3	4	12
8-12 months	6	4.5	8	12

## WARM SEASON TURFGRASSES

ET -029 may be applied as a preemergence treatment for control of annual grasses and certain broadleaf weeds in established warm season turf including bahiagrass, bermudagrass, buffalograss, centipedegrass, St. Augustinegrass, zoysiagrass, and established tall fescue growing in warm season areas. Established turf is defined as a dense turf having a well-anchored root system and healthy, vigorous top growth. Use ET-029 only as a part of a total turf management program that includes good fertilization practices.

ET -029 may be tank mixed with Gallery herbicide and applied preemergence to broaden the spectrum of broadleaf weed control in warm season turf. Refer to the label for Gallery for specific use directions, precautions, and limitations before use.

### Use Precautions:

- To avoid possible injury, do not apply ET-029 to:
- Cool season turfgrass species.
- Golf course putting greens and tees or lawns containing dichondra or cool season turfgrass species.
- Newly sprigged or sodded areas of bermudagrass, St. Augustinegrass, centipedegrass, or zoysiagrass until these turfgrasses are well established and have well-anchored root systems.
- Newly hydromulched areas of bermudagrass until such areas are well established.
- Bermudagrass variety "Sun Turf" when tank mixed with atrazine.
- Do NOT apply ET -029 in the spring or early summer to tall fescue turfgrass reseeded the previous fall. In such cases, apply Balan 2.5G granular herbicide at 60-80 pounds per acre in early summer (Round 1) and ET-029 at 1.5 quarts per acre approximately eight weeks later (Round 2).
- Do NOT apply ET -029 at the single application rate (2 quarts per acre) to established tall fescue; in such cases, apply 1.5 quarts per acre of ET -029 in an initial application, followed by a second application of 1.5 quarts per acre 8-10 weeks later.
- Any cultural practices that disturb the soil, such as aerification or verticutting should be done prior to application of ET-029.
- ET -029 will not control emerged weeds. Successful preemergence control of weeds listed on this label requires that ET-029 be applied prior to weed germination and be activated by at least 1/2 inch of rainfall or irrigation within 21 days of application.
- Apply ET-029 only to healthy, well-established turf that has a well-anchored root system. ET-029 may injure turf that is not well established or is stressed or weakened due to unfavorable winter climatic conditions, drought, nematodes, or other factors which damage or weaken turf root systems.
- In bermudagrass areas that have been overseeded with winter grasses, a spring application of ET-029 will thin the overseeded grasses.

### Annual Grasses Controlled by ET-029

#### Summer Annuals:

barnyardgrass (watergrass)	<i>Echinochloa crus-galli</i>
crabgrass, large	<i>Digitaria sanguinalis</i>
crabgrass, smooth	<i>Digitaria ischaemum</i>



crabgrass	<i>Digitaria spp.</i>
crowfootgrass	<i>Dactyloctenium segyptium</i>
foxtail, bristlegrass	<i>Setaria magna</i>
foxtail, giant	<i>Setaria faberi</i>
foxtail, green (pigeongrass)	<i>Setaria viridis</i>
foxtail, robust	<i>Setaria robusta</i>
foxtail, yellow	<i>Setaria glauca</i>
goosegrass (silver crabgrass)	<i>Eleusine indica</i>
Johnsongrass (seedling only)	<i>Sorghum halepense</i>
ryegrass, Italian	<i>Lolium multiflorum</i>
sandbur, field	<i>Cenchrus incertus</i>

**Winter Annuals:**

bluegrass, annual	<i>Poa annua</i>
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**Annual Broadleaf Weeds Controlled by ET-029**

**Summer Annuals:**

carpetweed	<i>Mollugo verticillata</i>
knotweed, prostrate	<i>Polygonum aviculare</i>
purslane, common	<i>Portulaca oleracea</i>

**Winter Annuals:**

chickweed, common	<i>Stellaria media</i>
henbit	<i>Lamium amplexicaule</i>

**Broadleaf Weeds Suppressed by ET-029**

groundsel, common	<i>Senecio vulgaris</i>
spurge, prostrate	<i>Euphorbia humistrata</i>
woodsorrel, yellow	<i>Oxalis stricta</i>

**Application Rates, Frequency, and Timing of Application**

ET-029 can be applied in the spring for summer annual grass and broadleaf weed control, and in the fall for annual bluegrass (*Poa annua*) and winter annual broadleaf control.

**Broadcast Application Rates (Warm Season Turfgrasses)**

Use Area	Application Rate		Minimum Time Between Applications (months)	Total Amount Allowed Per Year (qts./acre)
	(qts./acre)	(fl.oz./1,000 sq. ft.)		
All (except Florida)	1.5	1	3	6
	2	1.5		
Florida	1.5	1	3	4.5

**Summer Annual Grasses and Broadleaf Weeds**

**Single Application Program:** Apply 2 quarts per acre of ET-029 in late winter or early spring, prior to the onset of conditions favorable for annual weed germination.

**Split Application Program:** As an alternative to a single application program, ET-029 may be applied in a split application. This program is desirable when the initial application is made well in advance of weed germination and where weed control is desired for a longer period of time. Apply 1.5 quarts per acre of ET-029 as an initial application, followed by a second application of 1.5 quarts per acre 8-10 weeks later. The second treatment of the split application may follow application of a different preemergence grass herbicide in place of the initial application of ET-029.

**Annual Bluegrass (*Poa annua*) and Winter Annual Broadleaf Weeds**

Elimination of heavy annual bluegrass infestations will result in temporary thinning of turfgrass cover. Proper fertilization, irrigation, and soil incorporated reseeding should be employed to speed the

restoration of desirable turfgrass cover in areas previously occupied by annual bluegrass (see section on reseeding).

Apply ET-029 as a preemergence treatment in late summer or early fall, prior to the expected germination period for annual bluegrass and winter annual broad leaf weeds. If annual bluegrass infestation is severe and its elimination will result in thinning of turfgrass cover, apply ET-029 at 1.5 quarts per acre. If thinning of turfgrass cover is not a potential problem, ET-029 may be applied at 2 quarts per acre.

#### **Weed Control in Florida**

In Florida, apply 1.5 quarts per acre of ET-029 three times per year, or every 90-100 days, in the fall, early spring, and early summer. Do not apply more than 1.5 quarts per acre of ET-029 in any single application.

#### **Application Equipment**

Apply ET-029 evenly over the turfgrass area. Avoid spray pattern skips and overlaps that may result in incomplete coverage or over-application. For best results, use application equipment designed to uniformly broadcast liquid herbicides. Calibrate application equipment prior to use, according to manufacturer's directions. Check equipment frequently to make sure it is working properly and distributing spray uniformly.

#### **Reseeding**

Herbicides that control annual weeds may also affect establishment of desirable turfgrass seedlings. Reseeding should be delayed for at least 90-120 days following application of ET-029. When reseeding, it is essential that proper cultural practices such as soil cultivation and seedbed preparation, irrigation, and fertilization be followed. For best reseeding results following use of ET-029, the seeding rate should be increased and equipment designed to place seed in full contact with the soil (such as the Rogers Aero Seeder) should be employed.

### **CROP SPECIFIC USES**

Apply ET-029 to the following crops as a preemergence treatment to control annual grasses and broadleaf weeds listed in "General Information" section of this label:

Citrus: Citrus citron, Citrus hybrids, Grapefruit, Kumquat, lime, Lemon, Mandarin (Tangerine), Orange and Pummelo.

Pome and Stone Fruit: Apple, Apricot, Cherry, Crabapple, Loquat, Mayhaw, Nectarine, Peach, Pear, Plum, Prune and Quince.

Tree Nuts: Almond, Chestnut, Chinquapin, Filbert, Hickory Nut, Macadamia Nut, Pecan, Pistachio and Walnut.

Berries: Blackberry, Blueberry, Boysenberry, Currant, Dewberry, Elderberry, Gooseberry, Loganberry and Raspberry.

Vineyards: Grapes

† Do NOT apply ET-029 to low-bush blueberries.

**NOTE:** For orchard crops (including citrus, pome fruits, stone fruits and tree nuts) apply ET-029 only as a strip treatment in the tree rows; do **NOT** apply to row middles or drive rows.

In addition to the crops within crop groupings listed above, ET-029 may be used in the following crops: avocado, fig, guava, kiwi fruit, olive, papaya, and pomegranate.

#### **Broadcast Application Rates**

Soil Texture	Length of Control	Application Rate (qt/acre)	Minimum Reapplication Interval (months)	Total Amount Allowed Per Year (qt/acre)
All soil textures	Short Term (2-4 mos.)	2	2.5	12
	Long Term (6-8 mos.)	4		
	(8-12 mos.)	6		

### Chemigation

ET-029 may be applied through properly equipped chemigation systems for weed control in fruit and nut orchards and vineyards. Refer to "Chemigation" in the "General Information" section for use directions. Do not apply ET-029 by chemigation unless these use directions are carefully followed.

Apply ET-029 by chemigation prior to weed germination or immediately after existing weeds have been controlled. Control existing unwanted vegetation by tillage or with a contact or translocated herbicide. Use broadcast application rates recommended for ET-029 alone. Apply in sprinkler irrigation equal to Y2 to 1 inch of water.

### Tank Mixes

To broaden the spectrum of weed control, ET-029 may be applied in tank mix combination with labeled rates of other herbicide products, including, but not limited to Goal, Gramoxone Super, Princep (Simazine), glyphosate, or Solicam herbicide. Performance and risk of carryover from tank-mixed products used in combination with ET-029 at recommended rates is the same as when each product is used separately.

**Non-Bearing Tree and Vine Crops:** For additional broad spectrum control of broad leaf weeds in nonbearing fruit and nut trees, berries, and vineyards, ET-029 may be applied in tank mix combination with labeled rates of Gallery 75 Dry Flowable herbicide. Non-bearing crops are defined as plants that will not bear fruit for at least one year after treatment.

Follow tank mixing instructions in the "Mixing Directions" section of this label when mixing ET-029 with other products.

Users should always consult the manufacturer's label for the product(s) to be tank mixed with ET-029 for specific information on use rates, additional weeds controlled, rotational crop restrictions or risk of carryover, special tank mix instructions, additional use directions, precautions and limitations.

### CHRISTMAS TREE PLANTATIONS

Apply ET-029 as a directed spray to the soil surface or as an overtop spray to established plantings of field grown Christmas tree species, including fir (*Abies* spp.), pine (*Pinus* spp.), and spruce (*Picea* spp.).

#### Use Precautions:

- Do NOT apply to Douglas fir (*Pseudotsuga menziesii*).
- Do NOT apply sprays containing glyphosate over the top of Christmas tree plantings. Extreme care must be exercised to avoid contact of spray containing glyphosate with foliage and stems of Christmas trees or severe damage or death may result.
- Do NOT apply to seedbeds or seedling transplant beds. Apply only to established plantings that have been transplanted into their final growing location for a sufficient period of time to allow the soil to be firmly settled around the roots from packing and rainfall or irrigation. Follow all instructions provided in the "General Information" section of this label.

### Broadcast Application Rates

Length of Control	Application Rate		Minimum Reapplication Interval (months)	Total Amount Allowed Per Year (qts./acre)
	(qts./acre)	(fl.oz./1,000 sq. ft.)		
2-4 months	2	1.5	2	8
4-8 months	4	30		

### Tank Mixes

Tank mix combinations of ET-029 plus other labeled herbicides may be used as directed or overtop sprays in establishing Christmas tree plantings. When applied according to use directions, these tank mixes will provide control of susceptible weed species listed on the respective product labels. Refer to label of the product to be tank mixed with ET-029 for specific use directions, precautions and limitations before use.

**ET -029 Herbicide Plus Glyphosate Herbicide:** Apply tank mix combinations of ET-029 plus glyphosate only as directed sprays in Christmas tree plantings. When applied according to use directions, ET-029 plus glyphosate will provide postemergence control of susceptible weed species listed on the label for ET-029. Refer to the label for the product containing glyphosate for specific use directions, precautions and limitations before use.

### ESTABLISHED TREES GROWN FOR PULP

Apply ET-029 herbicide as a preemergence treatment in plantations of established† trees grown for pulp. Applications may be made prior to the expected time of weed germination or immediately after tillage or herbicide treatments to destroy existing weeds. For best results, apply ET-029 directly to the soil surface following tillage or application of contact or translocated herbicides to destroy existing weeds, and weed residues, prunings and trash are removed or thoroughly mixed into the soil using tillage equipment. Refer to the "General Information" section for a listing of grasses and broadleaf weeds controlled, mixing directions and General Use Precautions.

† Established plantings are defined as trees that have been transplanted into their final growing location for a sufficient period of time to allow the soil to be firmly settled around the roots as a result of rainfall or irrigation.

#### Activation and Cultivation

A single 1/2, to 1-inch rainfall or sprinkler irrigation is required to activate ET-029 and move the herbicide into the zone of weed germination. Rainfall or irrigation of 1 inch or more is needed to activate ET-029 on fine-textured, high organic matter soils. If weeds begin to emerge, shallow cultivation to a depth of 1 to 2 inches will destroy existing weeds and place ET-029 in the zones of weed germination.

Soil Texture	Length of Control	Application Rate (qt/acre)	Minimum Reapplication Interval (months)	Total Amount Allowed Per Year (qt/acre)
All Soil Textures	Short Term (2-4 mos.)	2	2.5	12
	Long Term (6-8 mos.)	4		
	(8-12 mos.)	6		

#### Chemigation

ET -029 may be applied through properly equipped chemigation systems for weed control in tree plantations grown for pulp. Refer to "Chemigation" in the "General Information" section for use directions. Do not apply ET-029 by chemigation unless these use directions are carefully followed.

Apply ET-029 by chemigation prior to weed germination or immediately after existing weeds have been controlled. Control existing unwanted vegetation by tillage or with a contact or translocated herbicide. Use broadcast application rates recommended for ET-029 alone. Apply in sprinkler irrigation equal to 1/2, to 1 inch of water on medium to fine textured or high organic matter soils.

#### Tank Mixes

To broaden the spectrum of weed control, ET-029 may be applied in tank mix combination with labeled rates of other herbicide products, provided such products are labeled for use. Performance and risk of carryover from tank mixed products used in combination with ET-029 at recommended rates is the same as when each product is used separately.

#### **STORAGE AND DISPOSAL**

Do not contaminate water, food, or feed by storage or disposal.

**PESTICIDE STORAGE:** Store in original container only. In case of leak or spill, use absorbent materials to contain liquids and dispose as waste.

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

#### **CONDITION OF SALE AND LIMITATION OF WARRANTY AND LIABILITY**

**NOTICE:** Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product should be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather, presence of other materials or other influencing factors in the use of the product, which are beyond the control of Etigra, LLC or Seller. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold Etigra, LLC and Seller harmless for any claims relating to such factors.

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